Business Model Generation
For a Nonprofit Organization
– Pirkanmaan Protopajaverkosto –

Bachelor Thesis
Tampere University of Applied Science

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List of Abbreviations

CH  Channels
CR  Customer relationships
CS  Cost structure
KA  Key activities
KP  Key partners
KR  Key resources
RS  Revenue streams
TG  Target group
VP  Value propositions

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Abstract

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Subject: Business Strategy
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Year: April 2016

This thesis has the objective to propose a strong and competitive business model for Pirkanmaan Protopajaverkosto, a nonprofit network consisting of several educational institutions and companies. The assignment is to generate different business models with appropriate pricing mechanisms regarding Pirkanmaan Protopajaverkosto and its current business environment. A thorough and complete research in literature is indispensable in order to develop strong business models. The process of business model generation and pricing strategies of nonprofit organizations are the two main issues of the literature research. Based on the process proposed by the literature, the project work begins with developing of a deep understanding of the environment in which Pirkanmaan Protopajaverkosto has to compete. The network is influenced by many factors. The critical uncertainties are the number of members and the development of new technologies. Appropriate processes, methods, and techniques introduced in the literature research are applied during the project work. Different business models are developed according to different scenarios. All business model options are evaluated and analyzed in order to propose a specified business model that suits the characteristics of Pirkanmaan Protopajaverkosto and its surroundings. The proposed business model enables Pirkanmaan Protopajaverkosto to evolve to a large network that provides benefits to all its members by utilizing the full potential of the organization.
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1 Introduction

The introduction provides an appropriate overview about this thesis by describing the initial situation, defining the scientific issue, stating the objectives, formulating the assignment, and explaining the structure of the thesis. This enables readers to develop a deep understanding for the need and purpose of the thesis.

1.1 Initial Situation

Pirkanmaan Protopajaverkosto is a nonprofit organization in form of a cooperative network. It is located in the Finnish region Pirkanmaa which is in the southwest of Finland. The network enables flexibility in terms of product development, innovation generating, and testing and demonstration by bringing educational institutions and companies together. The educational institutions consist of universities and vocational schools that are located in Tampere. They provide the key resources such as expertise, equipment, and workforce resembled by their massive student body. Companies that join the network obtain access to know-how and expertise of the entire network, a wide range of facilities and equipment, and students that are willing to participate in various projects. Some services are also available to external organizations under different conditions.\(^1\)

Since Pirkanmaan Protopajaverkosto is a new established network, a clear business model has not been introduced so far. The network misses standardized processes and, therefore, operates without a clear structure. Pirkanmaan Protopajaverkosto has a small membership and just a few projects going on at this early stage. It does not use its full potential. The network becomes more beneficial with a growing membership. A greater network provides a better platform for networking and increases most likely the number of projects launched within the network. The latter makes the network more beneficial to educational institutions by increasing the rate of utilization. A growing network causes increasing costs in administration and coordination. Although Pirkanmaan Protopajaverkosto is a nonprofit organization, it needs to cover its expenses by charging monetary prices in exchange for value propositions. Financial sustainability is indispensable in order to keep the network running. Therefore, appropriate pricing mechanisms need to be established that cover occurring costs.

Although an unclear business model was not much of a problem at an early stage, Pirkanmaan Protopajaverkosto faces a couple of problems caused by the small size of the network. Therefore, the main question is how to transform Pirkanmaan Protopajaverkosto from a small local operating network

\(^1\) Cf. Tampere University of Applied Sciences
to a great nationwide platform for innovation and networking. This transformation needs to be supported by strong business model with appropriate pricing mechanisms that attract new members and cover occurring costs at the same time.

1.2 Scientific Issue

The network needs to attract more companies not just in the Finnish region Pirkanmaa but also in the rest of the country and it needs to charge monetary prices in order to remain independent. The procedure of business model generation is the main issue of this thesis. Appropriate processes need to be introduced that enable Pirkanmaan Protopajaverkosto to be successful. Adequate methods and techniques have to be suggested. They symbolize the tool kit that is required in order to support the process of business model generation which is the foundation for a successful operating organization.

1.3 Objectives

As described in the initial situation, Pirkanmaan Protopajaverkosto is a small nonprofit network consisting of educational institutions and companies. The full potential of the network is not used due to the small membership and the blurry business model. The scientific issue is to transform Pirkanmaan Protopajaverkosto into a big and successful network that provides large benefits to all members. The generation of a strong business model enables the transformation and is the main objective of this thesis.

Every organization operates in a specific environment. Therefore, a tailor-made business model is required according to the characteristics of Pirkanmaan Protopajaverkosto and its business environment. The aim of this thesis is to propose an appropriate business model that meets all requirements in order to transform Pirkanmaan Protopajaverkosto into a strong and competitive platform for innovation and networking.

1.4 Assignment

This thesis has the objective to develop a strong and competitive business model regarding to Pirkanmaan Protopajaverkosto and its current environment. It needs to address certain topics in order to do so. A thorough and complete research in literature is indispensable. It provides the foundation for the later project work. The literature research is supposed to discuss the process of business model generation by introducing appropriate processes, methods, and techniques. Furthermore, the literature research needs to address suitable pricing mechanisms for nonprofit organizations. It needs to discuss their specific characteristics and benefits. The project work is supposed to apply the findings of the literature research to the case of Pirkanmaan Protopajaverkosto. Appropriate processes shall be used in
order to generate different business model options with proper pricing mechanisms. Monetary prices need to be charged by the network in order to cover all expenses occurring through the activities of the network. The best business model according to Pirkanmaan Protopajawerkosto and its current environment is supposed to be determined and proposed at the end of this thesis. The business model proposal is supposed to transform the network into a strong and competitive platform for innovation and networking. It needs to be attractive to companies by ensuring benefits to all members.

### 1.5 Structure of the thesis

The objectives can be found in the structure of this thesis. The thesis can be split up to major parts, a literature research and the project work.

The literature research is the foundation for the later project work. It describes two main issues that include the process of business model generation and pricing strategies in nonprofit organizations. The process of business model generation is introduced by defining basic terminology at the beginning. This enables readers to create a common understanding of some basic terms. Afterwards, the business model canvas is presented. It is a useful tool in order to describe business models and their components. It is proceeded with the business model design addressing customer insights, the process of idea generation, visual thinking, prototyping, and scenarios. This chapter provides a fundamental knowledge about the design and structure of business models. In order to complete the picture of business models, the strategy during the generation process is made subject by highlighting the importance of the business model environment, addressing possibilities to evaluate different models, and by illustrating the process steps of business model generation. Nonprofit organizations and monetary prices are the next issue to be addressed in this thesis. At the beginning, the basic principles of pricing in nonprofit organizations are discussed. Different pricing objectives are described afterwards. The price of value propositions is influenced by many different factors and, therefore, there are different pricing strategies. This topic provides an appropriate understanding of different pricing strategies and their specific advantages.

The project work follows the literature research. A deep understanding is created at the beginning by analyzing the environment in which Pirkanmaan Protopajawerkosto has to compete and by detecting the needs and desires of the members. It is continued with the business model design process that includes the idea generation, prototyping, scenario planning, and business model generation. Based on the gained understanding of Pirkanmaan Protopajawerkosto and its surroundings, several ideas are generated which are transformed into business model prototypes. Prototypes are rough business models that are modified regarding to the scenarios that are developed by determining critical uncertainties. One business model is generated to the characteristics of each scenario. In the final stage, each business model is evaluated and the best solution is proposed regarding to Pirkanmaan Protopajawerkosto.
The project work is compared to the findings in literature and is evaluated. Unused potential is shown and crucial factors and stages are highlighted. The thesis is completed by a conclusion that summarizes the key results and provides an outlook on the implementation of the proposed business model.

2 Business Model

In the 21st century, change occurs at a higher pace than ever before. New ideas, practices, and technologies spread around the globe via internet enabling people or organizations to share knowledge in an instant. Social networks and media allow individuals to self-organize around the world in a way that was impossible before. Companies, no matter what size, can become obsolete in a changing and uncertain world. Therefore, one of the biggest issues for organizations is how to stay relevant in the new millennium.

Keeping up with the pace of change requires a new set of approaches and tools. Organizations have become really good with incremental change and continuous improvement in order to stay competitive in existing markets. Nowadays, companies are way better in increasing market shares than in creating new markets. Incremental change may be necessary but not sufficient in the 21st century. New practices, disruptive technologies, market creating, and transformation are characteristics that will make a company stay relevant in a changing business environment.  

In the past, business models lasted a long time and were handed down from generation to generation without big changes. Once the basic rules of how a company creates, delivers, and captures value were established, all organizations tried their best to outperform their competitors by executing the same business model in a better way. Different companies within the same industry sector had almost the same business model. Their goal was to increase their market share by incremental improvements through copying so-called best practices. These strategies do not work any longer. The lifetime of business models is shrinking and companies need to learn how to adjust their business models while managing the current ones in order to stay competitive.  

2.1 Terminology

The starting point of any successful activity is a shared understanding or language of what the activity is about. Since this thesis will deeply discuss business model generating and innovation, a few terms ought to be defined upfront.

Business model. A business model describes a sustainable way of doing business. In this context, sustainability interpreted as the ambition to create a competitive and, if strived for, a profitable organization in the long term. Profitability is no prerequisite for business models because a business model can apply to many different types of organizations and institutions such as large corporations, non-governmental and non-profit organizations, public administrations, and universities.4

Innovation. Many markets are evolving, changing, and diminishing fast nowadays. Therefore, organizations need to be able to adapt to the dynamics of the markets in order to stay competitive. Otherwise competitors will bring up new products or services to the market changing the basis of competitiveness and outperforming companies that remained static. As history indicates, innovations lead to economic benefits such as increasing revenues and growth for both the innovating organization and the innovating country. Innovation is not a single action. It can be defined as “the management of all activities involved in the process of idea generation, technology development, manufacturing and marketing of a new (or improved) product or manufacturing process or equipment”.5 Industrial innovations are often referred to as major or radical innovations, or minor or incremental innovations. Depending on the impact of an innovation, changes may occur throughout the whole company. A good management of all these processes and changes is required to ensure a successful implementation of an innovation.6

Business model innovation. Business model innovation reaches beyond incremental improvement or further development of products and services. The business model itself is the object of a conscious innovation process in order to satisfy customer needs. Therefore, differentiation is a crucial factor of business model innovation. According to Jochen Kressin, the best innovation is a different product or service constituting not a simple improvement but a new potential for satisfying customer needs. True business model innovation can be reached by ignoring the status quo, forgetting the past, ignoring competitors, and challenging orthodoxies.7

2.2 The Business Model Canvas

The business model canvas consists of nine building blocks that are illustrated by Figure 1. These building blocks were generated by Alexander Osterwalder and Yves Pigneur to create a common language when addressing characteristics of business models. Although some building blocks were

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5 Trott (2002), p. 12
already described, Osterwalder and Pigneur added new elements to improve the understanding of business models.  

- **Target Group (TG).** Customers differentiate in their needs and behavior. Market segmentation is a method to group customers according to their characteristics. These target groups or customer segments are one of the cornerstones in each business model. If a specific TG is determined, organizations are able to serve the customers’ needs more efficiently by offering tailor-made value propositions.  

- **Value Propositions (VP).** VP are a group of products and or services that creates value for a specific group customer segment. Value is created by identifying and solving a consumer problem or satisfying customer needs. It offers incentives for potential customers to decide for or against a company’s product or service. VR always consists of a selected bundle of products and services. Value Propositions may be innovative or similar to existing market offers which might be added by features and new attributes.  

