

Factors determining customers' experience

Case Tieto Service Channel

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Channel

Augustyn, Daniel
Degree Programme in Service
Innovation and Design
Master's Thesis
December, 2015

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Year	2015	Pages	94
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This report examines the Business to Business (B2B) context of providing services through a digital service channel. Based on understanding the nature of B2B services, actual trends and complex expectations of B2B customers, the author of this thesis showed approach that should be taken during setting up and popularizing digital service channels in the B2B context. The basis of this approach are customer experience aspects widely described in various articles, books and blog posts. Through an understanding of service-dominant logic, value creation aspects, customer driven innovation and IT support service experiences the author set foundations for empirical research. Having in mind the nature of the study, a qualitative approach was chosen to support the research process.

The constructive research approach used as the research method for this study helped in problem definition, understanding the topic, design and prototype, and analyze guidelines created to solve research question problems. The analysis of social and behavioural aspects and highlighting their emotional impact through methods like focus groups, empirical observations, and interviews performed on four customers/users, discovered whether Tieto Managed Services has all the necessary insights to be successful in delivering digital services in the competitive IT support service market space. Factors determining customer experience and loyalty and those that affect functionality and processes were indicated.

The analysis of Tieto Managed Services insights, stakeholders associated with IT support services and most importantly its customers by utilizing service design methods and tools like personas, stakeholders maps and customer journey maps resulted in outcomes which help to build a digital service channel in a more customer-oriented way, improve existing knowledge about the customers of Tieto Managed Services and more efficiently structure the information flow between Tieto Managed Services, its customers and third parties. Lastly, the futures thinking approach and its methods were used to analyze the lifespan of trends and influence range to define future development priorities for digital service channel.

Keywords: B2B, service, digital channel, trends, customers, customer experience, service-dominant logic, value creation, customer driven innovation, IT support service, customer support, qualitative methods, constructive research approach, problem definition, designing, prototyping, analysis, verification, guidelines, behavior, emotional impact, focus groups, observations, interviews, questionnaires, factors determining customer experience, loyalty, improve customer knowledge, structure information flow, futures thinking, trends card, trends, service design, design thinking, personas, stakeholder maps, customer journey maps, guidelines.

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1 Introduction

1.1 Background of the research

Global economy is experiencing these days a lot of challenges. Market leaders such as Nokia gradually lost market shares (Irish Independent 2013). Being an economic catalyst for several years, the second biggest mobile manufacturer in the world (Bosworth 2012) completely lost its momentum. Delivering “more with less” approach has significant impact on whole IT industry. Big pressure put on cost cutting and transparency are influencing the way how whole IT industry is performing at the moment. If we add on top of it customers’ expectations for companies to be more agile, more cloud oriented and in general more mobile, highest attention is put on services provided by IT, especially those supporting customers and end users. Dramatic shift from traditional IT services and products towards digitized, consumer based ones is happening rapidly. Companies which are not able to transform fast enough are losing its market share. What counts at the moment is not just related to delivering superb IT services but to fact how customers perceives those services. At the end companies which are able to provide innovative services and best customer experience are winning market share. (Mann 2012.)

Aspects of today’s IT industry, especially in context of B2B IT support services became for author of this thesis report a very interesting subjects from research point of view. Any company would like to know how to serve its customers better, fulfilling its business needs and constantly changing expectations. Having it in mind, IT support service aspects are critical to fulfil any customers’ demands. From that perspective IT customer service and support are even more interesting areas to explore. Developing innovative services for B2B customers is not an easy task. It requires a lot more understanding about business and customer context than in B2C ones. In addition, it is critical to understand the nature of B2B services, actual trends and complex expectations of B2B customers. Theories about customer centricity, especially customer and service dominant logic, with combination of customer experience aspects and open service innovations’ approaches should give right foundations for such research. Along with opportunities and challenges that those service providers experiencing, should be well addressed and explained in the thesis. It will done by explaining interaction of B2B customers with services offered by Tieto on example of utilizing new service channel and its self-service functionalities by customers’ end users. Finally, futures studies, especially trends’ analysis in the context of IT support services will give final touch to this these outcomes, completing discussion about past and present situation in the industry.

1.2 Purpose and goal of the thesis

The purpose of this thesis study is to explore determinants influencing on how customers’ perceives services provided by Tieto on example of service channel. Research is narrowed to

field of digital and innovative IT support services for B2B customers. Very important role has here knowledge about emotional experience in digital services. By engaging different stakeholders in process, goal of this thesis report is to rethink the way how digital IT support services should be provided in the future. Focus is put on internal and external factors determining customer's perception as it might influence on company's success in competitive IT support market. It is important to highlight fact how Tieto is doing business in today's IT service market circumstances and try to analyse if introducing new digital channels through which customers can interact with Tieto will have direct implication on increasing customers' usage of such services.

The main problem that company has at the moment is connected with fact that there is a feeling shared by Tieto customer team members that customers are not much interested in new services provided by Tieto. Main research question posed to address this issue is "what are the real factors determining customers experience in using digital service channel?" Following this question, author of this thesis report is interested to find out "which of those factors influence the most on Tieto Service Channel functional and process areas and which areas are the most important from customers' loyalty point of view?" This second and third research question will give foundation to redesign the service and its processes to reflect those factors by providing useful guidelines to Tieto customer teams to deal with aspects of engaging customers in Tieto digital services.

The empirical observations made for this thesis report should show if Tieto as company have all necessary insights to be successful on competitive IT service market by providing digital services based on customer's inputs. It will require analysis of company's insights, stakeholders associated with IT support services and customers which are buying such services from Tieto. Theoretical foundation for this research will be provided through analysis of various article and books about customer experience, customer dominant logic and value creation. Complimentary analysis of various web pages and blog posts about innovative services should give right angle on approaches that should be taken during setting up and popularizing digital service channel through all Tieto customers.

The outcome of the research will be used by product managers to build digital solutions in better way and to improve existing knowledge about Tieto customers. That will help to build more customer-oriented digital services and structure the future information flow between Tieto, its customers and 3rd parties more efficiently.

1.3 Identified challenges and limitations

This thesis report should give comprehensive overview about IT support service industry on example of Tieto as case company in context of providing excellent customer experience.

Main challenge which author of this report would like to tackle is related to transformation that case company experiencing due to shifting strategy from very sales oriented to customer centric where customer experience will prime the lead. It results in aspects related to lack of well-defined customer experience frameworks, especially when approaching customers to offers them new and innovative services. This will be in core of author's study and it will drive focus on related subjects. The challenges that will be left out without proper outcomes is related to promoting customer experience approach within company employees and related to adaptation of new framework and ways of working by company's teams working directly with customers. That will be the subject of future studies done by the author.

Author of this thesis report put a lot of attention to gather as accurate customer data as possible. From methodological point of view there are several limitations related to this issue. Most common one is related to limited customer data availability. Even though Managed Services area in Tieto has almost 2200 customers, structured data about its customers is almost impossible to extract from any available data sources. This leads to problem of data reliability. What does it mean to this study is that data gathering is done manually, customer by customer, with limited data samples which definitely have impact on narrowing scope of research and performing proper analysis based on adequate data relationships. It results in collecting data which is incomplete, scattered and sometimes not precise. Small amount of prior researches done about customer experience in IT support services has as well its own impact on understanding of problem of customer experience to only selective areas and limited context.

There are other limitations pointed by author of this thesis report that should be highlighted. Author does not have any issues with manual gathering of customer data but definitely there are limitations in obtaining data from different sources. Teams working with various customers are not keen to provide information about customers that could be interviewed or helping in having first contact with customer. It is related to fact of having false worry that performed interviews might be quite demanding for customers. Another aspect is related to cultural gap which is between author of thesis and interviewed customers. Prime differentiation is here language and cultural behavior. Author of thesis report is originally from Poland and interviewed customers are from Nordic countries, mainly Finland. Some of the customers are refusing usage of English, preferring i.e. Swedish. Therefore translation is need and that fact itself has significant impact on receiving adequate qualitative data. Least but not last limitation is related to time aspects. Author of thesis report is obliged to work on results analysis within defined timeframe and that has its impact on amount of interviews to be performed and research analysis to be done.

Summarizing, author of this thesis report has understanding about challenges and limitations this study is experiencing, however a lot of attention is put to make sure that research is done in right fashion, according to known research methodologies and with right focus. Analysis of

results is performed based on known data, gathered from all available sources and with best possible problem outlook.

1.4 Structure of the thesis

This thesis has structure divided into several parts and put in logical order to bring clarity of reading. First part consists of overview about Tieto and its working culture, highlighting some important aspects and facts regarding way of doing business with its customers. Next, it touches necessary supportive theories and give answers to questions in context of researched IT support service industry. Later on, he explains research background and methods in use. And at last, empirical observation is summarized and conclusion of research findings is given based on defined framework and its tools. Final touch is given by presenting futures aspects of the service.

