Developing ICT based services for Intellectually Disabled People

Anoja Peethambaran

anoja.peethambaran@laurea.fi

Abstract

Information and Communication Technologies (ICT) have become part of everyday life in recent years. ICT can provide people with dignity and well-being through self facilitation. ICT in healthcare, like the Internet, really helps the intellectually disabled people to enrich their life. Intellectually Disabled People can take advantage of ICT as a force for social inclusion.

The case company is a small and medium sized organization working in the health care industry. The case company needs a business model for its operations. The objective of my research is to develop a business model for the case company. The tool used to develop the business model is business model canvas. This report further describes the methodology that will be used.

The result of the study is a comprehensive business model that can be implemented in real life use. The business model generation can be used by other similar sized (small & medium) companies as well.

KEYWORDS: Business model canvas, Business model ontology, Information and Communication Technologies (ICT), Qualitative research.

Introduction

This paper describes the designing process of a new business model for Information and Communication Technology (ICT) based services. The purpose for generating a new business model is to improve customer experience, and thus increase the turnover for the case company by using ICT based services.

ICT technologies create an opportunity for new service offerings (Meuter et al., 2000). Telecommunication, for instance, offers cheap international calls through internet. Online shopping allows a customer to purchase a product from any part of the world. Inventions in the ICT sector has led to a service revolution (Vargo & Lusch, 2004, p. 4) and these inventions create the opportunity for new services in the health care industry as well, where the case company is competing.

A company has to be always focussed on its customers to make them happy and thereby keeping them loyal by providing innovative services – especially in an environment where the pace is permanently increasing. The case company concentrates in providing ICT based services for intellectually disabled people. Since the case company has already gained major market share and expanded its operations in its key customer segments, it has now considered essential to improve the customer experience, in order to maintain and raise its revenue. The challenge, that the company is facing now, is to develop a business model and continue to adequately satisfy customers, thus being able to sustain and lift company's returns.

Research Objective: The objective of my research is to find out what are the key issues that need to be considered in order to succeed as a service provider in the healthcare industry. The issues that are found to be important have to be addressed by the example of the case company. Providing a service solution in the healthcare industry requires a fresh business model in order to improve the customer experience and thereby to maintain and raise the company's revenue. Henceforth, the goal of this study is to define a business model to provide ICT based services for intellectually disabled people, in order to improve the case company's profit and customer value.

Scope and Benefit of the Research: A new business model is generated on the basis of existing knowledge on business models and findings from the brainstorming sessions with the case company's management. The scope is limited by the amount of the relevant literature found by the researcher and by the number of brainstorming sessions that will be conducted. The issues that will be discussed in the study will be applicable to small and medium sized companies operating in various fields of business.

Significance of the Research: My business model assists in the design of the case company's business plan. At the core of every business plan must be a business model to describe and illustrate the way an organization creates value and makes money.

By designing and working through a new business model, my case organization will understand all the components of the business better and the business model can be used as a great platform from where to write the business plan.

Structure of the Research: The target of my study will be to seek out issues that have to be taken to account in business model creation. The issues that company faces have been collected from literary sources and formulated into a map of questions. With this map of questions, answers will be gathered from stakeholders to create a business model that is useable for the case company. A design tool called the Business Model Canvas, which was created by Osterwalder & Pigneur (2009), will be used in my research to generate the intended business model. The comprehensiveness of Osterwalder's (2004) business model forced me to choose his business model ontology for developing the business model.