- **Channels (CH).** The Channels Building Block is defined as the description of how a company reaches its customer segments to deliver a value proposition. It includes communication, distribution, and sales channels. CH are interactive points between an organization and its customer, hence CH play a vital role in customer experiences. Important functions of CH are:

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(1) Raising awareness among potential customers about a company’s products and services.
(2) Helping customers evaluate a company’s value proposition.
(3) Enabling customers to purchase specific products and services.
(4) Delivering value propositions to customers.
(5) Providing after-sales services and support.\textsuperscript{12}

- **Customer Relationships (CR).** Customers are a source of revenues in every organization. This makes customers highly valuable to companies. By deliberately preserving and improving customer relationships, organizations remain competitive. Due to the development of new technologies, new types of relationships evolved. Customer relationships may range from personal to automate. Every company has to decide what type of relationship fits best to their specific customer segment. Customer relationships may be driven by the motivation of customer acquisition and retention and boosting sales.\textsuperscript{13}

- **Revenue Streams (RS).** RS can be seen as the cash generated by a company through the sales to its specific customer segments. Every organization has to decide what the price of its products and services is and if the potential customers would be willing to pay for it. Different prices and therefore different revenue streams are possible for different customer segments. Different pricing mechanisms such as fixed list prices, bargaining auctioning, market and volume dependent or yield management are possible for each revenue stream. Two different types of RS may be involved in a business model:
  (1) Transaction revenues resulting from one-time customer payments and
  (2) Recurring revenues resulting from ongoing payments due to delivering a value proposition to customers or providing an after-sales service.\textsuperscript{14}

- **Key Resources (KR).** KR are the most important assets required in a business model. KR are the basis for the creation and offering of a value proposition, reaching markets, maintaining relationships with specific customer segments, and earning revenues. KR may vary depending on the type of business model. Key resources can be physical, financial, intellectual, or human. They can be owned or leased by an organization or acquired from key partners.\textsuperscript{15}

- **Key Activities (KA).** KA are highly important activities performed by an organization to operate successfully. Similar to key resources, key activities are the basis for the creation and offering of a value proposition, reaching markets, maintaining relationships with specific customer segments, and earning revenues. KA may vary depending on the type of business model. They can relate to production, problem solving, or platform issues.\textsuperscript{16}

\begin{itemize}
\item \textsuperscript{12} Cf. Osterwalder, Pigneur (2010), p. 26 f.
\item \textsuperscript{13} Cf. Peppers, Rogers (2011), p. 3
\item \textsuperscript{14} Cf. Osterwalder, Pigneur (2010), p. 30
\item \textsuperscript{15} Cf. Osterwalder, Pigneur (2010), p. 34
\item \textsuperscript{16} Cf. Osterwalder, Pigneur (2010), p. 36 f.
\end{itemize}
• **Key Partnerships (KP).** KP is defined by a network of suppliers and partners that make a business model successful. Partnerships can be seen as cornerstones of business models. Alliances are formed for several reasons, such as optimization, risk reduction, or acquisition of resources. It can be distinguished between four different types of partnerships:
  
  (1) Strategic alliances between non-competitors,
  (2) Strategic alliances between competitors,
  (3) Joint ventures to develop new businesses and
  (4) Relationships between buyers and suppliers to assure reliable supply.\(^\text{17}\)

• **Cost Structure (CS).** CS is defined by all costs that arise while operating a business model. CS includes all costs that occur through creating and delivering value, maintaining customer relationships, and generating revenue. CS can be calculated easily when the key resources, key activities, and key partnerships are well defined. The cost structure may vary depending on the type of business model.\(^\text{18}\)

The nine business model blocks form a basic and effective tool called Business Model Canvas which is illustrated by Figure 2. It is supposed to be printed out on a large sheet of paper. In printed form the business model canvas offers the possibility for groups of people to discuss and to sketch each element of a business model. Notes can be written directly on the sheet of paper or may be added by stickers or pins for example. This tool fosters understanding, discussion, creativity, and analysis regarding all elements of a business model.\(^\text{19}\)

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\(^{17}\) Cf. Osterwalder, Pigneur (2010), p. 38  
\(^{18}\) Cf. Osterwalder, Pigneur (2010), p. 40  
2.3 Business Model Design

Business model design describes several techniques and tools that can help to design better and more innovative business models. A designer’s job is to create the new, discover the unexplored, achieve functionality, and create value. Therefore, it is necessary to extend boundaries and imagine “what does not exist.” The design tools that are described in the following provide a foundation for success in business model innovation.\(^\text{21}\)

2.3.1 Building Business Models on Customer Insights

Companies tend to spend large amounts of money on market research which may generate or save much larger sums in extra customer revenues or in avoidance of bad investments if executed properly. Market research helps organizations to deepen their understanding of markets enabling more informed decisions and reducing risks. It can be applied to almost any business decision. The main applications of market research are related to markets, customers, value propositions, brand image, and communication.\(^\text{22}\)

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\(^{20}\) Source: Adapted from Thinkers & Institute of Competitiveness

\(^{21}\) Cf. Osterwalder, Pigneur (2010), p. 125

\(^{22}\) Cf. Hague, Hague, Morgan (2013), p. 15
Successful business models are built on customer insights addressing directly to customer needs and aspirations. This requires a set of data which can be collected in different ways. Typical methods of market research are customer interviews and the use of an empathy map.

- **Customer interviews.** Information can be collected through interviews. The first step is to locate suitable people by defining requirements. Respondents can be representatives of organizations or private individuals. Then, a questionnaire needs to be created in order to collect valid and reliable information. The answers provided by the participants are later processed and analyzed.\(^{23}\)

- **Empathy map.** An empathy map, as illustrated by Figure 3, is a useful tool in order to empathize with potential customers by characterizing their environment, behavior, concerns, and aspirations. It guides the development of better value propositions, enables better ways to reach customers, improves the customer relationship, and ultimately enables a better understanding of what a customer is truly willing to pay for. This new consciousness enables to design a stronger business model.\(^{24}\)

![Empathy Map](source: Adapted from Event Model Generation (2016))

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\(^{24}\) Cf. Kressin (2013), p. 96

\(^{25}\) Source: Adapted from Event Model Generation (2016)
2.3.2 Generating new Business Model Ideas

The process of generating completely new business models differs from mapping already existing business models. Generating new business models is basically done in two phases, generation and synthesis. In the phase of generation creativity is needed to come up with a large number of business model ideas. In the phase of synthesis all ideas are discussed and the best ones are supposed to be isolated. This process is called ideation. In contrast to past decades where mainly one business model dominated a specific market, nowadays several types of business models may compete in one and the same market. The big challenge faced by the process of generating new business models is to ignore all surroundings. If this can be done successfully, truly new ideas can be created. Business model innovation is neither about the past nor about competitors. The past can only indicate a little what future business models may look like. Benchmarking is rather about copying than creating new mechanisms that create value and revenues. Although the process of ideation may vary, a general approach consists of five stages.

1. **Team composition.** The right team is essential for creating effective business model innovations. The right team of several members that are diverse in terms of seniority, age, experience, business unit, customer knowledge, and professional expertise.

2. **Immersion.** Every team member is supposed to go through an immersion phase in order to be well-prepared for the generation of new business model innovations. The immersion phase includes general research, studying customer prospects, scrutinizing new technologies, and assessing existing business models.

3. **Expanding.** New ideas are generated in this stage. The focus lies on the quantity and not on the quality of innovations. Innovations can start from each of the nine business building blocks and may affect one or multiple other building blocks.

4. **Criteria selection.** This stage is about defining criteria in order to narrow the number of generated ideas down to the very best innovations. The criteria closely relates to the own business and may include implementation time, revenue potential, possible customer resistance, and influence on competitiveness.

5. **Prototyping.** The best three to five ideas are selected regarding the specific criteria developed in the previous stage. The business model canvas is used to sketch and discuss the selected ideas as a business model prototype.26

The generation of business model innovations can be done in different ways. Popular possibilities are epicenters which use the business model canvas, “what if” questions, and brainstorming.

- **Epicenters of business model innovation using the business model canvas.** The source of new ideas concerning business model innovation can originate from each of the nine business

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model building blocks. Business model innovations always affect multiple different building blocks. Four main epicenters of business model innovation can be distinguished; resource-driven, offer-driven, customer-driven, and finance-driven. Each epicenter can be the starting point of a major change in the business model design. Sometimes, more than one epicenter cause a business model innovation. Epicenters can be detected in different ways. An often used tool is the SWOT-analysis investigating a business model’s strengths, weaknesses, opportunities, and threats.  

- **“What if” questions.** The process of business model innovation is often complicated by the status quo stifling imagination. “What if” questions are one possibility to challenge conventional assumptions and to overcome this barrier. This technique is helpful to break free of constraints imposed by current business models. It challenges the thinking and makes things that might be seen as impossible just doable. “What if” questions are merely starting points. Some questions may remain unanswered because they are too provocative, and others simply need the right framework or business model in order to become reality.

- **Brainstorming.** Brainstorming is a well-known approach to generate as many ideas as possible. During the procedure of brainstorming, all ideas are noted before, at the end, all ideas are discussed and evaluated. The best ideas provide a suitable starting point for later processes. It can be distinguished between structured and unstructured brainstorming. The structured approach ensures equal participation by launching ideas in a strict order among all participants whereas the unstructured approach is more spontaneously by providing to launch ideas at all times. Independent of the approach, brainstorming stimulates creativity, encourages joint problem solving, enables participants to build on one another’s ideas, and minimizes the tendency of evaluating ideas at an early stage.

### 2.3.3 The Value of Visual Thinking

Visualization has the ability to convey a complex idea or a lot of information very quickly. This makes it valuable and widely used. Visualization may use different design approaches such as pictures, symbols, or signs to transmit a message but they all improve the following processes:

- Understanding the essence.
- Enhancing dialogue.

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• Exploring ideas.
• Improving communication.\textsuperscript{30}

Visualization can help to make complex business models understandable by transforming the abstract to the concrete, illuminating relationships, and simplifying complex structures. In the following, two common methods of visual thinking will be introduced, the use of Post-it\textsuperscript{TM} notes and drawings.

Post-it\textsuperscript{TM} notes function like idea containers during the conception or discussion of business model designs. They can easily be added, removed, or shifted among the single business model building blocks. There are some simple guidelines that ensure a proper use; the use of thick marking pens and only one statement consisting of a very few words per Post-it\textsuperscript{TM} note. The final business model design created by Post-it\textsuperscript{TM} notes is as important as the discussion that goes along with it. The discussion helps all participants to get a deeper understanding of the business model and its dynamics. This allows the use of Post-it\textsuperscript{TM} notes as vectors of a strategic discussion.\textsuperscript{31}

Another possibility of visualization are drawings. Drawings can be more powerful than Post-it\textsuperscript{TM} notes due to the fact that people are most likely to react stronger to images than to words. Drawings or pictures deliver messages instantly and can express ideas that otherwise would have required many words in a written form. They do not have to be perfect to make things tangible and understandable. Simple smileys can convey emotions, differences in sizes convey proportions, and stick figures are more easily understood than concepts expressed in text.\textsuperscript{32}

Visualization of business models vary in terms of details depending on the purpose and target pursued by an organization. Figure 4 depicts the detailed business model canvas of the Dutch company Sellaband which operates in the music industry. The purpose of this business model canvas is a complete picture of a new business model using crowd funding of independent musical artists. The drawings are supposed to explain the innovative business model to investors, partners, and employees. The combination of drawings and text is far more effective in its purpose than words alone. The business model canvas created by Sellaband is a complex concept which may overwhelm the audience when presenting a full description. An effective way to explain a business model is to introduce it piece by piece. This can be done by drawing one element after another or by using PowerPoint. Another possibility is to pre-draw all elements of a business model on Post-it\textsuperscript{TM} notes putting them up one by one as the model is explained. This enables the audience to get an understanding of the business model design and its dynamics. This process of presenting and explaining a business model design is also called visual storytelling and can be divided in several activities.

\textsuperscript{30} Cf. Ambrose, Harris (215), p. 78 ff.
\textsuperscript{31} Cf. Osterwalder, Pigneur (2010), p. 150
(1) **Map the business model.** The first step is to map a simple text-based version of the business model. Then write each element on a separate Post-it™ note.

(2) **Draw each element of the business model.** Take one Post-it™ note at a time and replace it with a simple drawing.

(3) **Define the storyline.** This activity is about the order of the Post-it™ notes presented during the storytelling. There are different alternatives. The difficulty is to find the solution that fits the story best.

(4) **Tell the story.** Tell the business model story by presenting one Post-it™ note at a time.\(^{33}\)

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2.3.4 **Prototyping**

Prototypes are used in order to collect information for design and decision-making processes. In the past, prototypes traditionally have been highly developed physical models whereas designers use the term nowadays to describe any kind of representation which can help designers, users, and clients to understand, explore, and communicate characteristics of value propositions. Prototypes may range from

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\(^{34}\) Source: Business Models Inc. (2016)
concept sketches, scenarios and a variety of models. By exploring and communicating propositions and context, prototyping makes abstract concepts tangible and facilitates new ideas.\(^{35}\)

In terms of business model design, prototyping constitutes potential future business models. It is a tool to serve discussion, inquiry, or proof of concept. The form of prototyping may vary from simple sketches to a fully thought-through concept of a business model canvas as illustrated by Figure 5. Prototypes represent different possibilities and directions in which business models may develop. To get a deep understanding of pros and cons of different possibilities, multiple prototypes are necessary at different levels of refinement. Interactions with prototypes produce new ideas, improve creativity, and may lead to completely new solutions and innovations. A deep inquiry is necessary to select, refine, and execute the best prototype. In the process of business model innovation, prototypes enable visualization, testing, and inquiry. The latter serves as thinking aids to explore new ideas and their aspects. According to Alexander Osterwalder and Yves Pigneur, it is important to develop various basic business models before developing a business case for a specific model. Otherwise the designer may become attached to one specific possibility which complicates exploring new and better options. This approach is called design attitude. It contributes a willingness to explore new ideas, discard some of them, examine multiple possibilities before selecting a few ideas which will be refined, and accepting uncertainty until the refinement is completed.\(^{36}\)

![Figure 5: Prototypes at different scale\(^{37}\)](image)

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\(^{37}\) Source: Adapted from Osterwalder, Pigneur (2010), p. 165
2.3.5 Scenarios

One major task of every manager is to ensure that his organization remains competitive in the future. Many organizations forecast the future based on data collected in the past. Scenario planning is another strategy in order to visualize a wide range of alternative futures. These possible futures are called scenarios. Each scenario could emerge depending on the development from now to then. The future is influenced by many different factors such as capital markets, technology trends, regulatory trends, macroeconomic trends, or socioeconomic trends. Due to the complexity of the future, scenarios are not very accurate but an organization is better prepared for future environments in which it has to compete by generating different scenarios. Scenario planning does not unveil the future but it provides scenarios how it might look like. By doing so, scenario planning increases the flexibility of an organization and helps to make better decisions.  

The process of scenario planning is variable and needs to be adapted to every case. In general, there are several steps in order to create proper scenarios:

- Framing the challenge.
- Gathering information.
- Identifying driving forces.
- Defining crucial factors or uncertainties of the future.
- Generating scenarios.
- Creating stories by outlining key elements.