2 Study context

2.1 IT Customer Support in Finland

Worldwide IT service industry is still in state of recovery from big drop in year 2009 to level of -3.0% (Molin et al. 2011). That time was quite challenging as all investment plans that companies defined had to be put on hold or at least slowed down. IT service industry lost its momentum, confidence to invest was very low and spending on innovations was put on a side. Those facts had significant impact on decisions to buy IT services by customers. Customers became more reactive and cost-oriented, and process of taking by them decision took more time. Price pressure presented in Figure 1 by Molin and Petersson (2012) indicated focus on cost cutting, offshoring and demand to receive more value for less price, which apparently was main driver slowing expansion to other markets. From the other hand, buyers became more aware of decisions they make, which lead to look for more efficient ways to build new business and invest in new ideas. (Molin & Petersson 2012.)

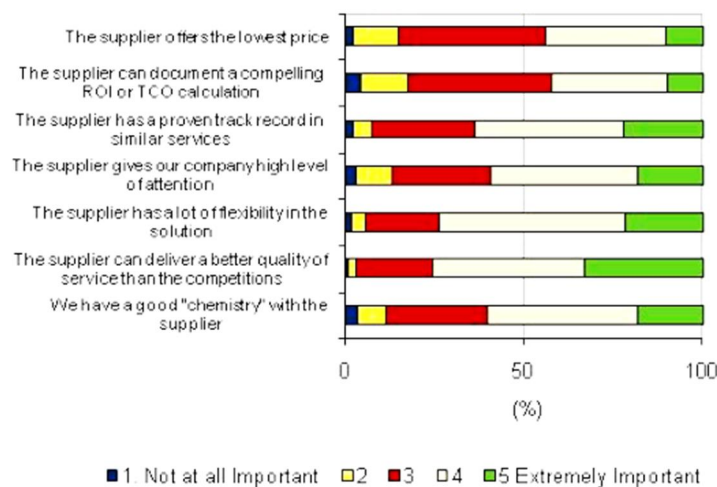


Figure 1: Molin and Petersson. 2012. Most important IT Supplier Selection Criteria. IDC

Strategy in investment taken by customers that time had its outcome in investment decisions in solutions giving proper results in short period of time. The prime approach was on IT transformation and focus on different strategies of sourcing and new models of delivery e.g. cloud computing or software as a service (SaaS). (Molin et al. 2011.)

IT service industry is divided in 3 main areas. We are talking about project based services, outsourcing and support services. Business impact on each area is quite different and proper analysis requires good understanding of the area. (Molin et al. 2011.)

Project based services are quite specific area consisting of various different sub-areas e.g. system integration, network consulting and integration services, custom application development and IS consulting. What joins these areas is the fact that all are exposed to fluctuations caused by IT service industry instability in short term. It demands to focus on data centers consolidations and virtualizations, taking into consideration building high-speed networks, investment in BI and data management, and industry-specific solutions based on integrated applications. (Molin & Petersson 2012.)

Outsourcing is area where quite many actions taken are connected with rationale of spending's. Defining outsourcing area we shouldn't forget about such aspects as application management, network and desktop outsourcing, IS outsourcing and hosted is achieved by optimized procurement strategies, strategic suppliers and collaborative approaches focusing on building consolidated application environments based on new delivery models. (Molin & Petersson 2012.)

Customer support area is divided in 3 subareas of focus: software support and demand, hardware support and demand, and IT education and training. This area is defined by strong market pressure to put price down, which has its evidence in companies becoming more service oriented, creating partnerships to offer better values for customers and less focusing on being just product provider's e.g. hardware. If we take hardware support and demand, the fact is that companies are in need of commoditizing. (Molin et al. 2011.) According to Business Dictionary (2015) commoditizing is the situation when plenty of suppliers competing in the same market with really low margins, where common, standardized technology is used. This market is really demanding and only the best ones are able to survive. Looking after software support and demand, the most significant impact is on software licensing and its sales. Situation requires looking into different license models and have only those which are really necessary for companies to survive. The area of IT education and training is very much driven by fact of growing cloud services. New business models allows to provide really comprehensive end user trainings, where aspects are put on its online execution. (Molin et al. 2011.)

2.1.1 Competitors and challenges

IT support service market in Finland is experiencing situation where operating budget pressure results in decreasing financial support in maintenance of software. Many companies are put into situation where there is need to consolidation, or merge with others or even be acquired by others. As a result, the market being very fragmented and prime position are having companies which are able to provide support to full stack of customers' IT environments. Rapidly changing business demands on suppliers to invest in new technologies to be able to offer customers possibility to reduce their IT support costs. The ones which are able to exist and operate in such complex environment are going to succeed. Big help in that is achieved by utilizing resources which might not actually be directly owned by suppliers and offshoring, especially maintenance of application. (Molin & Petersson 2012.) Figure below taken from Molin et al. (2011) presents use of offshore sources.

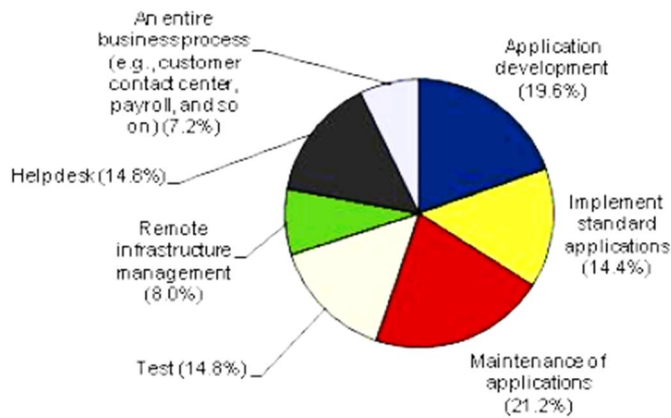


Figure 2: Molin et al. 2011. Use of offshore resources. IDC

In 2010, when all movements on the IT customer support market started, 5 IT service vendors were dominating e.g. Tieto, IBM, Logica (CGI), Fujitsu and HP. All of them represented 60% of the market share that time. In Figure below from Molin et al. (2011) Finnish IT service vendor division is presented.

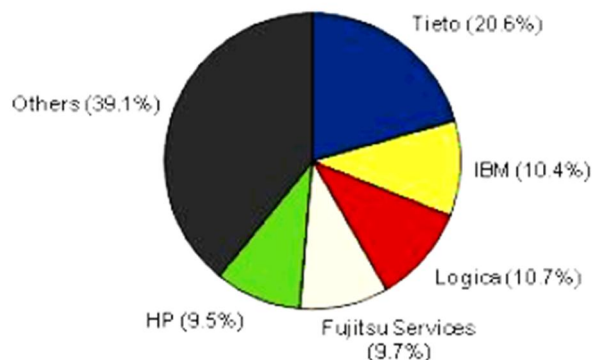


Figure 3: Molin et al. 2011. IT service top 5 vendors. IDC

Molin et al. (2011) presents more interesting financial aspects and revenue (in M EUR) overview gained in 2010 in particular areas of IT services in Table below.

Table 1: Molin et al. 2011. Finnish IT service market. IDC

Vendor	Total IT services	Project services	Outsourcing	Customer support services
Tieto	660	265	350	45
Logica (CGI)	343	131	162	51
IBM	332	66	211	54
Fujitsu	310	106	163	42
HP	303	38	204	62
Top 5 total	1948	606	1090	254
Others	1253	492	543	215

Presented above information suggests that customer support services area represented only approx. 14% in revenue shares of entire IT services in Finland in 2010. Bigger battle was taking place in outsourcing market where shares by revenue corresponds to approximately 51%.

From numbers above it is visible that in total Tieto was the biggest IT service provider in Finland that time with nearly 26% revenue shares. Tieto biggest part in revenue shares came from outsourcing market which represented approximately 27% of total outsourcing market revenue. Tieto was as well the best in providing project services were they gained approximately 31% of revenue shares of whole project services market. In customer support services area prime lead took HP with approximately 15% of revenue shares of all customer support area. This could indicate that customer support market could be the potential area where Tieto can invest in the future, especially if we could take internal division in revenue shares, where customer support services represented approximately 6% of total Tieto IT services revenue shares.

Analysis of Tieto competitors gave idea of its influence on IT services market in Finland. IBM strength lies in providing full stack of IT services mixed with excellent offshore capabilities from India. HP strength is coming from ability to deliver selective IT services e.g. infrastructure which with cooperation of application services gives good foundation for delivering easy to compete services. Fujitsu ability to compete with Tieto comes from good offering of packaging and branding services where user experience is one of prime drivers. Advantage of last competitor from the list, Logica (CGI), lies in delivering excellent project services, where combination of strong customer relationships, business consulting and offshoring makes hard to compete with. (Molin et al. 2011.)