Business Model Canvas

It can be described by looking at a set of nine building blocks. The layout of the nine components has its importance. The nine building blocks with its layout are depicted in Figure 1. At the centre there is the *Value Proposition*, it describes which customer's problems are solved and why the offer is more valuable than similar products from competitors (product, service). The customer themselves are analyzed in *Customer Segment*, separated into groups to help in identifying their needs, desires and ambitions (singles, families). *Distribution Channel* illustrates how the customer wants to be reached and by whom he is addressed (Internet, store). In addition, *Customer Relationships* specifies what type of relationship the customer expects and how it is established and maintained with him (promotion, support, individual or mass). To be able to deliver the *value proposition* the business has to have Resources (staff, machines, secret knowledge). And transform these resources through *Key Activities* into the final product or service (development, production, secret process). Most of the time a business depends also either for resources or for activities on an external *Partner Network* (logistics, financial), which can provide better quality or a lower price on non essential components. As any business model would not be complete without financial information the last two building blocks focus on cost and revenue: The *Cost Structure* which should be aligned to the core ideas of the business model (key resources, key activities) and *Revenue Streams* which mirrors the value the customers are willing to pay and how they will perform the transaction (one-time fee, subscription).
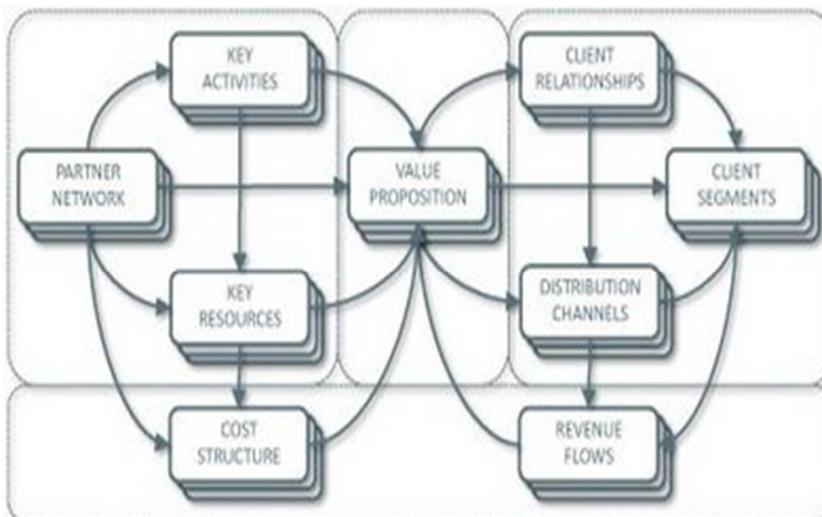
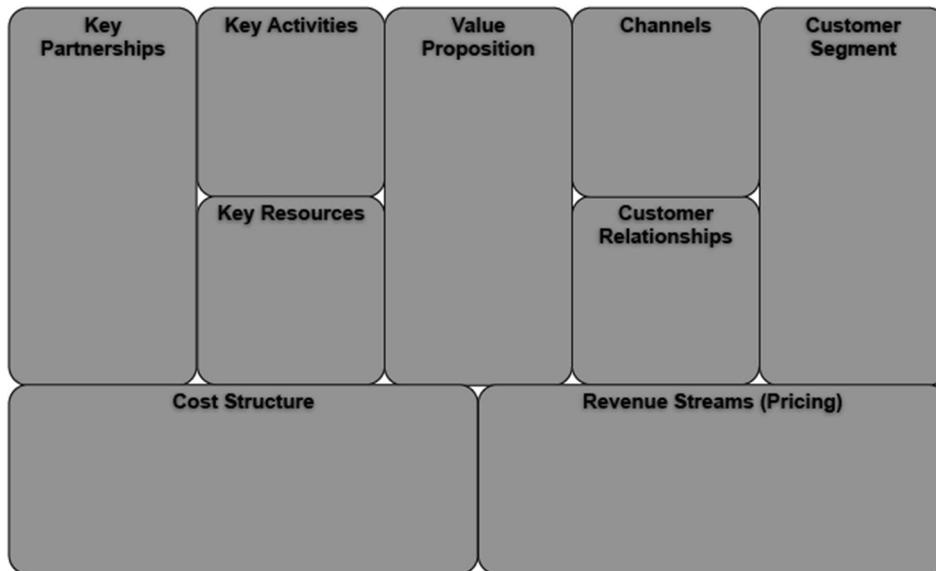Figure **1** shows Osterwalder's nine building blocks and its relationships (Nonlinear Thinking website).