These scenarios can now be applied to the business model of an organization in order to increase its competitiveness.

2.4 Strategy

The previous sections were about the basics of describing, discussing, and designing business models. Patterns and techniques were explored to facilitate the design of new business model innovations. This next section deals with the interpretation on strategy regarding the business model canvas. It will rise a consciousness to evaluate established business models and to examine the environment in which a business model functions.

2.4.1 Business Model Environment

Organizations and their business models are influenced by many forces as illustrated by Figure 6. An analysis of the business environment examines all these factors trying to predict an environment in which a business model has to compete. The success of a business model depends on the ability to determine which factors currently have an impact and which may do so in the future. Organizations need to think beyond the current frame of references in order to predict a future environment. A deep understanding of the economic landscape creates a more effective and competitive business model and forms a consciousness of different possibilities how a business model may evolve. Environments are dynamic and change over time whereby the speed of change varies. Continuous environmental scanning such as market and competitive analysis becomes more important with increasing speed of change.\(^{41}\)

![Figure 6: The environment of business models\(^{42}\)](image)

2.4.2 Evaluating Business Models

Evaluating business models regularly is an important management activity which enables an organization to locate its market position. Adoptions in terms of incremental improvements or business model innovations can be made according to the evaluation in order to remain or strengthen

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\(^{41}\) Cf. Friend, Zehle (2004), p. 31  
\(^{42}\) Source: Adapted from Osterwalder, Pigneur (2010), p. 201
competitiveness. This chapter mainly focuses on two types of evaluation or assessment, a big picture assessment and a detailed analysis of each building block. Although the perspective differs, the two types of assessment are complementary activities since each building block influences multiple other blocks or the entire business model. Business models can be evaluated by using the SWOT analysis.

The SWOT analysis is a common technique because of its simplicity. It is illustrated by Figure 7 and enables organizations to determine their ability to deal with their current environment. The environment can be categorized in internal resources and capabilities, strengths and weaknesses, and external possibilities, opportunities and threats. Organizations have a greater influence or control over its internal environment including resources, business culture, operating systems, staffing practices, and personal values. These areas are subjects of decision making in each organization and therefore can be influenced by managerial attention and action. Organizations have less control of their external environment including the operating and general environment. The latter covers the context in which a company’s industry is situated. This context is made up by social, technological, economic, ecological, and political aspects whereas the operating environment refers to a specific industry in which the organization competes. The operation environment includes stakeholders such as suppliers, competitors, customers, and distributors. The SWOT analysis provides the management an overview of forces, trends and characteristics of a particular market or single segments.\textsuperscript{43} A SWOT analysis can be applied to the process of business model generation. A detailed analysis can be made for both a single business block and the entire business model revealing new interesting paths to innovation. It states an organization’s market position at a given time and suggests future trajectories. This information supports the design process of business model options in which a company may evolve.\textsuperscript{44}

\begin{figure}[h]
\centering
\includegraphics[width=0.5\textwidth]{swot_diagram.png}
\caption{SWOT analysis\textsuperscript{45}}
\end{figure}

\textsuperscript{44} Cf. Osterwalder, Pigneur (2010), p. 216 ff.
\textsuperscript{45} Source: Purch (2016)
2.4.3 Business Model Perspective on Blue Ocean Strategy

According to the Blue Ocean Strategy markets can be categorized in two types, red and blue oceans. Red oceans represent all known markets or all existing industries today whereas blue oceans represent unknown markets that do not exist. In red oceans, market boundaries are set and widely accepted. Organizations try to outperform competitors in order to rise their market share, revenues, and profit. As competition increases, prospects for market share, revenues, and profits decrease. Blue oceans, in contrast, differentiate in terms of competition, demand, and prospect growth. Since untapped market space is entered, boundaries still need to be set.46

The Blue Ocean Strategy is a method supporting organizations to enter unknown market space. It can help to generate new and more competitive business models by questioning value propositions or currently used business models in order to explore new customer segments. Completely new industries can evolve through this strategy by fundamental differentiation. This can be done by creating new uncontested market space through value innovation. Value innovation means increasing value for customers by creating new products and services and at the same time reducing costs by eliminating less profitable goods. The Four Actions Framework is an analytical tool that supports value innovation. It consists of four key questions challenging an industry’s strategic logic and establishing new business models.

- Which factors that are taken for granted in a specific industry should be eliminated?
- Which factor in a specific industry should be reduced well below standard?
- Which factor in a specific industry should be raised well above standard?
- Which factors that do not exist in a specific industry should be created?

The Blue Ocean Strategy simultaneously aims on increasing value while reducing costs. Combined with the business model canvas it represents a powerful new tool. The right hand of the business model canvas represents value creation whereas the left hand represents costs. If changes occur on the right hand of the business model canvas consisting of value proposition, channels, and customer relationship building blocks, it will immediately influence the left hand consisting of resources, activities, partnerships, and costs. Therefore, it allows a systematic analysis of an entire business model innovation. The Four Actions Framework questions can be asked for each business model building block which makes implications for other building blocks visible driving innovation.47

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2.4.4 Business Model Design Process

The business model design process takes all concepts and tools in consideration that have been discussed in previous chapters. The design process needs to be adapted to the specific needs of each organization. Every organization starts from a different background and every business model innovation is unique representing its own challenges, obstacles, and critical success factors. In general, the business model design process can be divided in five phases.48

- **Mobilization.** This phase is mainly about preparing for a successful business model design project. The main activities are framing the project objectives, testing preliminary ideas, planning the project, and assembling a team. The success factor for this phase is an appropriate team with the right knowledge and access to the right information. Without an appropriate team, many ideas and innovations fall by the wayside because the originator is too focused on a certain idea. Involving a skilled team in the innovation process enables ideas to succeed. The team is supposed to be made up by a mix of people with different personalities, experiences, skills, and functions within an organization.49

The establishment of the business model canvas as a shared language helps to structure and to present preliminary ideas and improves communication. People may tend to overestimate the potential of preliminary business model innovations leading to a limited exploration of new possibilities. This risk can be minimized by continuously testing new ideas with people from different backgrounds. One way of testing new ideas are so-called kill/thrill sessions in which all participants first try to find arguments why the idea may not work and then why it may work.50

- **Understanding.** This phase is all about developing a deep understanding of the environment in which a new business model will evolve. The main activities are market research, studying and involving customers, interviewing experts, and sketching business models of competitors. The project team should familiarize themselves with necessary materials and activities in order to develop a deep understanding of the business model environment. This phase is threatened by two risks, over-researching and biased research. Research, understanding, and designing go hand in hand. Therefore, prototyping is one possibility to avoid over-researching and it provides a fast feedback as a positive side effect. The development of a deep understanding of the customer is essential during research but it is often neglected. The Customer Empathy Map serves as a suitable tool to structure customer research avoiding a biased research. Critical success factors during this phase are a deep understanding of potential target markets and looking beyond traditional boundaries defining target markets. Seeds of business model

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48 Cf. Osterwalder, Pigneur (2010), p. 244
innovation can be found nearly anywhere which is why questioning industry assumptions and established business model patterns is highly important for the innovation process.51

- **Designing.** This phase is about adapting and modifying business models to market responses. The key challenge is to generate and stick with a bold business model innovation. The key activities are brainstorming, prototyping, testing, and selecting. Exploring multiple ideas at the beginning is necessary to create different paths of which one yields to be the best alternative. This activity depends on several critical success factors. The quality of new innovations are directly related to the diversity of the team executing the design phase in an appropriate amount of time and their ability to see beyond status quo which describes current business models and their patterns. Prioritizing one possibility at an early stage may limit further explorations of innovations. Another threat during the design process is to suppress bold ideas. Bold ideas can be tested by outside experts or prospective customers. Their feedback will help indicating obstacles which do not necessarily mean the end or the failure of the tested model. Further inquiry may lead to a successful refinement of that idea.52

- **Implementation.** Once a final business model design is selected, it needs to be implemented. This includes several activities such as defining all related projects, specifying milestones, organizing legal structures, and preparing a detailed budget. These activities can be outlined in a business plan and itemized in a project management document. Paying attention to the management of uncertainties is highly important. Results need to be monitored and compared to risk and reward expectations. If the expectations and actual results differ too much, the business model needs to be adapted quickly according to the market feedback. Therefore, suitable mechanisms need to be developed.53

- **Management.** The business model design process is completed by the management phase. Management consists of different activities such as planning, budgeting, organizing, controlling, and scanning the environment in order to keep a business model competitive. Managers focus on reaching targets by using given resources in the most efficient way. If the performance lags behind the expectations, managers need to spot the reasons and adapt or adjust the business model.54

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3 Nonprofit Organizations and Monetary Charges

The purpose of every new venture is to create wealth. In most cases, wealth is measured in monetary terms but it can also be measured in social, educational, scientific, or charitable terms. Although nonprofit organizations are not created to generate profits, they are allowed to generate a financial surplus as long as it is not distributed among officers, investors, or employees. Such a financial surplus has to be used by nonprofit organizations in order to fulfill the approved mission. Nonprofit organizations can appear in different forms. Cooperatives constitute a unique form of nonprofit organizations. These are businesses that are owned by the members. The members establish a business policy and elect directors. Managing a nonprofit organization requires the same set of competencies as needed in for-profit organizations plus a commitment to the entity’s mission. Organizations in the nonprofit sector can evolve to high-impact ventures.\(^{55}\)

3.1 Pricing in Nonprofit Organizations

Nonprofit organizations exist to fulfill a mission that may involve a charitable, educational, scientific, or literacy purpose. In contrast to for-profit organizations, the goal of nonprofit organizations is not to make as much profit as possible. But still, there are expenses and costs in every organization such as salaries, costs of production, or costs occurring by providing services. These expenses and costs need to be covered in order to keep the business running. This can be done by donations, subsidies, or monetary charges. The latter may appear in form of fees, rates, tuition, tolls, or fares. Sometimes, it makes sense to charge monetary prices as long as it enhances the mission making it acceptable for the target group. Reasons for charging monetary prices can be:

- To encourage awareness of the value of the offer.
- To discourage an overuse.
- To encourage feelings of ownership and commitment.
- To preserve the provider’s dignity.\(^{56}\)

3.2 Pricing objectives

When a nonprofit organization decides to charge monetary prices for value propositions, it needs to determine what it wants to achieve by collecting money. There are several price objectives as described in the following.

- **Revenue-orientated objectives.** Nonprofit organizations can generate revenues in order to increase profits or to cover their costs occurring by providing services. When a nonprofit organization decides to generate profits, the surplus is used to enhance the mission by establishing new or financing existing services. Organizations can also set their prices just high enough in order to cover all overhead costs to keep the business running without generating any additional profits.

- **Operations-orientated objectives.** Some nonprofit organizations may offer perishable services. Because services can be produced and consumed simultaneously, they cannot be stored. For example, if a patient fails to keep an appointment at a hospital, the offered service will be lost. Limited service offerings due to limited resources are another issue. Nonprofits can respond to this by increasing prices in times of over demand.

- **Patronage-orientated objectives.** Some nonprofits believe that their mission can be best accomplished by increasing the membership and size of their target group. Such organizations may set their prices with patronage-oriented objectives in mind. One way in maximizing the number of members is to charge low fees. Other nonprofits may want to pursue social equity objectives. This means, organizations charge different prices on different target groups by considering their wealth. In addition to regular price differentiation, nonprofits may let the members choose the amount of money they are willing to pay. This can be done by suggesting price ranges in which members are free to choose any price or by providing complete freedom of choice.57

### 3.3 Pricing Services

At the beginning of the process of pricing services, organizations have to decide their pricing objectives as discussed in the previous chapter. Afterwards, they can set a certain price for a certain service. Prices are influenced by several factors. The main factors are costs, competition, and market. In general, the overall costs symbolize the minimum price for a value proposition whereas the market represents the maximum price. Knowing how competitors price their offers will help an organization to set the right price within the price range. In some cases, the market is not willing or able to pay a price that would be necessary to cover the overall costs. For-profit organizations would quit offering those value propositions or heavily adapt their processes in order to lower the costs. Nonprofit organizations may respond different if that enhances their mission. They should consider the following questions when making pricing decisions:

- What kind of offer is being priced?
- How will the price affect the competitiveness?

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How will the price affect the overall costs?
How will the price affect the mission?
How will the price affect other funding alternatives?
What information will the price convey about the organization and its offer?
To what does a membership fee entitle members?\textsuperscript{58}

3.4 Pricing Strategies

There are different methods of pricing value propositions. The most common approaches are described in the following.

- **Cost pricing.** This pricing strategy focuses on the costs occurring in a business in order to produce a value proposition. The price is set by covering the costs and adding some profit. The profit is typically determined in two different ways, cost-plus and standard markup pricing. Using the cost-plus pricing approach, an entrepreneur simply adds an amount, also known as markup, to the costs. When using the standard markup pricing approach, a certain percentage is added to the costs. This percentage varies depending on the type of store and product. The cost-based approach is a useful starting point but it does not consider two main issues, the customers’ willingness and ability to pay a certain price and competitors’ prices of comparable products. The price is not only a cost signal, it can also serve as indicator of quality. Setting a price too low may refer to potential customers as a sign of poor quality whereas too ambitious pricing may indicate that the value offered by a product is not equivalent to its price.\textsuperscript{59}

- **Competition-based pricing.** When using the competition-based strategy, organizations observe the price range of competitors and adapt their own prices to the current market price. Each company has to decide how it will price its products within the given price range. The price setting depends on several factors such as the product quality, price sensitiveness of potential customers, and the product differentiation.\textsuperscript{60}

- **Customer-based pricing.** This strategy focuses on the demand and the customers’ ability and willingness to pay certain prices. Each organization needs to figure out how the demand relates to the price at the beginning. The demand can be elastic meaning the demand increases as the price decrease and vice versa or inelastic meaning the demand does not change as the price does. When using the customer-based approach, organizations may consider two options, skimming or penetration pricing. By using skimming pricing, a high initial price is charged. This is an appropriate approach when potential customers are less sensitive to prices than to benefits.