2.1.2 Market situation

Market situation in Finland is today described through relatively small IT customer support segment that is not able to recover fast enough after recession from 2009. It leads to

situation where many companies providing IT customer support services making compromise between introducing new technologies and reducing operating costs e.g. software maintenance, IT support etc. (Molin & Petersson 2012.) This implies on how fast suppliers of IT customer support services in Finland are able to expand their businesses. In Figure below taken from Molin and Petersson (2012), the IT customer support services in Nordic countries are compared with project services and outsourcing. It is visible that IT customer support services in upcoming years will rather stay on the same level or at least growth will not be significant whereas outsourcing and project services areas will gain more market share.

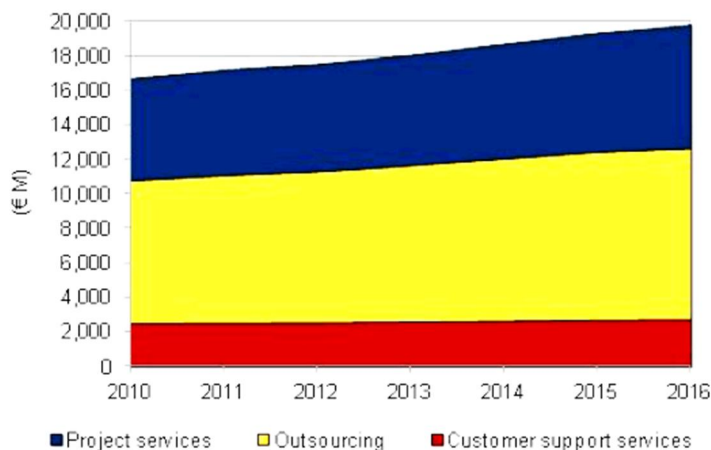


Figure 4: Molin, N., Petersson, A. 2012. Nordic IT services forecast. IDC

Molin & Petersson (2012) explained that future of IT customer support services in Nordic countries is driven by global megatrends polarizing on the way how IT services are build and maintained and even the way how they are transformed. They stated that cloud computing offerings will have significant influence on how funding's for IT support services will be redistributed in the future. Additionally, they indicated that thanks to systems' integrations there will possibility to introduce completely new IT customer support services that could lead to faster and more efficient transformations to digital / online services and adoption of new delivery models. They explained that digitalization is shifting the way how IT customer support services could be provided by opening to new areas like commerce, advertising, marketing and even social media. It requires new types of skilled resources which are able to operate easily in digital space. They pointed out that thanks to internet of things and embedded computing systems, IT customer support systems will be able to offer new types of services for intelligent devices being constantly connected via network.

2.2 Case company - Tieto Finland Oy

Tieto Finland Oy is the biggest IT service company in Nordic countries with nearly 14000 employees worldwide. It was founded in 1968 and it is active in 20 countries worldwide. Thanks to international presence and global delivery centers in Czech Republic and India, Tieto is able

to provide full stack of services for its public and private partners in business. Its core business is customer's business transformations based on IT solutions and consultancy. That gives a good level of net sales estimated on 1.6 billion EUR in year 2014 presented in "This is Tieto" (Tieto n. d.) web pages. Thanks to decision made in 2012 to focus on innovative services and on 4 strategic areas like big data, cloud computing, mobility, social media, company's situation improved against its competitors. Based on webpage Strategy (Tieto n. d.) we know that Tieto is main provider in Nordic countries of solutions combining industry expertise, knowledge and best technologies. Tieto chosen 3 strategic approaches to reinforce its presence in Nordic markets. As main strategy drivers Tieto indicated providing full lifecycle IT services based on its capabilities from various different industries, reshaping current industry expertise relying on long lasting customer's relationship and focus on the markets where Tieto can be in top 3 IT service providers. Thanks to this combination Tieto believes that it can become a main partner in providing global technologies in specific business context.

Tieto operating model support matrix organization concept where industry groups are mapped with service lines & product development services. It is presented in following Figure of Operating model (Tieto n. d.). The whole concept aims to bring efficiency by utilizing best practices of IT consulting area, industry products and continuous services. The emphasis is put to high quality deliverables based on best practices and industry standards (Tieto. Our values n. d.)

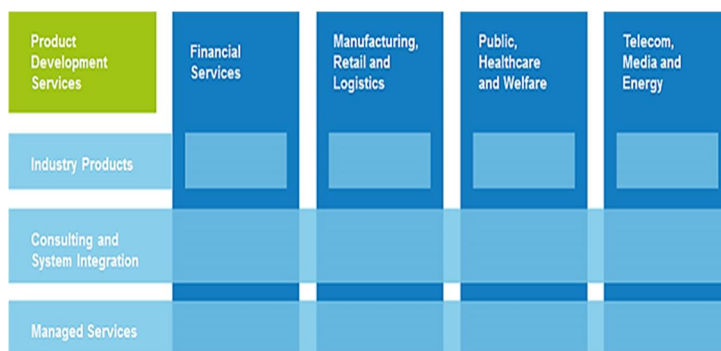


Figure 5: Operating model. n. d. Tieto

When it comes to management, Tieto has hierarchical structure based on board of directors and operative management. The role of first one is to secure interest of all stakeholders, hence second one, called leadership team, secures company's operations. (Tieto. Management n. d.) Tieto service structure consist of offerings provided by various departments like consulting and system integration, managed services or product development, and mapped with specific offerings for industries. It is securing the process of providing so called full life-cycle IT services to solve most of Tieto customers' challenges and problems. (Tieto. Service and offering n. d.)

Criteria which Tieto is taking into consideration when approaching particular markets are defined in strategy, highlighting aspects of being among top 3 in particular field and possibility to deliver full stack of IT services Tieto has strong positions in Nordics, especially in Finland and

Sweden. In new markets like Norway, Tieto securing its presence by strengthen its capabilities to provide needful services. That has its implication in the way how business is maintained and operations are performed. It should not be forgotten that quite important factor determining Tieto capabilities is offshoring. On average, over 40% of deliveries are done from delivery centers located in Asia or Central Europe. (Tieto. Tieto’s market areas n. d.)

2.3 Service Channel project

Strong signals from customers at the beginning of year 2014 indicated needs to have superior end user experience, have more cost-efficient, secure and productive services, and that Managed Services should become more agile oriented when it comes to deliveries. Based on it, Keeping Our Promises (KOP) program was establish to respond on customers’ needs in improving customers’ businesses. Program put a lot of attention to renewal of Tieto Managed Services offerings, resources and introduced new, hybrid delivery models based on cloud computing solutions as it was shown in Tieto presentation “Managed Services Renewal” (2014). KOP program defined several areas to improve that can be find in Figure below taken from Tieto presentation “Managed Services Renewal” (2014).

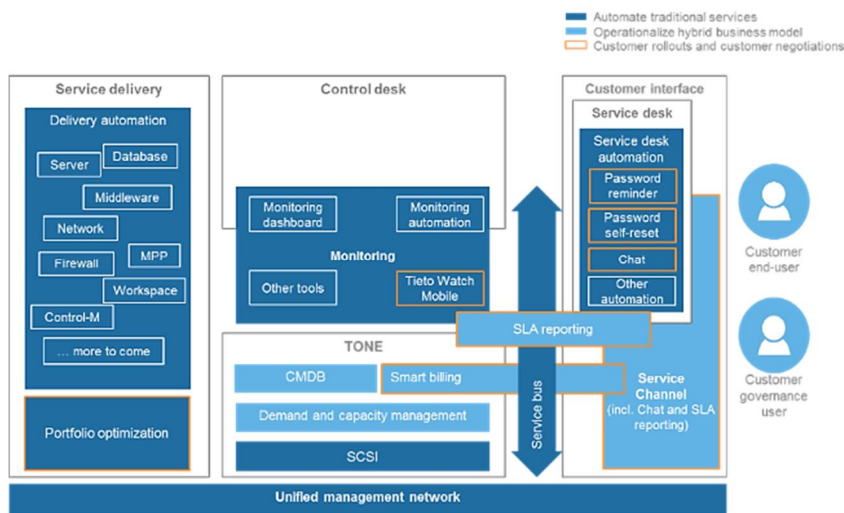


Figure 6: Managed Services Renewal. 2014. Tieto

In customer interface area KOP program introduced Tieto Service Channel project which aim was to build proper interface towards customers’ environments based on excellent user experience. Tieto Service Channel project addressed customer needs in having easy access to all Tieto services available for all customers from one place and with possibility to use mobile devices anytime and anywhere. Security issues and ‘look and feel’ aspects of customers’ interface were the important elements to develop in this solution. Introduction of self-service (O-tier support) functionalities allowed users to receive help without contacting service desk. Therefore, Tieto Service Channel became first true Managed Services’ digital channel support-

ing new ways of interaction with IT personnel where passive communication via email was replaced by proactive one e.g. chat. Managed Services management expects that Tieto Service Channel become a driver in the organization to win more sales cases for Tieto. (Tieto. Managed Services Renewal 2014.) Unfortunate issues with its adoption by customers' resulted in research done by author of this thesis which outcomes are described in following chapters.