Figure **2** shows the Business Model Canvas.

The most interesting feature of this canvas is the ability to describe the business logic of a company on one page: none of the individual elements of the business model canvas are new to business people. The simple and yet holistic look at a business on a single page is the main attraction of this model. The above figure (Figure 2) shows Alexander Osterwalder's Business Model Canvas. By looking at the figure it is evident that Osterwalder has developed a powerful method to capture all elements of a business model: propositions, partners, activities, resources, customer relationships, channels, customer segments, costs, and revenue streams.

Methodology

This chapter will give an explanation of how this study will be dealt with. An explanation will be given of the chosen tools, alongside of the reason for this choice. After that, the approach of getting to the solution is described, followed by a description of criteria to test the validity of this solution. The intermediate steps taken to reach this solution are explained, and finally some other details on how to find required information are mentioned.

Research design: As the nature of 'Business model generation' indicates the social science research methods should be applied rather than quantitative study. In this regard, my study will use qualitative research which is "an inquiry process of understanding" where the researcher develops a "complex, holistic picture, analyzes words, reports detailed views of informants, and conducts the study in a natural setting" (Creswell, 1998, pp. 15). The motivation for selecting qualitative research is because the qualitative research methods are designed to help researchers understand real life situations, more specifically to understand people, organizations, organizational resources, processes, relationships etc. Kaplan and Maxell (1994) argue that the goal of understanding a phenomenon from the point of view of the participants and their particular social and institutional context is largely lost when the textual data are quantified.

Data collection: The business model could be created only by answering the questions prepared after analysing the most important issues. In this regard in-depth interviews would best inform my map of questions. I will conduct in-depth interviews with stakeholders during the workshops in order to understand the company and the services provided. I will document and analyze the gathered information.

Justification for the chosen method: The reason for choosing interviews is that it contributes to the deep description of the organization and the issues considered. Additionally, subjects like business modelling and management information are of a subjective and complex kind. This would have made it hard to choose data collection methods such as questionnaires, since it would have given interviewees the possibility to prepare in advance for the interview and also the interviewer can make sure that the answers given will be exact. In addition, questions regarding this kind of subjects sometimes need to be rephrased to make the respondent understand the correct meaning of the question, which is hard to do with other data collection methods than interviews.

Method of execution: The expected task sequences that will be followed in order to collect data are given in this section. Questionnaires will be sending to the participants before the interview so that interviewees can prepare beforehand. During the interview sometimes follow up questions will be necessary in order to make a complex reasoning more understandable or to make the interviewee express her- or himself more clearly. While conducting the interview the Business Model Canvas of Osterwalder and Pigneur (2009) was also used in order to encourage respondents to describe their view of the organization. During the interview, notes will be taken, will fill up the canvas. The workshop will be stopped when saturation is achieved in the sense that all information is gathered and further interviewing did not contribute with much new information.

Data analysis: I have experience with in-depth interviewing, henceforth I will be able to conduct and transcribe all of the interviews myself. I will analyze the qualitative data using Strauss's (1987) guidelines in Qualitative Analysis for Social Scientists. After each interview is transcribed, the transcript will be read several times and analyzed into emergent conceptual categories. The focus of the analysis is on data in the form of words, emanating mainly from interviews conducted. These words require processing, which in itself is a form of analysis (Miles & Huberman 1994).

Data reduction, data display and conclusion drawing are the three steps of qualitative data analysis (Miles & Huberman, 1994). The reduction of data is an analysis that organizes the data and allows for final conclusions to be drawn. In my thesis data from the interviews will be reduced through comparing the data with the issues considered, sorting out important data. In the second step, data display, empirical data about the organization and its services will be displayed as per the business model canvas. In the third step, conclusion drawing, the collected data is used for discussing and concluding.