\textsuperscript{60} Cf. Crane (2010), p. 142
Penetration is pursuing the opposite strategy by offering low initial prices. This strategy relies on the price sensitive customers.\textsuperscript{61}

- \textbf{Value-based pricing.} This strategy focuses on the value consciousness of potential customers by increasing the benefits of products at the same price. The benefits of products can be increased by greater quality, quantity, or bundling multiple products in a single package deal.\textsuperscript{62}

4 Project - Pirkanmaan Protopajaverkosto

Pirkanmaan Protopajaverkosto is a nonprofit organization in form of a collaborative network. It is located in the Finnish region Pirkanmaa in the southwest of Finland. The network enables flexibility in terms of product development, innovation generating, and testing and demonstration.

Pirkanmaan Protopajaverkosto consists of regional universities, vocational schools, and companies as illustrated by Figure 8. Companies that join the network obtain access to know-how and expertise of the entire network, a wide range of facilities and equipment, and students that are willing to participate in various projects. Some services are also available to external organizations under different conditions.\textsuperscript{63}

Since Pirkanmaan Protopajaverkosto is a new established network, a clear business model has not been introduced so far. This project creates a deeper understanding of the need for such a network. The new gained understanding serves later as a foundation for business model innovations. Within the project, several business model ideas are developed and evaluated in order to find the best model that suits the needs and fits in the environment.

\textsuperscript{61} Cf. Crane (2010), p. 142 f.  
\textsuperscript{62} Cf. Crane (2010), p. 144  
\textsuperscript{63} Cf. Tampere University of Applied Science (2016)
4.1 Understanding

This phase creates a deep understanding of the context in which a business model will evolve. It is the foundation for the following design phase and a crucial factor of success. Every successful business model is built on customer needs and desires and environmental influences. In order to enable a strong and competitive business model for Pirkanmaan Protopajaverkosto, it is highly important to analyze its environment and to gain customer insights by developing an empathy map and interviewing the members.

4.1.1 Environment

Every business model has to compete in a specific environment which is influenced by four major forces consisting of key trends, market forces, macroeconomic forces, and industry forces. These forces are analyzed in the following regarding to Pirkanmaan Protopajaverkosto.

Market forces drive change. New technologies are developed at an unknown pace and companies need to be innovative in order to stay competitive. Every organizations has to compete globally and, therefore, needs to have a deep understanding of its environment. Value propositions become more complex in the
industrial world. Companies invest large amounts of money in research and development and in high-quality equipment.\textsuperscript{64} Finland’s economy mainly consists of small and medium sized companies that might have trouble placing high investments. These organization have a need for cheaper alternatives that provide access to resources such as expertise, equipment, and workforce. Networking is another important issue. Especially, startups depend on networking in order to get their business running. They benefit from best practices and shared expertise. Pirkanmaan Protopajaverkosto provides companies an alternatives that focuses on the needs of many companies in the engineering sector.

Industry forces put pressure on Pirkanmaan Protopajaverkosto. A good understanding of these forces enables to design a strong business model. Competitors are an important issue. Pirkanmaan Protopajaverkosto has to compete against well-established engineering offices that are capable to provide the same services with way faster processes. The big advantage of Pirkanmaan Protopajaverkosto is not its speed but its low prices and the ability of networking. Pirkanmaan Protopajaverkosto also has to compete against other networks such as DEMOLA. DEMOLA creates an innovative ecosystem by uniting companies, universities, and students. It is free of charge and companies only pay for successful projects. These projects focus on idea generation and concept development. The idea of Pirkanmaan Protopajaverkosto is similar but goes beyond that by actually realizing ideas and concepts to unveil their full potential to the companies. Other alternatives are internships or cooperation between single entities. When creating a business model, attention has to be paid to the interests of, at least, the main stakeholders. The main stakeholders of Pirkanmaan Protopajaverkosto are the members consisting of companies and educational institutions, the student body, and the government. Companies are interested in receiving access to expertise and equipment, a low cost structure, and networking. The educational institutions on the other side like to utilize their capabilities more efficiently and to collect external money. Together with the government, educational institutions are also concerned about the learning environment for students. Students are mainly interested in pursuing a degree and to get a decent job afterwards. A good business model aligns all interests.

The key trends can be categorized in technology, regulatory, societal and cultural, and socioeconomic trends. Technology is developing at a growing pace. Nowadays, it is all about connectivity as illustrated by Figure 9. People connect to their cell phones, tablets, personal computers, watches, cars, and to other people around the world creating a digital mesh. This digital mesh impacts people in their everyday life as well as the industry, keyword industry 4.0. Everything that goes along with it such as smart devices and machines, usability management, and security are among the key technology trends in the near future. Another technology which just started to uncover its full potential is 3D-printing. 3D-printing allows to prototype or manufacture goods without big amounts of waste. Therefore, this technology fits in a society with a growing consciousness for sustainability. At the moment, 3D-printing is a rather

\textsuperscript{64} Cf. Friedman (2005), p. 441 ff.
expensive process limited by the use of materials in in the size of products. Nevertheless, this technology provides high flexibility in manufacturing and enables almost any shapes and geometrics of goods. Another important trend focuses on regulations. There are high environmental standards affecting the industry. Emissions are one important issue and have to be decreased stepwise. Emissions are a good example of how environmental standards will have an increasing impact in future due to a growing consciousness among the people. Regulations are very high in Finland on average. Finland’s economy has not recovered from the world economic crisis in 2008/09 and consists mostly of small and medium size organizations. Some regulations might be relaxed in order to strengthen the economy.\textsuperscript{65}

\textsuperscript{65} Forbes LLC (2016)
\textsuperscript{66} Source: Forbes LLC (2016)
Macroeconomics focus on the performance, structure, and behavior of an economy as a whole. Macroeconomic forces can be categorized in global markets, capital markets, commodities and resources, and the economic infrastructure. With regard to Pirkanmaan Protopajaverkosto the following information should be considered when business model ideas are developed. The global GDP will approximately grow 3.4% in 2016 but a downward trend is expected due to China’s decreasing GDP rate, a downward trend in emerging countries, and a massive stream of refugees. The capital markets try to prevent a downward trend by lowering the key interest rate that is close to zero percent in many parts of the world. This strategy is supposed to incite organization to invest money in order to prevent a recession. The Euro as a currency has lost value which favors the export of European goods and makes imports more expensive at the same time. Prices of raw materials such as oil, gas, or steal have recently been declining leading to a low inflation rate. Furthermore, it benefits industrial countries that are dependent on commodities and resources and burdens countries rich in raw materials like Venezuela. Venezuela’s economy largely depends on oil exports and, therefore, suffers due to the massive price decline. Many countries of the European Union still have not recovered from the world economic crises in 2008/09 which can be indicated by the unemployment rate. The unemployment rate in Finland is 9.4% which is 0.5% points above the average rate in the European Union. In general, the infrastructure of Finland can be considered as good. The country has an excellent educational system which is proved by the PISA study. It has a good infrastructure due to high investments and provides good living conditions. The taxes and salaries and well as the price level are above European average.67

4.1.2 Empathy Map

The empathy map is a useful tool in order to understand the needs and desires of the members of Pirkanmaan Protopajaverkosto. In general, there are two types of members, educational institutions and companies. Therefore, two separate empathy maps have to be developed in order to determine true intentions. This tool does not directly interview the members for a simple reason. Customers or members do not always know what they exactly want. An old anecdote says that if Henry Ford would have asked his customers want they really want, they would have said a faster horse. Therefore, I tried to answer the following questions myself:

(1) What does the member see?
(2) What does the member hear?
(3) What does the member really think and feel?
(4) What does the member say and do?
(5) What is the member’s pain?
(6) What does the member gain?

The empathy map developed for the educational institutions in appendix 1. The educational institutions consist of universities and vocational schools that include a big student body, high quality equipment, and free capacities. The universities are equipped with newest technology such as 3D-printers and analyzing facilities whereas the vocational schools own high quantities of manufacturing machines for metal work. Both the universities and vocational school have free capacities and a large number of students to do more work. There is evidently a need for cooperation which would launch more projects and increase revenues. External money is important for the universities due to a funding system. The Finnish government multiplies the amount of external money that is collected by a certain factor. Even if companies just pay little money for projects, the universities would benefit greatly because of that funding system. More money enables universities to invest in their equipment in order to ensure and enable projects and research at highest level. A big issues is to get more students involved in projects. At the moment there seems to be a lack of motivation so that students prefer doing their regular classes instead of participating in projects. Educational institutions apparently do not use their full potential regarding their abilities in the engineering sector. There is a lack of cooperation that could be wiped out by a greater network of companies and educational institutions. At the moment, it seems that the level of awareness is low in the industry and that companies have difficulties to enter new relationships with universities or vocational schools. Educational institutions would highly benefit from a network that enables cooperation in a larger scale. They would improve their capacity rates, raise extra money, and provide modern learning experiences to their students.

The empathy map for companies can be found in appendix 1. Companies at different size that have facilities in Pirkanmaa have joined the network so far. When companies have engineering projects coming up, they have to decide whether they can do it by their own or if they need to outsource the project. Instructing other companies to do engineering work can be expensive. A cheaper alternative is a cooperation with educational institutions but the abilities of a single institution are often limited. Nowadays, companies have to compete in a globalized world where new technologies are developed at a pace that has been unknown in the past. Companies need to be innovative and cost efficient in order to stay competitive. They also need to offer high-quality products due to the fact that Finland is a country with high wages and taxes which drive the costs and evidently the price. The key concerns of every organization is there competiveness which is indicated by their profit and growth. Companies advertise and claim to be innovative, to use and offer latest technology, and to provide customized solutions. They might be afraid of a future lack of resources. This lack could be compensated by cooperation with educational institutions if a proper way of contact and communication would be established.

4.1.3 Customer Insights

Customer insights can view business models and related topics though customers’ eyes. This may lead to the discovery of completely new possibilities. One way to gain customer insights is to do interviews.
In contrast to the empathy map, this approach addresses directly customers enabling them to comment on certain issues. Customer perspectives provide information for the business model design process. Interviewing the members of Pirkanmaan Protopajaverkosto enables to create a deeper understanding of the needs and desires of the members in order to design a successful business model. A good interview requires a well-designed questionnaire which is a mix of open and closed questions addressing different topics. All questions are supposed to be asked in a neutral manner without favoring certain answers. The members of Pirkanmaan Protopajaverkosto were asked questions concerning fees, value propositions, information and communication channels, experiences, and marketing issues. The questionnaire for educational institutions can be found in appendix 3 and the one for companies in appendix 4. The questionnaires vary slightly due to role the parties play within the network. After all interviews were made, the answers could be compared and analyzed.

The analysis of the set of questions concerning fees is illustrated by Figure 10. It shows clearly that most members favor a membership fee in order to join Pirkanmaan Protopajaverkosto. 75% of all interviewed members have the opinion that there should be a basic membership fee and an additional fee when launching a project. Just 25% would like to have an overall fee that covers the membership as well as projects within the network. Most members agree that the project fee should vary depending on certain factors such as scale, material, equipment, involvement of staff, and expenditure of time. In order to get a better feedback, participants were asked if they think that a proposed membership fee of 1250 €/year is rather low, reasonable, or rather high. 50% answered with reasonable, 37.5% rather high, and 12% rather low indicating that the basic membership fee should not be much higher than 1250 €/year.

Another set of question tried to determine member needs and desires as illustrated by Figure 11. The members were free to state their expectations, goals, and wishes. Members of Pirkanmaan Protopajaverkosto hope for more networking and cooperation through the network in order to increase the number of projects. The companies expect to get cheap access to resources such as expertise,
equipment, machinery, and the student body whereas the educational institutions hope for raising some external money, increasing their research and innovation activities, and to improve the learning environment of their students by offering projects for the local industry. Some members wish the network to function as a recruitment channel. Students involved in projects are able to establish contacts to companies that may be beneficial when students look for internships or job offers. Another important issue is the size of the network. The members expect or hope the network to grow in order to increase benefits for all parties in the future.

![Figure 11: Expectations, goals, and wishes of members](image)

One factor of success are good information and communication channels within the network. All members agree that emails and regular meetings are indispensable in behalf of a good coordination. The members also made clear that the right amount of emails and meetings is a crucial factor. Too many information can become annoying whereas too little information can result in dissatisfaction. Each email and meeting needs to be reasonable otherwise it is ineffective or even adverse. The majority of members think that the establishment of a webpage is a good way to provide information within Pirkanmaan ProtopajaVERKOSTO. Other possibilities mentioned are telephone calls and video conferences.