3 Theories

3.1 Service-dominant logic

It's been over 100 year since first paradigms around goods exchange were formulated. Theories presented by Sweeney (2007) describing McCarthy's Marketing Mix about goods production were still acceptable by marketing societies still in early 90's. Lush et al. (2008) pointed out that in his publication that many people believed that time that value was created during effective production process and the output of it was pure product that was consumed, putting on side service processes. Heinonen et al. (2010) articulated that goods-dominant logic was understood as primary theory explaining well defined and tangible production processes and they pointed that business itself was a creator of customer needs - not experiences. Market to customer issue was something that Lush et al. (2008) seen as important aspects of marketing researches; even more important than how customer perceives business itself. Therefore author of this thesis is studying those relations to understand processes behind them through the drivers and factors that determines those processes, especially from customer experience point of view.

Things started to change in late 60's where Heinonen et al. (2010) talked about Levitt and Drucker (1970) which gave arguments that the most important in whole product creation process is to see final result through the eyes of customers. Heinonen et al. (2010) expressed the feelings that the goal of the business should be achieved mainly by looking at first on satisfaction of the customers. However, Heinonen et al. (2010) saw the role of customer in the process still as passive one. Year 2006 and 2007 brought first concepts emphasizing role of active user who is involved in process of creation of product or service. It was heavily promoted by Grönroos (2006) and Gummerson (2007). Heinonen et al. (2010) pointed after them that relationship between providers, producers, customers and other stakeholders became an important factor in marketing researches, putting in front interaction between them and highlighting the role of customer as a partner in co-creation process. Ojasalo (2003) argued here that customer who is involved in this process made it always more unique, therefore co-creation process is always unique experience for all actors involved in it. Sweeney (2007) wrote that it was lively commented by marketing researches, because Vargo and Lusch (2004) who codified those statements did not discuss enough customers' and stakeholders' contribution to service satisfaction. Grönroos and Ravald (2010) stressed out that Vargo and Lusch (2004) did not took much into consideration in their publications customer's involvement in the co-creation process either.

This discussion gave foundation for theory we call today Service-Dominant logic (S-D logic). Brodie et al. (2011) pointed that Vargo and Lusch (2004) formulated the statement that S-D logic has in its core that in fundamentals of exchange process are services and this is the place where value is co-created with customers. Vargo and Lusch (2004) described services as process where knowledge and skills are applied to achieve benefits for others, whereas Grönroos (2006) pointing out on interaction with customers to solve actual customers' problems.

S-D logic emphasize specifically consumption of services as a major issue involved in the process of buying goods or services which is considered as mechanism for distribution of those services. Brodie et al. (2011) pointed out that through extensive research done between 2004 and 2008 Vargo and Lusch (2008) updated their Foundational Premises (FP's) which is presented in Table below.

Table 2: Vargo, S., Lusch, R. 2008. 10 foundation premises

FP	Definition
FP1	Service is the fundamental basis of exchange
FP2	Indirect exchange masks the fundamental basis of exchange
FP3	Goods are distribution mechanisms for service provision
FP4	Operant resources are the fundamental source of competitive advantage
FP5	All economies are service economies
FP6	The customer is always a co-creator of value
FP7	The enterprise cannot deliver value, but only offer value propositions
FP8	A service-centered view is inherently customer oriented and relational
FP9	All economic and social actors are resource integrators
FP10	Value is always uniquely and phenomenologically determined by the beneficiary

Grönroos and Ravald (2010) pointed out that 4 following FP's are the most important from point of developing their theory of markets. FP6 states that "customers are always co-creators of value" (Lusch et al. 2008). FP6 is known by any marketing specialist from the field and implies to fact that any resources, even those intangible and dynamic (operant resources) are creating value (Brodie et al. 2011). Proper application of operant resources is in core of FP1, where "service is the fundamental basis of exchange" (Lusch et al. 2008) of skills and knowledge between customer and provider. Value exchange occurs only if particular resource is turned into specific benefit, called resourcing as it "is always uniquely and phenomenologically determined by the beneficiary" as stated by Lusch et al. (2008) in FP10. Brodie et al. (2011) arguing that all this happens thanks to extensive network where "all economic and social actors are resource integrators" pointed in FP9 by Lusch et al. (2008). This focus on networks' relations, its systems and interactions with customers' leads to better understanding of customer experience aspects as only by applying goods in combination with right interactions may results in experiencing and servicing occurrence (Lusch et al. 2008). It is worth to mention that this interaction will not work well unless external partners will be taken into consideration. Lusch et

al. (2007) indicated that significant influence on customer experience and innovation is achieved only by engaging all sites into the process. In some situations it might be that customers' active involvement in service creation is higher than company's employees (Ojasalo 2003).

Ordanini and Parasuraman (2011) recalled Lusch et al. (2007) who pointed out that important role in S-D logic plays application of right competences and processes to achieve best possible result. Competence application is mostly visible in co-operation with customers and its partners resulting in providing best experience for tangible and intangible innovative services and goods. This type of service innovation can be seen as new type of offering provided by company to its customers. (Lusch et al. 2007.) This collaborative competence reflects on FP7 and FP6 (Lusch et al. 2008) and Lusch et al. (2007) stated that customers are need for service providers as only then value is created. Ordanini and Parasuraman (2011) argued that customer role is really important in doing innovations as usage of customers' knowledge and skills brings benefits to all parties. This is called by Lusch et al. (2007) competitive advantage as it helps in developing absorptive and adaptive meta-competences. Lusch et al. (2007) described first one as ability that organization is able to absorb knowledge (trends, know-how) from external sources. Second, talks about abilities that organizations have to adjust to new environment circumstances. Ordanini and Parasuraman (2011) pointed out that collaboration with business partners influence more radicalness of innovation resulting in more potential changes. They argue that it is due to fact that business partners usually triggers different aspects of those changes and that is influencing on overall customer experience. This statement implies naturally from Lusch et al. (2008) FP9 where they stated that dynamic capability of customer orientation is connected with proactive approach towards company's knowledge. Ordanini and Parasuraman (2011) described that this drives systematic analysis and review of market needs by continuously revealing, integrating and transforming company's key information and insights to satisfy customer needs, and it has strong effect on service innovation volume.

Proactive approach towards company's knowledge that Lusch et al. (2008) presented is happening mainly thanks to knowledge interfaces pointed out by Sherwood and Cavin (2008). They described it as condition which is physical and social and allows transfer of knowledge through whole organization. As Ordanini and Parasuraman (2011) noticed that important part here comes from service employees' collaboration and knowledge integration mechanisms. They observed that that key knowledge is held in hands of customer contact personnel, so increasing effective collaboration with employee's results in amount and the quality of information about customer (Ordanini & Parasuraman 2011). To ensure that integration and sharing of information is more adequate, especially tacit and sophisticated knowledge around organization, Ordanini and Parasuraman (2011) pointing out on Knowledge Integration Mechanisms (KIM's) as a method to deal with complexity information systems. This is seen as an advantage in providing better service experience and sustainable innovations (Ordanini & Parasuraman 2011).

Karpen et al. (2012) gave opinion that in addition to value network partners, collaboration and competences, business relationships or resources, capability to execute S-D logic lies in strategic behaviors, approaches and interactions' capabilities that enables and supports co-creation process. Prahalad and Ramaswamy (2004) described co-creation as process which is meaningful and can provide compelling engagement through interacting in co-creative way. Capability to execute S-D logic is derived from S-D orientation that Karpen et al. (2012) seen as set of capabilities in organization that formed its portfolio through interactions which are individual, ethical, relational, empowered, developmental and concreted and influence on reciprocal resource integration.

Karpen et al. (2012) stressed out that in dealing with complex environment it is necessary to facilitate interpersonal communication, putting attention to social and emotional interactions (relational interaction capability). Karpen et al. (2012) addressed here the fact that in maintain long term relationship the trust between business partners is a key factor to successes and taking unfair advantage over customers is seen as lack of ethics increasing risk of manipulations and exploiting, and that do not help in interaction and knowledge sharing at all. They connected it with empowered interaction capability indicating that customers should have influence on content and final result of value exchange (Karpen et al. 2012). In following chapter value as process is described from framework and tools perspective and addressing issues with interaction and alternation of value logic as well as value co-creation, value exchange and value destruction aspects pointing on experience.

3.2 Value creation

Traditionally, value was connected with G-D logic and it is associated with production process mentioned by Smith (1776) where units produced creating output. However, this definition did not take into consideration intangible outputs provided via services. (Lusch et al. 2008.) In article written by Echeverri and Skålen (2011) definition of value was explained through Holbrook (2006) reference to interactive relativistic preference where value is treated as function of subjects and object interaction. Holbrook (2006) pointed after Lusch et al. (2007) that value is very personal thing and depend on context where attitude, affection, satisfaction and behavioral judgments is taking place. He argues that it creates experience from consumption (Holbrook 2006). Lusch et al. (2007) opened up more the problem in FP8 saying that creation of value itself is very subjective thing and only beneficiary of value can determine it. Therefore, customer who is in the core of creation of value is influencing on this relationship. Grönroos (2011) pointed out that customer's value is created when service process was performed and customer is feeling better than when it was before. Furthermore, Grönroos and Ravalid (2011) argued that customers are not as such interested in resources used to create value but in the outcome of it; so in fact it implies to aspects of how and why customers utilizes value to achieve their goals and satisfaction from received services (Grönroos & Ravalid 2011).