Validity: Validity is a concept that measures the truthfulness of research and exists in many different forms (Bryman and Bell, 2007). The three most fundamental forms of validity that is discussed in this report are construct, internal and external validity. Construct validity implies that a study actually measures what it is aimed to measure (Bryman and Bell, 2007). I will ensure construct validity by defining the business model clearly with the help of literary sources, by discussing the important issues; which is used as a basis for forming the map of questions and also by presenting the filled business model canvas to the company management to ensure the efficacy of the model. Internal validity implies that the right people with the right competence are interviewed and that causal relations exist between the measured variables (Bryman and Bell, 2007). In my study different sources and organizations top management will be included to gather needed information which assures internal validity. External validity means that the research can be applied in a broader perspective in order to generalize the conclusions (Svenning, 2003, pp.66). The external validity of my study can be confirmed in an objective manner since many of the results are based on the issues considered which can be applied to similar sized company (small and medium size).

Time Schedule: I am planning to conduct the workshop with stakeholders by the month of January. By end of January I will summarise my field work and will complete my research paper with findings, discussion as well as conclusion. In this regard, by February when the ServDes conference will be conducted, I will have complete set of data with a fully packed research paper.

Conclusion

My study will lead to the business model canvas for developing ICT based services for intellectually disabled people. The created model is evaluated on the basis of reusability in other companies and business and overall as a business model. My work could be used by the case company in future as a reference for implementing appropriate solution with other tools or technologies.

Summary

The purpose of my research is to develop a business model to develop ICT based services for intellectually disabled people. To be able to do this, Alexander Osterwalder's (2009) business model canvas is selected.

The target of the study will be to seek out issues that have to be taken to account in business model creation. The issues that company faces will be collected from literary sources and formulated into a map of questions. With this map of questions, answers will be gathered from stakeholders to create a business model for the case company.

My study will focus on the development of a new business model, using a qualitative approach. Main data collection methods used will be workshops, interviews and questionnaires. During the interview, notes will be taken and will fill up the canvas. The collected data will then be analysed and evaluated.

The model will be applicable to the entire small and medium sized companies operating in various fields of business. So generalization possibility is high. In addition to this, the case company could use this model in future as well.

References

Bryman, A., & Bell, E. (2007). Business Research Methods. United Kingdom: Oxford University Press, 2nd edition.

Creswell, J.W. (1998). Qualitative inquiry and research design: Choosing among five traditions. Thousand Oaks, CA: Sage Publications.

Kaplan, B. & Maxwell, J.A. (1994). Qualitative Research Methods for Evaluating Computer Information Systems, Evaluating Health Care Information Systems: Methods and Applications. J.G. Anderson, A.C. and S.J. Say. Thousand Oaks, CA, Sage.

Meuter, M.L., Ostrom, A.L., Roundtree, R.I., & Bitner, M.J. (2000). SelfService Technologies: Understanding Customer Satisfaction with Technology Based Service Encounters. Journal of Marketing. Vol. 64. July.

Miles, M.B. & Huberman, A.M. (1994). Qualitative Data Analysis (2nd edition). Thousand Oaks, CA: Sage Publications.

Nonlinear Thinking website. Retrieved 10 27, 2011, from http://nonlinearthinking.typepad.com/nonlinear_thinking/2008/07/the-business-model-canvas.html.

Osterwalder, A. (2004). The Business Model Ontology, A Propositional in a design science approach. Univertsite de Lausanne Ecole des Hautes Etudes Commerciales. Retrieved 10 27, 2011, from http://www.hec.unil.ch/aosterwa/PhD/

Osterwalder, A. & Pigneur, Y. (2009). Business Model Generation. New Jersey: John Wiley & Sons Inc.

Strauss, A. (1987). Qualitative Analysis for Social Scientists. Cambridge: Cambridge University Press.

Svenning, C., (2003). Method book, 5th ed. Lorentz förlag. Eslöv, Sweden.

Vargo, S.L. & Lusch, R.F. (2004). Evolving to a New Dominant Logic for Marketing, Journal of Marketing, 68(1), p. 1-17.