All companies joining the network need to sign a contract whereby the contract term is an important issue. All members were asked what they think is an appropriate contract term. The majority supports a
two-year contract and the minority a one-year contract. No party was going for a contract term greater than two years indicating that a two-year contract seems to be the maximum. Members widely agreed that there is a need for another contract when launching a project within the network. This contract is supposed to cover, inter alia, the objectives of the project, the project fee, and intellectual property rights. The latter needs to be decided for each project. The majority asks for a basic set of regulations from which can be chosen from.

Most members of Pirkanmaan Protopajaverkosto have not launched a project within the network and, therefore, no experiences with the procedure. In the past, companies had to do projects in cooperation with single educational institutions. After the project was completed, the cooperation ended as well until a new project came up. Other alternatives are engineering offices and different networks. The latter primary deal with innovation generating but are limited in their scope. All interviewed companies hope that Pirkanmaan Protopajaverkosto will offer the possibility to do project of any scope covering research and development, prototyping, testing and simulation, manufacturing, and programming.

In order to increase the benefits of Pirkanmaan Protopajaverkosto, it is essential to canvass new members. A growing membership increases the possibilities for networking and cooperation leading to more projects. The majority of interviewed members defines two major factors in order to acquire new members, high performance and a high awareness. A high performance needs be to proven by the educational institutions during project works. A high awareness can be achieved in several ways. One way are recommendations from organization to organization. Another possibility is to make information available in public. Pirkanmaan Protopajaverkosto can be promoted via the internet utilizing the homepages of each member. In addition to that, an independent webpage should be created providing information about the net itself, its members and its benefits outlined by case studies.

4.2 Designing

The design phase generates and tests various business models by transferring the information collected in the previous understanding phase into a prototype. Several business models are developed on the base of the prototype by applying different scenarios. All models are evaluated afterwards and the most satisfactory business model is selected at the end of the phase.

4.2.1 Ideation

The ideation process consists of two phases, generation and synthesis. The generation phase focusses on the creation of new ideas whereas the synthesis phase narrows down the amount of ideas by selected criteria. In order to design a successful business model for Pirkanmaan Protopajaverkosto, ideation is
the first step of the designing process. Suitable tools or techniques are the use of epicenters, “what if” questions, brainstorming, and six thinking hats.

Epicenters of business model innovation. Business model innovations can originate from every building block of the business model canvas. In many cases, innovations are resource-driven, offer-driven, customer-driven, or finance-driven. Not all epicenters can be applied to every case. In the case of Pirkanmaan Protopajaverkosto, two epicenters can be verified as illustrated in Figure 12.

- **Resource-driven.** Resource-driven innovations originate from an organization’s infrastructure or partnerships impacting multiple other building blocks. Regarding to Pirkanmaan Protopajaverkosto, innovations can rise from educational institutions that have joined the network. At the moment, just universities of Tampere have joined Pirkanmaan Protopajaverkosto. These universities are specified in mechanical engineering, information technology, and computer and human interface. If more educational institutions with different focus join the network, it will become more attractive to a wider range of companies. This could result in an increasing number of members, projects, and networking. All parties benefit from a greater network. There are several possibilities of expansion. For example, educational institutions of Turku which is located at the west coast of Finland has a focus on nautical engineering, institutions of Oulu which is located in the north focus on mining, and institutions in the Helsinki area focus rather on electronics. All these educational institutions provide expertise that are missing in the network at the moment. Another advantage of new members...
are their contacts. All educational institutions already have cooperation with companies and could therefore promote the network in order to win more members.

- **Finance-driven.** Finance-driven innovation originates from new revenue streams, pricing mechanisms, or different cost structures. Pirkanmaan Protopajaverkosto focuses on small and medium size companies and startups. Smaller organizations tend to be more price sensitive than big corporations when it comes down to an annual membership fee. Several fee mechanisms are possible in order to make the network more attractive. One approach is a free membership and project fees that may include an extra charge that covers expenses for coordination. Companies are willing to pay a fee if they see some related benefits. Not all companies see benefits of the mere membership and, therefore, struggle with a membership fee. On the other hand, companies tend to see benefits in projects and are willing to pay a fee according to the benefits. Another approach is to charge membership fees as well as projects fees. It can be argued that a membership fee guarantees commitment of the members. This membership fee can be equal for all members or can vary based on certain criteria such as size, revenues, or profits of an organization. The membership fee can also increase over time. This strategy is often used for subscriptions such as pay-tv or cell phone services. Regarding Pirkanmaan Protopajaverkosto, there could be an initial contract charging a lower membership fee. After the initial contract expires, the member has the choice between a regular membership or to leave the network. Some nonprofit organizations put their members up to a choice. They can decide if and how much they are willing to pay for a membership in form of donations. These donations can reflect the benefits which the organizations receive by being part of the network or can support the mission of Pirkanmaan Protopajaverkosto in the hope that these donations will pay out in the future. An alternative is to provide a price range in which members can decide what the right membership fee is in their point of view.

The status quo stifles imagination and, therefore, slows down the process of ideation. “What if” questions overcome this problem by challenging conventional assumptions. Regarding Pirkanmaan Protopajaverkosto, the following “what if” questions may help to design a stronger business model.

- What if Protopajaverkosto is not limited to the area of Pirkanmaa but spreads out across the whole country? This would most likely mean that other educational institutions join the network. This would increase the capacities in terms of equipment and workforce enabling an increasing number of projects. Furthermore, the network would gain new expertise. Other universities have different focusses in research and therefore special know-how and specialized equipment attracting more companies. A growing network has a need of good organization and coordination. These activities would need be extended and improved. In the long term, it should be strived to a reasonable ratio between educational units and companies so that the educational institutions have a good capacity ratio.
What if Pirkanmaan Protopajaverkosto is organized and coordinated by students? Students would have the possibilities to gain valuable experiences that will be beneficial in their working life. This would enable students to develop or improve skills that are necessary for leading an organization. Projects within the network focus on engineering skills. Coordination and organization would extend the required set of skills and would also allow students with a business related background to participate in Pirkanmaan Protopajaverkosto. A student ruled network consulted by staff members has a high potential to improve the learning environment. Students would have the possibility to apply their knowledge learned in regular classes to an existing network in the real world. The need for organization and coordination increases as the network grows. If Pirkanmaan Protopajaverkosto is only run by staff members, organization in coordination can cause high expenses. A student led organization would decrease costs.

What if the scope of projects is increased in the curriculum by the universities in terms of credits? If the network is growing in terms of members, the number of projects will mostly increase as well requiring a higher number of motivated students participating in projects. The involvement of students is a crucial factor in the success of Pirkanmaan Protopajaverkosto. Students study in order to receive a degree after accomplishing all requirements. If the scope of projects is increased in the curriculum in terms of credits, students will need to become more active in project work. Another possibility is make project work voluntarily by providing students the choice between regular courses or project work. Credits could be received for participating in projects that require the application of contents which would be otherwise taught in class. Writing reports can provide evidence for required contents and can also function as a good preparation for the later bachelor thesis.

What if students have the freedom and flexibility to do projects all year around? Companies operate all year around whereas most educational institutions are bound to an academic calendar including breaks in which most activities rest. During the semesters, students are often heavily involved in lectures due to their curriculum. These issues cause potential conflicts between company interests and the academic system. More freedom and higher flexibility in the curriculum could diminish the source of conflicts and could improve the cooperation within the network. The summer break is a crucial time period due to its long duration. Enabling access to facilities all year around makes the network more attractive to members and is one important step toward better cooperation. Another issue is the availability of students. The curriculum often provides the possibility to do smaller projects in several semesters. This means that students are still heavily involved in numerous lectures and, therefore, limited in their availability concerning their project work. Combining all possibilities for project work in one semester would allow students to shift their focus on project work. Maybe even a practical semester is a good alternative in order to collect practical experiences.
What if Pirkanmaan Protopajaverkosto is promoted on fairs in Tampere? Pirkanmaan Protopajaverkosto just started to operate. Therefore, its awareness among companies is rather low. Fairs provide a good opportunity to raise awareness and to acquire new members. A growing network will increase the benefits for its members.

4.2.2 Prototyping

A prototype roughly describes a business model. Instead of illuminating every detail, it focuses on certain aspects and the concept itself. Prototypes make abstract models more tangible and are needed for later stages in the design process.

Since Pirkanmaan Protopajaverkosto was founded more than a year ago, a rough business idea was already developed and the first members joined the network. The basic business model is developed on the basis of the first business draft and the ideas generated in the previous chapter. This first prototype of Pirkanmaan Protopajaverkosto is illustrated by Figure 13 and is described in the following by the business model canvass. The key partners of Pirkanmaan Protopajaverkosto are its members, the educational institutions and the companies. Without these key partners, the whole network makes no sense. The network brings companies and educational institutions together and enables cooperation in form of projects and networking between single organizations. The educational institutions provide the key resources of the network such as expertise, equipment, and workforce. Companies joining the network usually look for these resources. Pirkanmaan Protopajaverkosto provides different value propositions that can be requested by its members in order to compensate their temporary lack of certain resources. The offered value propositions cover the entire innovation process starting with research and development, continuing with prototyping and manufacturing, and ending with testing and demonstration. The key activities of the network are administration and coordination in order to ensure smooth processes. The customer relationships are shaped by regular emails and meetings providing new information. The target group or customer segments of the network are small and medium size companies and startup enterprises in the engineering sector. Although Pirkanmaan Protopajaverkosto is a nonprofit network, it charges monetary prices in form of fees to cover its expenses. The cost structure consists of network expenses such as coordination and administration and project expenses. The latter includes costs occurring through materials, equipment, machinery, maintenance, and involvement of staff. Staff members and their activities within the network are an important issue regarded to the cost structure and, therefore, need to be treated carefully.
Since this prototype is just a rough outline of the key building blocks, several versions can be generated. These versions do not present entirely new models but vary in single business model building blocks. Main differences can be detected in the revenue streams, the cost structure, and administration.

- **Version 1.** Pirkanmaan Protopajaverkosto charges monetary prices in form of a fix annual membership fee and a variable project fee depending on the scope of the projects. The project fee is supposed to cover all occurring costs. Since most work is performed by students who are not paid, the project fee is low compared to prices charged by for-profit organization for similar services. This creates a win-win situation for both parties, companies and educational institutions.

- **Version 2.** This version differs from version 1 in terms of monetary charges. Pirkanmaan Protopajaverkosto charges a variables membership fee by providing companies the opportunity to decide what they think is a reasonable membership fee within a given price range. The project fee remains the same as in version 1. Additionally, an initial contract is offered once to every company joining the network. This initial contract has a shorter contract term and a lower membership fee in order to attract a wider range potential members. Especially startup enterprises and small companies with limited financial resources benefit from this policy which will have a positive effect to the growth of the network.

- **Version 3.** This version does without a membership fee. Not all members see benefits by the mere membership of Pirkanmaan Protopajaverkosto and, therefore, are not willing to pay a fee
in order to join the network. Members do see benefits related to projects and, therefore, are willing to pay a project fee that includes an extra charge for administration. The administration charge is supposed to equalize costs occurring through coordination and administration and to prevent single institutions from carrying costs caused by Pirkanmaan Protopajaerkosto. Since companies carry no risk when joining the network, this prototype is most attractive to companies and most beneficial for the growth of the network.

- **Version 4.** Pirkanmaan Protopajaerkosto is mainly run by students in this prototype. Staff members are heavily involved in the administration of the network at the moment. The need for administration grows with an increasing number of members meaning that staff members working for the network would become a significant cost factor. Staff members could become less active and act as consultants for students that do the coordination and administration for Pirkanmaan Protopajaerkosto. This would decrease costs and improve the learning environment for students that could gain valuable experiences. It also allows students with an economic background to participate in the activities of the network.

4.2.3 Scenario Planning

Scenarios show a wide range of alternative futures in which a business model might compete. This provides new insights enabling a stronger business model. In case of Pirkanmaan Protopajaerkosto, scenarios can help to improve and evaluate the prototypes created in the previous chapter. In order to generate reasonable scenarios, a set of steps has to be followed.

The challenge has to be defined at the beginning because the following activities are related to it. The challenge is to establish a strong business model for Pirkanmaan Protopajaerkosto that attracts more organizations across the whole country by being highly innovative. Then, information needs to be gathered. Good scenarios are based on information about key trends in the surrounding environment. These information have been gathered earlier in chapter 5.1 Understanding and will not be repeated here. In the next step, the driving forces of Pirkanmaan Protopajaerkosto have to be defined. Driving forces have the potential to cause significant changes in the future. There are several forces affecting the network as illustrated in Figure 14. There are often interrelations between single forces. Pirkanmaan Protopajaerkosto depends on its members in order to be successful. It needs to be popular and has to have a positive reputation in order to attract potential members. The popularity can be increased by marketing and the reputation is built up by the experiences members make by being part of the network. Therefore, satisfaction is another driving force. It is largely influenced by the quality of performance, occurring costs, and the access to resources. All activities within the network need to be well coordinated and administrated in order to ensure proper operations. Pirkanmaan Protopajaerkosto aims for companies that have a need for innovations, prototyping, cooperation, and networking. Competition is rather low in this specific market but may evolve in the future. Innovations and prototyping are closely
related to the development of new technology. Prices of raw materials and commodities are other driving forces which may depend on currency exchange rates. The economic growth indicated by the GDP rate, key interest rates in capital markets, and political policies will change over time impacted Pirkanmaan Protopajaverkosto.