Karpen et al. (2012) argues that strength of value creation process is in possibility to integrate and align interactions and service flows among all participants (concerted interaction capability).

To find answer to this issue author of this thesis looked at how to connecting value with S-D logic. He found out that Lusch et al. (2007) expressed that value itself is coming from relative advantage that creates competition which is a matter of knowledge creation and its application. They stressed out fact that to make it happen it is necessary to hoard resources and add value to them. In the context of service it is happening when value is added to resources, which normally are not active resources and requiring acting upon to be treated as useful (operand resources). In effect, company is making value proposition for customer which was discussed in Lusch et al. (2007) FP7. Therefore, in service context Lusch et al. (2007) talked in FP8 about resources which are used for customer's benefits (operant resources). Operant resources are dynamic resources with capability to produce benefits for other parties. They are often described through their scalability, reusability, renewability and creativity (Lusch et al. 2007).

Operant resources idea is coming from Lusch et al. (2008) FP4, where they are treated them as core element in making service different and they are seen as source of competitive advantage. Prahalad and Ramaswamy (2004) explained that customers itself are great source of competitive advantage as by enabling them to access companies' information, they are helping in gaining knowledge about product or service which companies offers and helps to contribute to customers' improvement activities. According to Lusch et al. (2007) competitive advantage comes from way how companies are able to apply their operant resources to meet customers' expectations. That is in foundation of Lusch et al. (2008) FP1, where they treats those as the core of exchange of value in market. Therefore, Karpen et al. (2012) stated that to achieve desired outcome for customers, companies must be ready to help to embrace value exchange process by facilitating and assisting in knowledge sharing and competence development inside-out (developmental interaction capability), or even with their partners. This won't happen without proper orchestration of processes, interactions and actions with customers and partners. (Karpen et al. 2012.) Karpen et al. (2012) pointed out after Lusch et al. (2008) that process of value exchange is by nature relational and depend of intensity and frequency and it cannot be forced by company itself. He argued that often companies are possessing knowledge and skills which adds value to whole service process by making it more efficient. He stated that it allows to co-create and co-construct own experiences (Karpen et al. 2012). It is know from FP7 of Lusch et al. (2008) that value is always co-created. In addition, Lusch et al. (2008) stated that value is often determined by customer which together with co-creation he called as value-in-use. Grönroos (2011) stressed out facts that value-in-use is created only by the user and for the user (customer is value creator). From that statement implies that company is a value facilitator. Therefore, both parties are join value creators where co-creation of value is always happening between customer, company and its suppliers. (Grönroos 2011.)

Value co-creation idea comes is explained in Lusch et al. (2008) FP3 where he stated that value can only be spot during process of consumption. As it is happening between all creation partners, it means that value is co-created between them and therefore it is very relational. Lusch et al. (2007.) Prahalad and Ramaswamy (2004) stated earlier that continuous knowledge gathering and learning from customers enables co-creating service offerings or products which have more value to customers. Grönroos and Ravald (2011) argued that value co-creation concept is still seen not well understood as it requires to have a closer look at roles that customers have in value co-creation process and how customers utilize resources they have to embrace experience from consumption (Baron & Harris 2008). According to attitude and satisfaction theories by Dabholkar and Bagozzi (2002) explained in Xie et al. (2008) customers choose to engage in co-creation process not because of monetary benefits, but mainly because to have sort of control over process and simply to be designers of their own value. Lusch et al. (2008) FP9 explained value co-creation as a highly complex ecosystem of companies, customers and other partners as all actors within that specific network are resource integrators (value-network). In addition, Lusch et al. (2008) in FP10 suggested to look at value co-creation through value-in-use from contextual point of view where experience of customers depend on context in which products/services are used (value-in-context). Grönroos and Ravald (2011) argued here that foundation for FP9 should come from value facilitation activities done by supplier where resources are produced as an input into process of joint value co-creation by customer and its supplier.

Because of issues with defining value co-creation process Payne et al. (2008) introduced value co-creation framework presented in Figure below as a premise for altering logic of value creation.

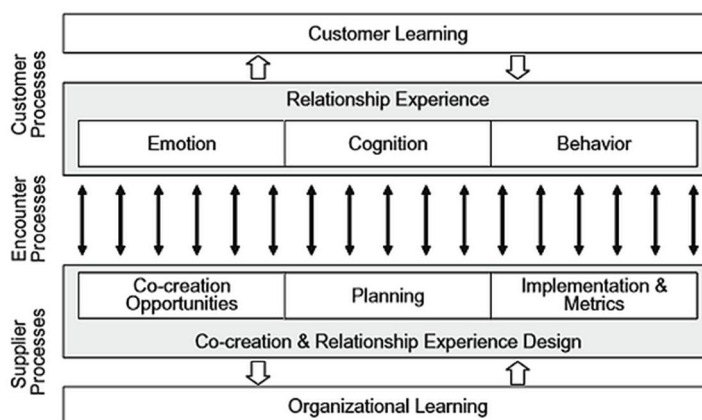


Figure 7: Payne et al. 2008. Simplified process based value co-creation framework

Payne et al. (2008) proposed to look at value creation from supplier value-creating process and look at aspects of business processes, practices and resources that supplier has to manage together with customers and encounters (extended enterprise). Payne et al. (2008) explained

that encounter process is about all processes and interactions which happening between supplier and customer and defining long-term relationship that can contribute to it in co-created value. Lastly, Payne et al. (2008) indicated customer value-creating process seen as dynamic, interactive and nonlinear processes, involving resources and practices used to maintain all activities related to consumers' relationship, as well as all processes used by customer's organization to maintain relationship with its supplier. Payne et al. (2008) argues here that to be able to find new ways involving all parties into process, managers need to encourage and activate sort of characteristics to achieve co-creation goals. Payne et al. (2008) called them encounters' characteristics, and they are related to relationship experience (emotion, cognition and behavior), organization and customer learning and co-creation & relationship design experience (co-creation opportunities, planning, implementation & metrics). Therefore there is need to discuss experience aspects in more detailed way and for that purpose in next chapter customer experience aspects are explained.

3.3 Customer experience

Experience aspect was already pointed out in previous chapter by Prahalad and Ramaswamy (2004) which stated after Lusch et al. (2008) in FP8 that relational context of customers and companies involved in co-creation process is a fact, and therefore continuous knowledge gathering and learning from customers creates engaging experience. Johnston and Kong (2011) pointed out that it is happening between service provider and receiver. Therefore, experience itself is a very personal thing and exist only in people's mind. Vargo and Lush (2004) stressed out after Pine and Gilmore (1998) that two people can't have the same experience about the things. (Johnston and Kong 2011.)

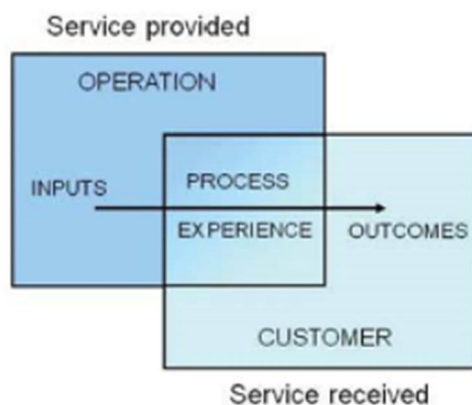


Figure 8: Johnston, R., Kong, X. 2001. The operations and customer perspectives on service

Johnston and Kong (2011) pointed out that no matter what is the service, customers will always have experience, classified as good, bad or indifferent. They explained that to say by company that "we are providing best customer experience" does not mean that it is really provided to customers. (Johnston and Kong 2011.)

Lusch et al. (2008) connected engaging experience with customer experience in S-D logic. S-D logic theory specifically explains that receiving of service is the place where value is created for (or with) customers and value-in-use is the place where experience is delivered. Choices of services or products that customers are taking are highly tight to multi-sensory aspects of experience as emotional feelings, described by Holbrook (2006) as "interactive relativistic preference experience". It is to create in customer memories cognitive, behavioral and emotional responses about such experience. Perceived value based on customer experience depend on situation when experience happens and what experience is compared. (Holbrook 2006.) Factors which are determining customer experience can be many. Garg et al. (2012) proposed classification of these factors based on criticality in succeeding of desired customer experiences and prioritization connected with companies' importance to understand impact of those factors. Garg et al. (2012) pointed out on 19 of those:

1. Customer interaction - interaction with company, its employees, physical environments and other customers.
2. Presence of other customers - offering same or different service.
3. Employees - those who deliver service to customers.
4. Servicescape - physical environment where service is happening.
5. Convenience - numerous activities leading to higher confidence degree.
6. Customization - specific customer requirements to be taken into consideration.
7. Value added - add on services to core service.
8. Speed - responsiveness to customers' requirements.
9. Core services - basic service that company is providing.
10. Service process - set of activities, interaction between them and resources need.
11. Marketing mix - strategies towards customer expectations.
12. Online functional elements - website functionality affecting experience of customers.
13. Online hedonic elements - functionalities attracting customers to navigate and use website.
14. Online aesthetics - elements that attracting and keeping attention of customer.
15. Sensory experience - sight, touch, sound, taste and smell connected with aesthetics.
16. Affective experience - emotional values influencing on interconnection between customer and company (moods, feelings etc.).
17. Cognitive experience - cognitive and mental abilities of customer.
18. Behavioral experience - lifestyle, interactions and customer physical experience.
19. Relational experience - factor related to self-realization of customers beyond service context.

Important driver connected with those factors has quality which comes with delivery of experiences to customer. Klaus and Maklan (2012) pointed out that quality of experience is per-

ceived though product experience (possibility of having choices and be able to compare), outcome focus (possible reduction of service transactional costs), moments-of-truth (dealing with problems and possibilities of recovery) and peace-of-mind - an emotional benefit for customer who received service.

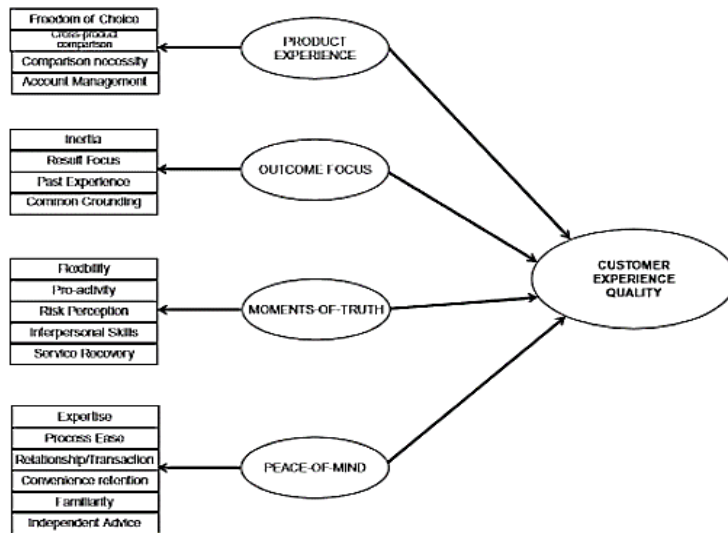


Figure 9: Klaus, P., Maklan, S. 2012. Customer experience quality

Experience of customers is connected with service landscape (service-scape), a physical environment where service occurs and social interaction in service-scape between customers and company employees or even between other companies (Holbrook 2006). Therefore, Klaus and Maklan (2012) explained that service experience can be described through assessing attributes which helps in interaction with provider of the service and therefore it can point out on customers' loyalty aspects. Through these aspects, meaning for customers is created about service context and it is shaping preferences toward one or other service (Walter et al. 2010). Ramaswamy (2011) added that experiences is gained by customers which become informed and empowered. He told that formed in this process networks gave reason to build new types of platforms helping in engaging customers in continuous interaction (service relationship).

Service relationship, and especially service experience subject cannot be described without discussion about trust. Kantsperger and Kunz (2010) explained after Rotter (1967) that trust is sort of expectancy that individuals can rely on. Therefore, conceptualizing and measurement of trust is very important aspect and Kantsperger and Kunz (2010) put a lot of attention to such trust components like: confidence, honesty, reliability, credibility and benevolence. Kantsperger and Kunz (2010) told that is understood that customers have sort of expectations regarding service relationship and it derived from customer's relying and believing on companies intentions (risk of exchange between partners). They pointed out that it is a critical aspects when it comes to service management to be able to significantly minimize perceived risks related to service delivery. Reducing such risks has direct impact on service costs as it lowers risks related

to so called, opportunistic behaviors of service provider, where characteristic like benevolence and credibility are essential. (Kantsperger & Kunz 2010.) Kantsperger and Kunz (2010) explained that benevolence is perception of customer about good intention that company is having. That's why it is important to have a "capability to offer right quality reliably." (Kantsperger & Kunz 2010) They pointed out that customers' satisfaction influenced by benevolence and credibility had direct implication on loyalty of customers who are willing to stay longer in this service relationship and all this starts with personal traits playing here quite important role. (Kantsperger & Kunz 2010.) Ojasalo and Puhakainen (2003) stressed out that trust affects relationship between parties in service relationship and effects on their future expectations.

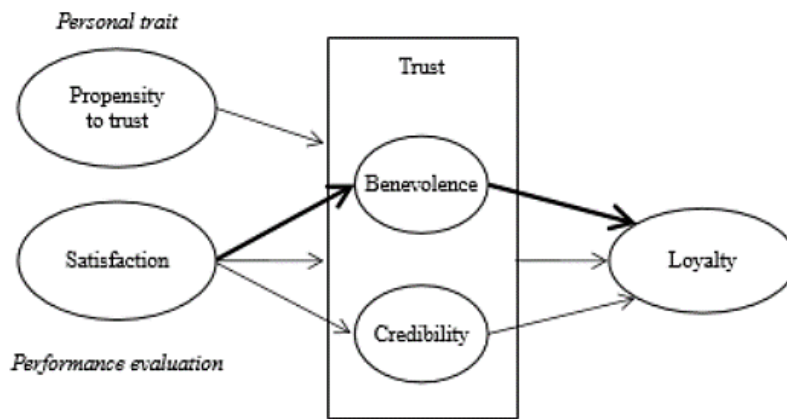


Figure 10: Kantsperger, R., Kunz, W.H. 2010. Trust in service relationship

Kantsperger and Kunz (2010) emphasized that if companies are willing to keep the same standard of service they always need to pay attention to benevolence and credibility. They pointed out that every customer wants to be served fair, with high-quality and identical. (Kantsperger and Kunz 2010.) Peppers and Rogers (2013) explained that to stay competitive companies must always aim for highest standards in their services. They pointed out that in today's highly competitive world it is not enough to work just on price and service deliveries. It is necessary to proactively work on covering customers' needs and interests. (Peppers & Rogers 2013.) Achieving so called "extreme trust" requires looking after opportunities to create value proposition for customers, paying extra attention to minimize possibilities that customers will make mistakes and finally try to avoid failing in delivering beneficial service aspects to customers. Simply, it is important to take into consideration customer's best interest and "to treat them the way you would like to be treated." (Peppers and Rogers 2013.) Johnson et al. (2008) argues that trust to company can be affected by customers' emotional bonding to brand and identification with company that is changing through time. High customer satisfaction can possibly cause switching to competitors because of customer's betrayal feelings to the company, suggesting that loyalty is not directly influenced by customer satisfaction. Therefore, definition of customer satisfaction should be updated by this issue. (Johnson et al. 2008.) Johnson et al. (2008) expressed after Oliver (1999) that customer satisfaction is a judgment about product or service consumed if fulfills customer's needs with pleasure. Johnston and Kong (2011) pointed

out that provided experience has effect on customer satisfaction and it can change rules of the game when it comes to competitors.

Hansemark and Albinsson (2004) talked after Gerpott (2001) that customer satisfaction has its foundation in customer experience about fulfilling customer's needs. They stressed out that employees who are interacting in daily basis with customers are shaping relationship with them and in many cases they are affecting on customers' satisfaction, and their willingness to use companies' services again. Miao and Mattila (2013) pointed out that similar aspect are connected with psychological safety issues which pretty often are not self-evident. They consists of psychological distance aspects between customer and company's employees or between customers who are willing to have pleasant experience in interacting with other customers in service space. (Miao and Mattila 2013.). Kuppelwieser and Finsterwalder (2011) told that so called "taken-for-granted beliefs" that customers have might really effect on loyalty and customer effort to co-create of service experience or even influence on other customers contribution effort. Hansemark and Albinsson (2004) suggested that if customers are more satisfied with services they are putting less attention to price and less often looking for alternatives from competitors, increases retention (commitment to continue and willingness to recommend and repurchase) and loyalty. They indicated that factors like product innovativeness, employees in customer account, price, convenience and business profile are determining directly on customer experience. (Hansemark & Albinsson 2004.) Dagger and O'Brien (2010) explained that building of exchange partners' relationship should be based on experience level.

At this point it is interesting to look after how novice or expert customers perceives services. Ojasalo (2001) defined customer expertise through possibility and ability to utilize service that has been purchased. He pointed out that expertise of customers' changes and it is proven that novice customers' expectations and requirements differs from experienced ones - they are fuzzier. He stressed out that they usually expect something to change but they don't know where it could be done. It implies to fact that gaining experience in services expertise changes the perception of customer satisfaction, increasing or decreasing loyalty, trust and commitment which may even effect on changing service provider. (Ojasalo 2001.) It is due to fact that service is a process or an activity that consists of touch points through which customer during his journey through the service (service flow) feel, interpret and experience (Pullman and Gross 2004).