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After all driving forces are identified, their uncertainties need to be defined. Although there are many uncertainties and it is impossible to predict precisely their impact, it is possible to do educated guesses about the potential degree of impact and their degree of uncertainty. Each of the driving forces can be plotted on a graph indicating their uncertainty and their potential impact. The result of this plotting process is illustrated by Figure 15. Each number represents a driving force. The numbering is according to Figure 14. The graph below indicates the importance of each driver and is essential to determine those forces that are used to set up Scenarios. The graph shows two critical uncertainties whose potential impact as well as their uncertainty is high. These driving forces are numbered seven and 14 representing the numbers of members and the development of new technologies. These driving forces will be used to develop scenarios using a simple matrix.
Scenarios are developed in the next step. The two critical uncertainties of Pirkanmaan Protopajaverkosto are the number of members and the development of new technologies. These forces form a graph or a matrix illustrated by Figure 16. The number of members is shown by the x-axis and the development of new technologies by the y-axis. Each quadrant represents one scenario that is described by the characteristics of the critical uncertainties.

Creating stories by outlining key elements is the last step in the process of developing scenarios.

- **Scenario 1.** This scenario is characterized by a small networking consisting just of a few members and a rapid development of new technology. Pirkanmaan Protopajaverkosto has a need for acquiring new members that increase the number of projects within the network. The educational institutions need to keep up with the rapid development of new technologies in terms of equipment and expertise in order to guarantee benefits to the companies launching projects.

- **Scenario 2.** This scenario is characterized by a big network consisting of many members and a rapid development of new technologies. Pirkanmaan Protopajaverkosto needs to ensure member satisfaction so it does not lose any members. One important issue is the rate between educational
institutions and companies. The network always needs to be able to do projects without having any kind of waiting list. Therefore, it may be wise to expand the network to other areas of Finland or even across the whole country. Pirkanmaan Protopajaverkosto also needs to keep up with the development of new technologies in terms of expertise and equipment.

- **Scenario 3.** This scenario is characterized by a big network consisting of many members and a slow development of new technologies. Since technology is developing at a slow pace, the need of projects might be low as well. The challenge in this scenario is to keep all members satisfied. The focus might shift from innovation generating and prototyping to networking.

- **Scenario 4.** This scenario is characterized by a small network consisting of just a few members and a slow development of new technologies. This scenario puts Pirkanmaan Protopajaverkosto up to its biggest challenge. There is a need for new members but the demand for the main services, innovation generating and prototyping, is rather low due to the slow development of new technologies. The network needs to create new value proposition in order to satisfy the needs of its members and to attract new organizations.


4.2.4 Business Model Generation

All research and preparations have been done in order to generate business models at this stage of the process. The business model prototype that has been created in chapter 5.2.2 can now be applied to the scenarios which have been developed in the previous chapter. One specific business model is generated for each scenario and described by using the business model canvas as illustrated as introduced in chapter 2.2.

**Business model 1.** This business model is specified according to scenario 1 which is characterized by a small network consisting of a few members and a rapid development of new technologies. The key partners of Pirkanmaan Protopajaverkosto remain its members, the educational institutions and the companies. The network itself brings both parties together and manages internal activities such as projects and meetings. Thus, the key activities are coordination and administration. The key resources are provided by the educational institutions and consist of expertise, equipment, and a massive student body. These resources are utilized in projects constituting the value propositions. Companies can request extensive services that cover the whole developing process including research, engineering work, prototyping, programming, simulation, demonstration, analysis, manufacturing, and assembly. Companies have the possibility to launch as many project as they wish to by contacting one single contact that will be responsible for the further coordination. Coordination is mainly done by emails, phone calls, and meetings. The project work is largely done by the educational institutions. The client only provides information at the beginning and is then informed about the progress of the project. The customer segments or target groups are small and medium size companies and startup enterprises in the engineering sector. These organization most likely have the biggest need for engineering solutions with limited financial resources. The educational institutions need to keep up with the rapid development of new technologies in terms of expertise and equipment in order to provide solutions to the latest state of art. This means investments in new equipment and a steady update of the curriculum. Since Pirkanmaan Protopajaverkosto consists of only a few members in this scenario, this business model is designed to attract more members by applying appropriate strategies. One possibility to raise the awareness is to charge low fees. Pirkanmaan Protopajaverkosto cannot do without membership fees due to required investments in equipment. A suitable solution is to provide companies the opportunity to decide what they think is a reasonable fee within a given price range. The price range should be from 900€ to 1300€ per year. The upper limit was determined in the interviews and it would not make sense to set the limit any higher. The contract term is two years on which member have to agree when joining the network. Furthermore, there is an initial contract with a contract term of one year and a membership fee of 800€ that can be sign once by any company joining the network. After the initial contract expires, the regular contract needs to be signed or companies have to leave the network. The initial contract is supposed to attract companies that are undecided and discouraged by a two-year contract. It provides Pirkanmaan Protopajaverkosto the opportunity to convince new members to become part of the network in the long
run. Another possibility to raise awareness is marketing. Marketing is associated with costs but provides big potential to attract new members. At the beginning, a own webpage for Pirkanmaan Protopajaverkosto needs to be created informing about the objectives of the network, introducing its members and their strengths, and telling stories about projects realized in the past. The next step is to raise awareness among companies. Pirkanmaan Protopajaverkosto can promote itself on fairs and other business events. The members also can help to promote the network by providing information on their own homepage or by recommending the network to other parties whenever possible. Therefore, handouts and flyers should be designed and published.

**Business model 2.** This business model is specified according to scenario 2 which is characterized by a big network consisting of many members and a rapid development of new technologies. The key partners of Pirkanmaan Protopajaverkosto remain its members, the educational institutions and the companies. The network itself brings both parties together and manages internal activities such as projects and meetings. Thus, the key activities are coordination and administration. The key resources are provided by the educational institutions consisting of expertise, equipment, and a massive student body. These resources are utilized in projects constituting the value propositions. Companies can request extensive services that cover the whole developing process including research, engineering work, prototyping, programming, simulation, demonstration, analysis, manufacturing, and assembly. Companies have the possibility to launch as many project as they wish to by contacting one single contact that will be responsible for the further coordination. Pirkanmaan Protopajaverkosto needs to consider its capabilities to do projects without having members to wait. A crucial factor is the willingness of students to participate in project. The motivation of each student is to get a degree. Therefore, it is important to take project work into account in terms of credits that are needed to complete studies. Although some amount of projects is already considered in the most curriculums, it would be beneficial to both the students and educational institutions to increase too scope of mandatory projects. This enables students to apply their knowledge in real life cases and gain valuable experiences for their future working life. Educational institutions would improve the learning environment by providing leaning situations that go beyond classic lectures and laboratories. It needs to make sure by educational policies that students have the flexibility and freedom to do projects all year around. Furthermore, the right rate between educational institutions and companies is highly important to ensure member satisfaction. The network needs to find educational institutions outside of Tampere that are willing to join the network. This enables more projects and new educational institutions most likely attract other companies due to their geographic or their specific expertise and equipment. This enables Pirkanmaan Protopajaverkosto to spread across the whole country. A side effect is a massive increase of administration and coordination. Contact points and offices need to be established in cities in which the educational institutions are located. Another important issue is a common data base in which all information flow in in order to make information available at all contacts points. Other channels of communication are emails, phone calls, and meetings. Students need to be integrated in the key activities.
of the network in order to relieve staff members from administration work and to decrease costs. This enables students with a business background to participate in the network as well. Staff members function as consultants and support projects. The project work is largely done by the educational institutions. The client only provides information at the beginning and is then informed about the progress of the project. The customer segments or target groups are small and medium size companies and startup enterprises in the engineering sector. These organizations most likely have the biggest need for engineering solutions with limited financial resources. The educational institutions need to keep up with the rapid development of new technologies in terms of expertise and equipment in order to provide solutions to the latest state of art. This means investments in new equipment and a steady update of the curriculum. One main issue of this business model is to make sure that its members are satisfied with the performance of Pirkanmaan Protopajaverkosto in order to maintain a high membership. Satisfaction largely depends on the benefits provided by the network. This involves coordination, the performance during projects, and the ability of networking. Since Pirkanmaan Protopajaverkosto developed to a big network, it is more complicated to get an overview about the needs and desires of the members. Therefore, meetings are indispensable and should be organized once a quarter. These meetings do not just provide information, they also provide a platform for networking by bringing all companies together. In addition to that, an annual satisfaction survey needs to be developed in which all members can anonymously state their point of view concerning Pirkanmaan Protopajaverkosto. The network needs to cover its expenses by charging a fix membership fee and a variable project fee. The membership fee is 2500€ per contract term which is two years. The project fee depends on the scope of the project covering materials, equipment, maintenance, and considers the involvement of staff members.

Business model 3. This business model is specified according to scenario 3 which is characterized by a big network consisting of many members and a slow development of new technologies. The key partners of Pirkanmaan Protopajaverkosto remain its members, the educational institutions and the companies. The network itself brings both parties together and manages internal activities such as projects and meetings. Thus, the key activities are coordination and administration. The key resources are provided by the educational institutions and consist of expertise, equipment, and a massive student body. These resources are utilized in projects constituting the value propositions. Companies can request extensive services that cover the whole developing process including research, engineering work, prototyping, programming, simulation, demonstration, analysis, manufacturing, and assembly. Companies have the possibility to launch as many project as they wish to by contacting one single contact that will be responsible for the further coordination. Since the development of new technologies is rather slow, the need for innovations and prototyping is low. Companies do business as usual without major changes. This means that there are just a few projects going on within the network. The big issue of this scenario is to provide benefits to educational institutions and companies. Educational institutions benefit from many projects. Therefore, it is important to aim for a high ratio of companies to educational institutions in order to reach a good degree of utilization. One way to increase the degree of utilization is to attract
new companies. This can be done by charging low membership fees and by marketing. A suitable solution for membership fees is to provide companies the opportunity to decide what they think is a reasonable fee within a given price range. The price range should be from 900€ to 1300€ per year. The upper limit was determined in the interviews and it would not make any sense to set the limit higher. The contract term is two years on which member have to agree when joining the network. Furthermore, there is an initial contract with a contract term of one year and a membership fee of 800€ that can be signed once by any company joining the network. After the initial contract expires, the regular contract needs to be signed or companies have to leave the network. The initial contract is supposed to attract companies that are undecided and discouraged by a two-year contract. It provides Pirkanmaan Protopajaverkosto the opportunity to convince new members to become part of the network in the long run. Another possibility to raise awareness is marketing. Marketing is another way to attract new members. At the beginning, a own webpage for Pirkanmaan Protopajaverkosto needs to be created informing about the objectives of the network, introducing its members and their strengths, and telling stories about projects realized in the past. Since the need for prototyping is rather low, networking becomes more important and a webpage provides a decent platform for companies to find new partners. The next step is to raise awareness among companies. Pirkanmaan Protopajaverkosto can promote itself on fairs and other business events. The members also can help to promote the network by providing information on their own homepage or by recommending the network to other parties whenever possible. Therefore, handouts and flyers should be designed and published.

**Business model 4.** This business model is specified according to scenario 4 which is characterized by a small network consisting of just a few members and a slow development of new technologies. The key partners of Pirkanmaan Protopajaverkosto remain its members, the educational institutions and the companies. The network itself brings both parties together and manages internal activities such as projects and meetings. Thus, the key activities are coordination and administration. The key resources are provided by the educational institutions and consist of expertise, equipment, and a massive student body. These resources are utilized in projects constituting the value propositions. Companies can request extensive services that cover the whole developing process including research, engineering work, prototyping, programming, simulation, demonstration, analysis, manufacturing, and assembly. Companies have the possibility to launch as many projects as they wish to by contacting one single contact that will be responsible for the further coordination. Since the membership is low and the development of new technologies is slow, the need for prototyping is limited. Companies tend to do business as usual without major changes. The big challenge is to attract more members in this scenario. This can be done by an appropriate pricing strategy. This business model does without a membership fee. Therefore, a contract term is not necessary. Companies can join and leave the network as they wish to without having any financial risk. Companies can join the network and use its networking abilities for free. When they do projects within the network, they have to pay a project fee covering expenses for materials, equipment, maintenance, the involvement of staff members, and an extra charge for
administration. This extra charge is supposed to cover expenses occurring through the network that otherwise would be covered by a membership fee. This prevents single institutions from carrying costs caused by Pirkanmaan Protopajaverkosto. Companies are willing to pay a project fee including an administration fee because they see benefits directly related to their expenses. Not all organizations see benefits related to the mere membership. Therefore, this price strategy is an appropriate solution according to this scenario. Another possibility to raise awareness is marketing. Marketing provides a big potential to attract new members. At the beginning, a own webpage for Pirkanmaan Protopajaverkosto needs to be created informing about the objectives of the network, introducing its members and their strengths, and telling stories about projects realized in the past. Since the need for prototyping is rather low, networking becomes more important and a webpage provides a decent platform for companies to do so. The next step is to raise awareness among companies. Pirkanmaan Protopajaverkosto can promote itself on fairs and other business events. The members also can help to promote the network by providing information on their own homepage or by recommending the network to other parties whenever possible. Therefore, handouts and flyers should be designed and published.

4.2.5 Business Model Evaluation

Business models can be evaluated in different ways. One approach is the SWOT analysis. SWOT stands for strength, weakness, opportunity, and threat as discussed in chapter 2.5.2. The application of the SWOT analysis will unveil how well the generated business models match the scenarios.

**SWOT analysis of business model 1.** This business model is generated according to scenario 1 which is characterized by a small network consisting of a few members and a rapid development of new technologies. The SWOT analysis determine its strengths, weaknesses, opportunities, and threats. The strengths of business model 1 is its flexibility in terms of contracts and fees. It offers an initial contract with better conditions for companies than the regular contract. The regular contracts allows to the companies to decide what they think is a reasonable membership fee within a given price range. This strategy increases the attractiveness of Pirkanmaan Protopajaverkosto. Another strength is the marketing strategy which actively promotes the network in the internet and business events. Pirkanmaan Protopajaverkosto has strong resources on the latest state of art that can be utilized by every member at any time. This offers companies the opportunity to be flexible in terms of product development or process optimization. Furthermore, the network serves as a good platform for networking. Meetings once a quarter bring all members together and information is spread via a homepage. The main weakness of this business model is that the network does not utilize its resources efficiently due to the small membership. The educational institutions have free capacities that remain untouched. Another weakness is the involvement of staff members in administration and coordination. This type of work could be done by students in order to cut expenses. The costs might not be overwhelming but if the network grows, so does the need for administration. Staff expenses might develop to a significant cost factor which would
have negative effects on other activities such as marketing. The business model provides several opportunities due to the rapid development of new technologies which causes a need for prototyping and networking. Especially for small companies, it becomes hard to generate innovations by their own due to required equipment, manpower, and financial matters. Pirkanmaan Protopajaverkosto provides an alternative by combining the power of different educational institutions in order to provide tailor-made solutions. Over time, this could turn the network in a well-known organization across the whole country. Since the membership is small, the network might extend its value propositions in order to utilize the study body more effectively. These value propositions could include business development and consultancy which could help startup enterprises in the first place. Opportunities goes often hand in hand with threats. The main threat in this business model is that the educational institution do not keep up with the rapid development of new technology in terms of expertise and equipment. In this case, Pirkanmaan Protopajaverkosto would not be beneficial to its members. The business model is also threatened by slow processes within the network. Time is a valuable resource to companies. Solutions or projects need to be as fast as possible in order to satisfy the clients. Otherwise, companies might look for different alternatives that might raise due to the need of innovation and optimization.

**SWOT analysis of business model 2.** This business model is generated according to scenario 2 which is characterized by a big network consisting of many members and a rapid development of new technologies. The SWOT analysis determine its strengths, weaknesses, opportunities, and threats. The main strength of this business model is the support of projects by the curriculum. Students are motivated and for a certain degree obligated to participate in projects. This largely benefits Pirkanmaan Protopajaverkosto that needs motivated students to do the numerous projects. Students receive more freedom and flexibility to do projects all year around. They have the possibility to apply their knowledge and to gain valuable experiences in real life cases improving the learning environment of students. Students are not just involved in project but also in administration and coordination. This enables students with a business background to participate in activities within the network and releases staff members which cuts expenses. The high involvement of students is a strength and a weakness at the same time. Students are no professionals and, therefore, often limited in their skills. The processes will be more time consuming than it would be with staff members involved. Missing organizational structures are another weakness. Due to a high membership and a need for tailor-made solutions, Pirkanmaan Protopajaverkosto needs to acquire other educational institution outside of Tampere. The growing network need appropriate structures for an efficient coordination. These structures are missing in the business model and, therefore, a weak point. Missing flexibility in terms of contract conditions are another weakness. There is just one standard contract that all members have to agree on regardless of their company size, financial capabilities, or other issues. The rapid development of new technologies offer Pirkanmaan Protopajaverkosto the opportunity to spread across the whole country. The network would gain new resources provided by new educational institutions enabling more projects. A bigger network means a bigger platform for networking which is beneficial to all involved companies. This
The business model is threatened by insufficient capabilities due to a high ratio of companies and educational institutions cause by a high need of innovations. This could lead to dissatisfaction of members. Coordination and administration need to be efficient. Otherwise Pirkanmaan Protopajaverkosto is threatened to be overwhelmed by these forces.

**SWOT analysis of business model 3.** This business model is generated according to scenario 3 which is characterized by a big network consisting of many members and a slow development of new technologies. The SWOT analysis determine its strengths, weaknesses, opportunities, and threats. The strength of this business model is the attractiveness to potential members due to its flexibility. Companies have the opportunity to sign an initial contract once. This initial contract means low financial risk in combination with a short contract term of one year. In this time period, members can decide if what want to remain part of the network. Then, they have to sign the regular membership contract with a contract term of two years. Companies can decide how much they are willing to pay within a given price range for the mere membership according to the benefits they receive. This flexibility attracts a wide range of companies and makes Pirkanmaan Protopajaverkosto attractive not only for well-established organizations but also for startup enterprises or company with limited financial budgets. Marketing is another strength of this business model. Pirkanmaan Protopajaverkosto creates a own webpage in order to inform its members and to promote the network to organizations outside of the network by introducing Pirkanmaan Protopajaverkosto, its capabilities, and its members. The webpage also serves as an appropriate platform for networking. Companies receive detailed information about other organization which may leads to new cooperation and business deals within the network. The webpage in combination with promotion on fairs and other business events enables Pirkanmaan Protopajaverkosto to grow and to utilize its resources more efficiently which increases the benefits of all members. The main weakness of this business model are the small benefits of the educational institutions. Since the development of new technologies is rather slow and organizations tend to do business as usual, there are just a few projects going on within the network. The marketing strategy provides the opportunity to increase the number of members and the number of projects at the same time in order to make the network more beneficial to educational institutions. Pirkanmaan Protopajaverkosto is threatened by the slow development of new technologies. Companies may not see the need to join the network because they do business as usual which is why they do not need to be innovative.

**SWOT analysis of business model 4.** This business model is generated according to scenario 1 which is characterized by a small network consisting of a few members and a slow development of new technologies. The SWOT analysis determine its strengths, weaknesses, opportunities, and threats. The main strength of this business model is that it does not charge any money for the mere membership. Every organization is free to join and to leave the network as they are pleased. There is no financial risk for companies to join Pirkanmaan Protopajaverkosto making the network for organizations. The marketing strategy is another strengths of the business model in order to attract new members. A new
webpage of Pirkanmaan Protopajaverkosto informs its members and promotes the network in the internet visible for all organizations worldwide. The homepage introduces Pirkanmaan Protopajaverkosto, its capabilities, and members. The webpage also serves as an appropriate platform for networking. Companies receive detailed information about other organization which may leads to new cooperation and business deals within the network. The webpage in combination with promotion on fairs and other business events enables Pirkanmaan Protopajaverkosto to grow and to utilize its resources more efficiently which increases the benefits of all members. Although projects are charged with an extra administration fee, it is not sure if all costs caused by administration and coordination are covered. This depends on the number of projects and is hard to estimate in advance. This weakness may cause some financial problems if the number of projects does not increase with the same rate as the number of members. It might happen that most members use the network as a platform for networking without launching projects. This causes high costs in administration and coordination without any revenues. Pirkanmaan Protopajaverkosto focusses on prototyping but this business model enables the network to extend its services. It has the opportunity to offer services such as business development and consultancy to its value propositions. A growing portfolio of products and services causes higher revenue streams which decreases the threat of financial issues. The main threat is that the educational institutions just receive little benefits from being part of Pirkanmaan Protopajaverkosto due to the slow development of new technologies and the limited needs for innovation and prototyping. The latter means that companies tend to do business as usual. Therefore, they may not see a need to join Pirkanmaan Protopajaverkosto which would remain a small local network consisting of a few members not using its full potential.

4.2.6 Business Model Proposal

Pirkanmaan Protopajaverkosto is a small network consisting of a few members at the moment. It offers its members several services that cover the whole development process. It operates in a time in which new technology is developing at an unknown pace. Companies have to compete worldwide and need to keep up with the development of new technologies in order to stay competitive. Small and medium size companies and especially startup enterprises may have problems to generate innovations in an appropriate amount of time and at decent prices. The time-to-market and the developing costs are crucial factors in the developing process that challenge each organization. These circumstances match scenario 1 that is characterized by a small network and a rapid development of new technologies. Therefore, I propose business model 1 for Pirkanmaan Protopajaverkosto. Business model 1 is generated to meet the needs of scenario 1 and, therefore is an appropriate solution. It is designed to attract new members in different ways. It has a flexible pricing strategy that allows members to decide what they think is an appropriate membership fee in a given price range. Furthermore, Pirkanmaan Protopajaverkosto attracts undecided organizations by offering an initial contract that requests a low membership fee for a one-
year membership. Pirkanmaan Protopajaverkosto is promoted in a marketing strategy in order to raise awareness among companies. All these activities aim to acquire new members that increase the effect of networking at the projects within the network. Therefore, a growing network is beneficial to all members.

If business model 1 is successful and the number of members increases, the business model might be changed. In this case, the environment resembles rather scenario 2 than scenario 1 and the business model could be adopted regarding to business model 2. The time of change depends on the number of members, the projects within the network, and the capabilities of the educational institutions. Business model 2 is designed to deal efficiently with a large membership by standardized contracts and terms. This reduces the amount of administration but attracts less companies.

4.3 Project Evaluation

The project evaluation is a critical consideration of the procedure used during the project work and the evaluation of the results. It is supposed to provide insights that show what may have been done better and where the full potential of the process of business model generation was not completely used. Therefore, the procedure needs to be compared with the literature enabling the evaluation of the results of the project work.

The critical consideration compares the procedures used during the project work with the findings in literature. The project work generated several business models and proposed the best solution regarding to Pirkanmaan Protopajaverkosto. Implementation is the next step in the process of business model generation which goes beyond the scope of this thesis. A business model can just be successful if the implementation is done properly. Afterwards, a continuous scanning of the environment is necessary in order to detect changes in driving forces. These changes in driving forces often have an impact on the business model which may need to be adapted in order to stay competitive. Since the implementation phase is missing, the critical consideration only deals with the previous phases. The project work started with scanning the business environment of Pirkanmaan Protopajaverkosto in order to determine under which circumstances a business model has to compete. This phase is usually never completed due to the sheer quantity of information that can be gathered. This activity can evolve to a time consuming and expensive affair. The difficulty is to determine which information are relevant to Pirkanmaan Protopajaverkosto and which are not. More data does not automatically mean better results. Therefore, a clear guidance can save effort and money. The information collected in this thesis provides an appropriate foundation in order to create an understanding of the environment of the network. The business environment of Pirkanmaan Protopajaverkosto has been analyzed according to the four key forces consisting of key trends, macroeconomic forces, market forces, and industry forces. The analysis
may have been more detailed but it is hard to measure what impact it would have had on the later business model proposal.

The next step was to develop customer insights by creating an empathy map and interviewing stakeholders. Different companies and educational institutions were interviewed in order to gain valuable member insights. This activity could have been expanded by interviewing other stakeholders such as students, the head of educational institutions, or potential members. This would have created new insights on the one hand, but would have caused a massive time effort on the other hand. Since the time period for the project work was limited and the members resemble the main stakeholders, educational institutions and companies only were interviewed. Due to the fact that customers do not always know what they exactly want, an empathy map was created for both the educational institutions and the companies. This activity as well as the following process steps could have done by diverse team with different backgrounds instead of a single person. This would have allowed to address an issue from different perspectives enabling valuable discussions and most likely a stronger business model. A prototype was created on the basis of the knowledge gained in the phase of understanding. Since Pirkanmaan Protopajaverkosto is a network in which the educational institutions provide the key resources, it was not possible to develop completely different prototypes. Educational institutions are not as flexible as companies and, therefore, prototypes could not be created from scratch. The blue ocean strategy focusses on entering new markets by questioning well established and widely accepted market boundaries. It could have been applied to the case of Pirkanmaan Protopajaverkosto in order to generate truly new business models. When new markets are entered, boundaries still have to be set. The blue ocean strategy provides new possibilities to Pirkanmaan Protopajaverkosto but requires a high flexibility of the network. This requirement might have caused resistance due to the high degree of bureaucracy of the educational institutions participating in the network. The blue ocean strategy should be kept in mind in case major changes occur in the business environment.

Since the blue ocean strategy was not applied, just one prototype with different versions was created during the project work setting the trend for the future business models. The different business models were generated regarding to the developed scenarios. These scenarios are made up by the two critical uncertainties. The determination of the uncertainty is not completely objective and, therefore, might vary depending on the team judging the key drivers of Pirkanmaan Protopajaverkosto. Four scenarios were developed based on the number of members and the development of technology. A greater number of scenarios would have allowed to show more alternative futures and would have increased the flexibility of the network to react to changes in their environment.

The critical consideration of the project work leads to the conclusion that the project work could have been more detailed. The circumstances of the thesis include limited resources that made it impossible to do all activities described above in the given time period. Other obstacles are financial issues in order to set up an appropriate team with a high degree of diversity and to extend activities in market research
and environment scanning. Therefore, the different process steps seem to have an appropriate scope that enable the generation of a strong and competitive business model.

The project evaluation compares the objective and assignment of this thesis with the results of the project work. This thesis provides a detailed literature research concerning business model generation and nonprofit organizations charging monetary prices. The literature research provides a common understanding of the basics of business models by introducing the key terminology and the business model canvas. The latter serves a tool in order to describe business models. It is continued with the business model design by addressing customer insights, the process of idea generation, visualization, prototyping, and scenarios. Afterwards, the strategy of business model generation is made subject by discussing the business environment, the blue ocean strategy, and the business model design process. The last chapter covers nonprofit organizations and monetary prices by describing the basic of nonprofit organizations and introducing pricing objectives and strategies. The literature research meets all requirements and serves as a suitable foundation for the project work.