Johnston and Kong (2011) pointed out that there are several tools designed to embrace approach of involving customers in designing of service experience - experience based design. It is worth to mention about "service-scape" (Bitner 1992), customer journey mapping (Shaw and Ivens 2002; Zomerdijk and Voss 2010) or customer experience analysis (Johnston and Clark 2008) which in today's service design or service experience experts using it as a foundation for their research methods. Johnston and Kong (2011) explained that are several ways to design

services based on experience. They pointed out that popular one and widely discussed approach consists of 4 phases divided into 10 steps presented in Figure below.



Figure 11: Johnston, R., Kong, X. 2011. Experience based design process

Johnston and Kong (2011) told that instigation and objective setting is the first phase. After that it comes creation of business case. There is need to coordinate and oversee changes. It can be achieved by answering to questions like "Why did they want to improve the experience? What is the customer experience they were trying to provide? How did they go about improving it? What was the impact of the changes? Next, there is need to undertake customer research and definition of experience should be explained. Johnston and Kong (2011) pointed out after Berry and Carbone in (2007) that it can be done by identifying emotions that are related to customer commitment, creation of motif of experience, evaluation and inventory of experience clues and definition of gaps, and lastly closing activities together with monitoring should be executed. After that there should be done prioritization of development work and undertaking action research and change should be developed. Johnston and Kong (2011) talked after Karlsson (2009) that such activities can include familiarization, reflection, data reduction, writing narratives of change, coding, conceptualizing sorting and re-evaluation. Finally, change of support system and assessment of the change should happen and as Johnston and Kong (2011) stressed out it should be done by defining vision and strategy, leadership establishment and making experience clues in center of employees thinking.

Peppers and Rogers (2013) explained that thanks to IT capabilities companies can easier learn on customer traits, preferences, needs and analyze insights to work on creating and improving customer experience. Therefore, author of this thesis sees importance in looking into what effect has innovation on customers and how customers perceives IT services through experiences. In following chapters those issues will be explained.

3.4 Customer driven innovation

In S-D logic concept Grönroos (2011) pointed out that companies are resource facilitators and integrators. He pointed out that they are co-creating value through people, technology,

and other resources (Grönroos 2011). Grönroos (2011) stressed out that it is very important to interact between companies and customers. Michel et al. (2008) told that about service logic innovation where customer thinking, participation and capabilities of value creation and realization are under constant change. They explained that co-creation of value is really on basis of value-creating innovation process (Michel et al. 2008). Michel et al. (2008) stressed out that customers' knowledge integrated in value chain creation requires putting attention on companies, suppliers and even customers capabilities to embrace service experience and it is a hard tasks that's why any company can hardly cope alone with it. Matthing et al. (2006) explained that competition that is increasing steadily, and customers who are more demanding, influencing on companies to be able to find more favorable circumstances for development by involving customers in the process. They stated that this approach helps to generate ideas that will meet customers' needs, possibly improve performance of developed service itself and is seen as critical factor for companies' success (Matthing et al. 2006). Matthing et al. (2006) told. They talked after von Hippel (2005, 23) that innovation is a process addressing real needs and solution ideas that will help in predicting company's development needs (Matthing et al. 2006). Johannessen (2009) pointed out that there are local factors determining innovation span in companies grouped as company internal factors, company external factors and national and regional innovation systems. Figure below present relations between those factors.

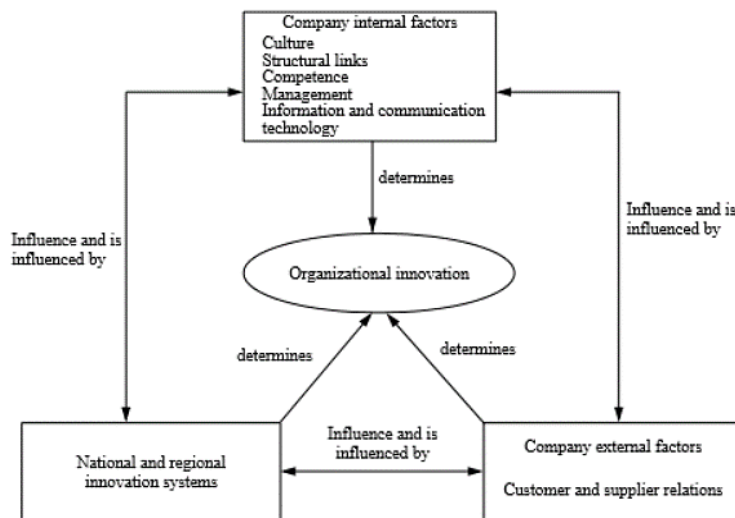


Figure 12: Johannessen, J-A. 2009. Innovation as interactive learning: a systemic model

Ojasalo (2004) divided innovation as minor incremental, significant incremental, intermediate, radical and highly radical. Ojasalo (2004) suggested that to be able to succeed there is need to focus on radical innovations as those bringing breakthrough in current solutions. Sandberg (2007) described radical innovations as completely new things for companies and customers and companies' survival on the market depend on its development. Sandberg (2007) pointed out that customer do not behave equally proactive during radical innovation development. It's been highest in idea generation stage and lowest when project is close to be launched. As on

Figure below it is explained how different stage of projects implying on different pro-activeness level.

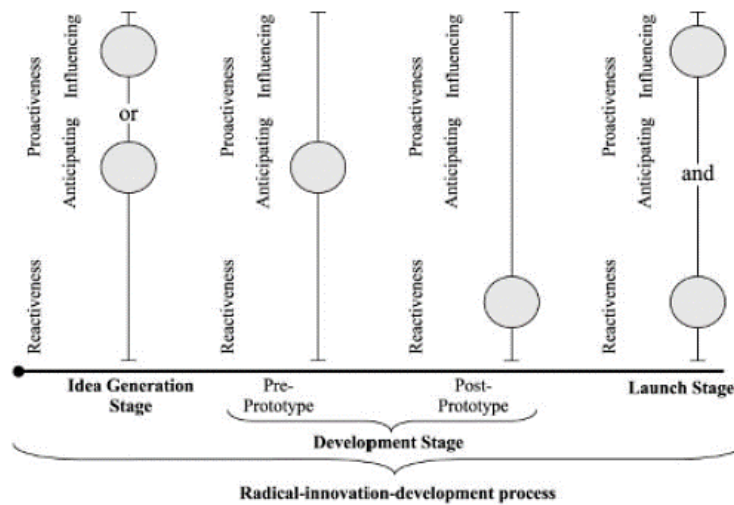


Figure 13: Sandberg, B. 2007. Customer-related proactiveness during the development of a radical innovation

Matthing et al. 2006 told that it is not easy to find customers who are innovative enough and are willing to be involved in such process. They pointed out that critical role having here "lead users" or "innovators" who are having unique ability to envision, innovate and be enough creative to contribute in companies' new service development work (Matthing et al. 2006). Bogers et al. (2010) stated that they are delivering value to companies which can be a major innovation source. Lead users can be characterized by strong personal needs way ahead of current market place, personally benefits from their ideas, willing to share idea free of charge and their industry knowledge is very high. They are seeking for variety options to maximize their satisfaction from received services. (Bogers et al. 2010.) Duverger (2012) explained that those unmet needs might decrease expectation towards provided services and can trigger in them dissatisfaction. The best lead users can be found within dissatisfied users, called defectors. He state that this type of users can easy produce and share ideas or even commercialize it within local user communities and become "user-entrepreneurs." (Duverger 2012.) Bogers et al. (2010) pointed out that as user-entrepreneurs they can build business around possessed knowledge and receive profits out of that. They indicated that in the same time user entrepreneurs can be "utility maximizers" and benefits from such relationship by providing value from different dimension (Bogers et al. 2010). Bogers et al. (2010) told that producers can actually use lead users to create solutions that fits better needs of producers itself. They found out that producers will get more results in innovation if they will not reveal tacit routine so users will be able to manage their needs in normal interaction with solution.

Bogers et al. (2010) explained that tacit knowledge is about fact that users has sometimes difficulties in expressing their needs and that is causing issues in producing innovations.

Blazevic and Lievens (2008) articulated that knowledge about customers and its needs is a fundamental aspect when it comes to innovation activities. They told that big role in obtaining this kind of knowledge plays technology, complementary to traditional face-to-face meetings or interviews. Additionally, they told that customer is not anymore isolated human being. He is rather well informed and very proactive in seeking for new knowledge sources and that co-operation of customers and companies through mutual interaction and activities co-produces this knowledge. (Blazevic & Lievens 2008.) Blazevic and Lievens (2008) pointed out that customers might play passive or active role in co-production of knowledge. They stressed out that customers might be unaware that they are measured and observed but still they are source of knowledge. Blazevic and Lievens (2008) told that customers might be "active informers" giving suggestions or proposing solution that coproduces knowledge too. Duverger (2012) told that it important to find out which customer is actually active, called "alive". Duverger (2012) told that in early 1980's Shmittlein and Morrison used Poisson population distribution to classify this kind of customers. They used simple formula $P = t^n$, where P is a probability of customer being "alive", t as time of last purchase and n is the amount of purchases by company in the period of study. Blazevic and Lievens (2008) argued that without company's visionary employees' suggestions or proposals might never be realized as innovations, so the last word is always at company's lap.