The project work thoroughly followed the process of business model generation as described by the literature in order to generate a strong and competitive business model for Pirkanmaan Protopajaverkosto. Before starting the business model design process, the thesis creates a deep understanding of the network’s environment by analyzing the key forces that affect Pirkanmaan Protopajaverkosto. The needs and the desires of the members are determined by the use of the empathy map and interviews. Appropriate methods, tools, and techniques are used throughout the whole business model design process. Epicenters and “what if” questions are used during the ideation process and the business model canvas is introduced to describe a business model. Prototypes and scenarios were developed in order to generate strong business models. The different business models were evaluated by the use of the SWOT analysis. The best business model according to Pirkanmaan Protopajaverkosto and its current environment is proposed at the end of the project work.

The detailed research in literature and the use of appropriate tools and techniques enabled to meet the objective and the assignment formulated in the introduction. Different business models have been generated according to the scenarios and the best solutions for Pirkanmaan Protopajaverkosto has been proposed. If the business is successfully implemented, the network will most likely increase the number of members and projects. It will increase the benefits of all parties by applying an appropriate pricing and marketing strategy. The next steps that go beyond the scope of this thesis are to introduce the business model to the members of Pirkanmaan Protopajaverkosto, to implement the business model successfully, to scan the environment continuously, and, if necessary, to adapt the business model to changes occurring in the environment.
5 Conclusion

The conclusion provides a summary and an outlook in two separate chapters. The summary briefly reflects the main findings of the thesis and presents the final business model proposal regarding to Pirkanmaan Protopajaverkosto. The outlook suggests the further procedure in order to implement the business model successfully.

5.1 Summary

This thesis has the objective to generate different business models with appropriate pricing mechanisms regarding to Pirkanmaan Protopajaverkosto and its current environment.

A thorough and complete research in literature is indispensable in order to propose a strong business model at the end of the project work. The process of business model generation and pricing strategies of nonprofit organizations are the two main issues of the literature research. The research provides an appropriate foundation by introducing processes, strategies, methods, and techniques that enable the generation of competitive business models. Business models can be described by the business model canvas which consists of nine building blocks. These business model building blocks interact with each other and enable the illustration of how an organization does business.

Based on the process proposed by the literature, the project work begins with creating a deep understanding of the business environment in which Pirkanmaan Protopajaverkosto has to compete. The environment is influenced by four major forces which include key trends, market forces, macroeconomic forces, and industry forces. All four forces and their subjections need to be scanned thoroughly. This activity can produce a huge amount of data which has to be proofed according to the relevance according to Pirkanmaan Protopajaverkosto. The rapid development of new technology, globalized markets, and poor predictions for the future economy are strong forces affecting the network. In addition to detecting forces shaping the environment, customer insights are valuable information for the later business model design process. Interviewing members is a direct approach in order to develop an understanding what needs and desires members have. All companies agreed that a platform is needed for prototyping and networking. Simple cooperation between single entities are limited in terms of resources and, therefore, are not suitable for organizations competing in a globalized world. Organizations have the need for cheap possibilities of innovation generation and prototyping in order to stay competitive. A strong business model can enable Pirkanmaan Protopajaverkosto to satisfy those needs. The business model design process begins with ideation. This phase creates ideas for prototypes based on the understanding gained in the previous phase. New ideas can originate from each business model building block. Most ideas are resource and finance driven. The prototype of Pirkanmaan Protopajaverkosto generates a rough business model based on the ideation phase. Pirkanmaan Protopajaverkosto brings educational
institutions and companies together. It charges monetary prices from companies that joined the network. These revenues are used to coordinate and administrate the activities within the network and to finance projects. The monetary prices are just high enough in order to cover all occurring costs. The educational institutions provide the resources such as expertise, equipment, and workforce which can be accessed by the companies. Prototyping is the core competence of the network. Additionally, Pirkanmaan Protopajaverkosto functions as a platform for networking. This prototype is later used once again in order to generate detailed business models. Before appropriate business models can be generated, scenarios need to be developed. Scenarios are based on two or more driving forces. After determining all driving forces, every force needs to be evaluated due to the potential impact and the degree of uncertainty. This procedure identifies the critical uncertainties which are the number of members and the development of new technology. The two critical uncertainties create a 2 x 2 matrix of which each field resembles one scenario. The creation of scenarios shows alternative futures in which Pirkanmaan Protopajaverkosto may compete. By being confronted with different scenarios, an organization becomes more flexible and can react faster to changes which often means an advantage over competitors. One business model is generated accorded to each scenario. These business models are then evaluated by using the SWOT analysis. The best business model according to the environment in which Pirkanmaan Protopajaverkosto has to compete is proposed as the final outcome of this thesis. The business model proposal focusses on attracting new members by initiating a proper pricing and marketing strategy. The business model offers new members to sign once an initial contract that has a one year contract and a low membership of 800 € per year. The regular membership contract has a two year contract term and allows companies to decide what they think is an appropriate membership fee within the price range from 900 € to 1300 €. Additionally, the business model launches a marketing strategy promoting Pirkanmaan Protopajaverkosto on the internet and at business events. The business model is highly attractive to companies and, therefore, will transform Pirkanmaan Protopajaverkosto from a small local network into a big nationwide platform for prototyping and networking.

5.2 Outlook

This thesis generated different business models according to certain scenarios. The best business model for Pirkanmaan Protopajaverkosto was proposed afterwards. This solution is a tailor-made model regarding to the specific business environment in which the network has to compete. The business model generation process does not inevitable make Pirkanmaan Protopajaverkosto successful. It is only the foundation of success. The process is complimented by the implementation phase which is a crucial factor of success. Before the business model can be implemented, it needs to be presented to Pirkanmaan Protopajaverkosto and needs to be accepted by its members. If the majority of members are convinced, the business model will be implemented. In the implementation phase, all required structures need to be established and communicated among the members. Pirkanmaan Protopajaverkosto relies on contracts
as all other activities in the business world. Contracts are an important issue and can be seen as a tool of regulation. They state the responsibilities and obligations of all members. Therefore, the contracts need to be created very carefully. Since time, effort, and expertise are required in order to develop high-quality contracts, Pirkanmaan Protopajaverkosto may fall back to model contracts and standard terms that are usually available. If properly applied to the business model, model contracts and standard terms can evolve to suitable contracts that enhance the mission of Pirkanmaan Protopajaverkosto. Good-quality contracts avoid uncertainty and prevent conflicts from evolving. Two contracts need to be developed, one for the mere membership and another for launching projects within the network. The latter needs to be tailor-made for every project in terms of monetary prices and intellectual property rights. Intellectual property rights are highly important when it comes down to innovation. Each project contract needs to define clearly which party owns the intellectual property rights for innovations that may be developed during the project work in order to prevent conflicts. When the business model and all its elements are fully implemented and regulated by appropriate contracts, a framework is created that enables Pirkanmaan Protopajaverkosto to become a strong platform for innovation and networking. Afterwards, a continuous scanning of the environment is indispensable in order to stay successful. The environment can change quickly due to dynamic key forces. If the environment changes, Pirkanmaan Protopajaverkosto needs to think about adapting the business model to the new challenges. The number of members and projects within the network are another reason to adapt the business model. It would be conceivable to change the pricing strategy when the number of members increases in order to decrease administration work for example. This type of changes also depends on the network policy.

When all aspects are considered, it can be concluded that this thesis provides an adequate foundation for a successful operation of Pirkanmaan Protopajaverkosto. The business model proposal needs to be implemented in a proper manner and the network needs to observe its environment in order to evolve the business model. Just if Pirkanmaan Protopajaverkosto considers its environment critically, it will stay competitive in the future.
References


Appendix 1: Empathy Map for Educational Institutions
Appendix 2: Empathy Map for Companies

- we need to be innovative
- we need to decrease costs
- we need to offer high quality products
- we provide and use latest technology
- we provide customized solutions
- we are innovative & up to date
- outsourcing engineering projects is expensive
- partnerships with universities are cheap
- abilities of single universities are limited
- lack of resources
- missing contacts to educational institutions
- passing over control & responsibility
- stay competitive
- quality products & satisfied customers
- cooperations for engineering projects
Appendix 3: Questionnaire Pirkanmaan Protopajaverkosto for Educational Institutions

Welcome to the Pirkanmaan Protopajaverkosto member survey!

Thank you for agreeing to participate in this important survey. Although there is already a contract proposal, we like to ask for your opinion about several topics concerning Pirkanmaan Protopajaverkosto. Today you have the chance to help us improving our business model by honestly answering the following questions in order to serve you even better in the future. This survey will take approximately 20 to 30 minutes to complete. Be assured that all answers provided will be kept in strictest confidentiality.

Fees (If your answer is no, please explain why.)

1) Should there be an annual membership fee for companies?
   o Yes
   o No

2) Should the annual fee cover all services or just the basic membership?
   o All services
   o Basic membership

3) Do you think the proposed annual fee of 1250 Euro is reasonable?
   o Too low
   o Reasonable
   o Too high

4) If there is a project fee, what should it cover?

Service performance

1) What are your expectations or wishes as a member of Pirkanmaan Protopajaverkosto?
2) What are your goals?

3) What services can you provide?

4) What kind of projects do you like to realize?

Information and communication

1) Do you like to receive regular information via emails?
   - Yes
   - No

2) Would you attend regular meetings discussing achievements, changes and news?
   - Yes
   - No

3) What other channels of communication should be established within the network?
**Contract Issues**

1) Should there be legally enforceable contract term?
   - Yes
   - No

2) What should be the contract term of the basic membership?
   - One year
   - Two years
   - Three years

**Experiences**

1) Have you already provided services to the network?
   - Yes
   - No

2) If so, how satisfied have you been?
   - Not satisfied
   - Satisfied
   - Very satisfied

3) Please justify your previous answer? What do you think needs to be modified by improvements or changes?

**Marketing issues**

1) How did you become aware of Pirkanmaan Protopajaverkosto?
2) Do you have any marketing proposals in order to raise the level of awareness?

3) Are there any alternatives to Pirkanmaan Protopajaverkosto? (If so, which and why?)
   - Yes
   - No

4) Would you recommend the network? (Please justify your opinion)
   - Yes
   - No

Do you have any further comments or suggestions?

Thank you for participating in this survey. We will do our best to improve our services. If you have any questions, please do not hesitate to contact me.

Best regards

Tim Meyer

tim.meyer@eng.tamk.fi

Program of Mechanical and Production Engineering

Tampere University of Applied Science
Appendix 4: Questionnaire Pirkanmaan Protopajaverkosto for Companies

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Thank you for agreeing to participate in this important survey. Although there is already a contract proposal, we like to ask for your opinion about several topics concerning Pirkanmaan Protopajaverkosto. Today you have the chance to help us improving our business model by honestly answering the following questions in order to serve you even better in the future. This survey will take approximately 20 to 30 minutes to complete. Be assured that all answers provided will be kept in strictest confidentiality.

Fees (If your answer is no, please explain why.)

1) Are you willing to pay an annual membership fee network?
   - Yes
   - No

2) Should the annual fee cover all costs or just the basic membership?
   - Yes
   - No

3) Do you think the proposed annual fee of 1250 Euro is reasonable?
   - Too low
   - Reasonable
   - Too high

Service performance

1) What are your expectations or wishes as a member of Pirkanmaan Protopajaverkosto?
2) What services do you take for granted?
3) What are your goals?
4) What kind of projects do you like to realize?

Information and communication

1) Do you like to receive regular information via emails?
   - Yes
2) Would you attend regular meetings discussing achievements, changes and news?
   o Yes
   o No

3) Do you think a meeting once a quarter is reasonable?
   o Not enough
   o Reasonable
   o Too much

4) What other channels of communication should be established within the network?

**Contract issues**

1) Should there be legally enforceable contract term?
   o Yes
   o No

2) What should be the contract term of the basic membership?
   o One year
   o Two years
   o Three years

**Experiences**

1) Have you already realized or launched projects within the network?
   o Yes
   o No

2) If so, how satisfied have you been?
   o Not satisfied
   o Satisfied
   o Very satisfied

3) Please justify your previous answer? What do you think needs to be modified by improvements or changes?

**Marketing issues**

1) How did you become aware of Pirkanmaan Protopajaverkosto?

2) Do you have any marketing proposals in order to raise the level of awareness?
3) Are there any alternatives to Pirkanmaan Protopajaverkosto? (If so, which and why?)
   - Yes
   - No

4) Would you recommend the network? (Please justify your opinion)
   - Yes
   - No

**Do you have any further comments or suggestions?**

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Thank you for participating in this survey. We will do our best to improve our services. If you have any questions, please do not hesitate to contact me.

Kind regards

Tim Meyer

tim.meyer@eng.tamk.fi

Program of Mechanical and Production Engineering

Tampere University of Applied Science
Statutory Declaration

I declare that I have developed and written the enclosed thesis entitled “Business Model Generation for a Nonprofit Organization – Pirkanmaan Protopajaverkosto –” entirely by myself and have not used other sources or means without declaration in the text. Any thoughts or quotations which were inferred from these sources are clearly marked as such.

This thesis was not submitted in the same or in a substantially similar version, not even partially, to any other authority to achieve an academic grading and was not published elsewhere.

Hanover, 01.04.2016

________________________________________
(Tim Meyer)