Grönroos (2008) told about innovation in the context of sharing of assets, work, information, and risk and this creates value in interaction with customer provider. Vargo and Lusch (2008a) told in context of S-D logic about innovative way of value creation through those resources which are intangible and dynamic (service innovations). Sillanpää and Junnonen (2012) explained that service innovation is in fact creation of new service or renewal of old one from which company can benefit. Sillanpää and Junnonen (2012) highlighted fact that provided value to customer in form of innovation must consist of new elements that can be repeatable in completely new context. They told that service characteristics like: simultaneity, heterogeneity or intangibility playing important role in defining service innovation development process (Sillanpää and Junnonen 2012). They mentioned that there are several barriers for innovations development. Factors like economic (cost of innovation, risks, or lack of funding) or internal organizational (personnel, market information, organization structure, or lack of technical information) are in majority of those which are influencing the most on innovations. (Sillanpää and Junnonen 2012.) Nicolajsen and Scupola (2011) argued that it is important that customers are involved possibly in all stages of service development, starting from strategic planning, through idea generation, idea screening, business analysis, formation of cross-functional team, service and process design, personnel training, service testing and pilot run, and ending on test marketing and commercialization. Magnusson et al. (2003) explained that there are 3 more different types of user involvement in innovation. They are about purpose or objective of involvement, intensity of involvement and modes of involvement (Magnusson et al. 2003).

Next chapter presented by author of this thesis explains those development aspects of service experience in example of customer support area where it is taken into consideration providing such experience through digital channels.

3.5 Customer support services experience

Wijnhoven and Kraaijenbrink (2007) after Stamper (1973) explained that information is data that has meaning and it can be represented. Wijnhoven and Kraaijenbrink (2007) stressed out that information placed digitally helps traditional information services to extend their capabilities and increase opportunities for gathering more context. They pointed out that thanks to internet and computers, information can be innovated and co-created, providing unique services to people (Wijnhoven and Kraaijenbrink 2007.) Wijnhoven and Kraaijenbrink (2007) seen services in context of information as functional unit where systems or organization can make it available for environment they are coexisting, and that creates value for them. Furthermore, Wijnhoven and Kraaijenbrink (2007) pointed out that information helps people to access meaningful, relevant and useful information services to be able to understand surrounding world. Therefore, information services are described by Wijnhoven and Kraaijenbrink (2007) as services that are helping in facilitation of information exchange good and have possibility to transform those goods. Wijnhoven and Kraaijenbrink (2007) explained that information systems to be meaningful, relevant and useful for customers should possess characteristics enabling content to be according customer needs and delivery such content through relevant data for customers. In addition, they pointed out that mix of features might increase customer's value-in-use. Lastly, they expressed that there should be a possibility to process information transactions to make sure that information streams are available for all interested parties - supplier or information service owners. (Wijnhoven & Kraaijenbrink 2007.) Therefore, Williams et al. (2008) sees opportunities for information services provided digitally, which can be accessed or arranged based on digital transactions.

Williams et al. (2008) argued that the difference between digital and traditional services is in more restrictive way to deliver information services as it requires IP-based internet infrastructure. In addition, they stressed out that the way how tangible and intangible services are described depends on the way how they are overseen. Furthermore, physical possession of digital services is not equal to having full control over it. Following, digital service provider might be never known by customer so personal relationship is not perceived the same as in traditional services. Least but not least, sometimes digital services are seen as those which are extending capabilities of physical ones. (Williams et al. 2008.) Williams et al. (2008) told that to be able to distinguish one service from others there are 4 design dimensions to take into consideration. Firstly, service delivery which should point out on how to provide service and in what kind of fashion. Secondly, Williams et al. (2008) talked about service maturity pointing on the nature

of interaction which can be changed through time and that can happen based on customers' literacy. Thirdly, they explained malleability requirement to be able to adapt to needs and requirements that customers might change dynamically. Lastly, they seen pricing and funding aspects. (Williams et al. 2008.) Williams et al. (2008) stated that to be able to influence on digital information service delivery business objectives will need to be taken into consideration, especially from sources of income and ways to build service. They stressed out on technology objectives where solution is chosen having best possible knowledge. At the end they pointed out on Interaction objectives where interaction human-computer affecting on customers experience of the service. (Williams et al. 2008.) Figure below presents combination of dimensions and objectives stated by Williams et al. (2008).

		Objectives →		
		Business	Interaction	Technology
Design Dimensions ↑	Service Delivery	Reducing costs	Mobility Scalability	Efficiency Bandwidth
	Malleability	Adaptability opening new markets	Customization	Evolution
	Pricing/Funds	Value-added services	Optimizing Revenue	Commoditization
	Service Maturity	Adoption & Scale	HCI standards	Towards full automation

Figure 14: Williams et al. 2008. Digital service taxonomy

Chowdhury (2012) pointed out that important aspect in developing services, especially digital one has these days' sustainability development issues defined by UN in 1987. Chowdhury (2012) explained that sustainability means that needs are met without any compromise on abilities of own needs of future people's generations. He told that that sustainable development can be achieved only by creation and maintenance of all, economic, social and environment conditions together under which human and nature can co-exist in harmony, and that should be productive for both. He stressed out that it should take into consideration resources, processes and integrations between. (Chowdhury 2012.) Chowdhury (2012) argued that in information system science there is still lack of good concepts related to sustainable development. He explained that information related to sustainable development should include information studies aspects and development of sustainable information. It should focus on developing information technologies to help in higher energy efficiency related to different technologies. (Chowdhury 2012.) Chowdhury (2012) mentioned that sustainability in digital information systems should therefore focus on achieving cheaper, better and easier access to services (economic), ensuring equitability for better and healthier society (social), and helping in reducing GHG emission effects on climate change (environmental). Figure below presents sustainability of digital information services.

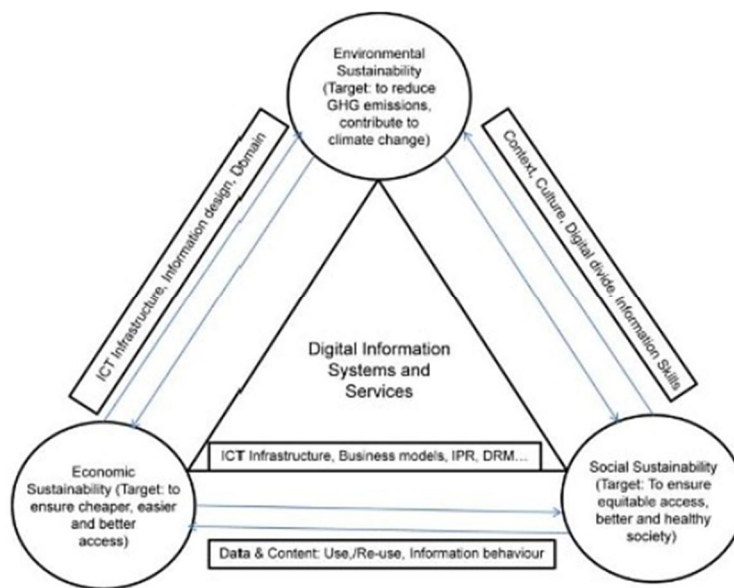


Figure 15: Chowdhury, G. 2012. A model of sustainability of digital information systems and services

Negash et al. (2003) pointed out about additional aspect which is quality of digital services. It includes the way how information is supplied and provided, and characteristic of digital service system itself (Negash et al. 2003). Woodside et al. (1990) told that IT support service and its customer satisfaction factors highly depend on customers' perception of what service quality is delivered through particular service. Woodside et al. (1990) stressed out that it is sophisticated correlation between service performance and service expectations, compared with perception of service delivery. He is connecting it with post purchase phenomenon where customer attitude determines if customer like or dislike services after experiencing it and it is related to behavioral intentions of customer to purchase or repurchase of services. (Woodside et al. 1990.) Negash et al. (2003) discussed quality as product or service characteristics influencing on meeting consumers need and it is associated with satisfaction aspects. Negash et al. (2003) explained that quality of digital services is often perceived based on feeling what customers' needs as it conforms requirements and expectations they have towards such systems to attract them to revisit. Negash et al. (2003) argued that it is critical especially for IT support systems used internally by companies and for customer support to help in technical and relationship aspects related to quality of information, systems and provided services. Figure below presents quality impact on web-based customer services on effectiveness.

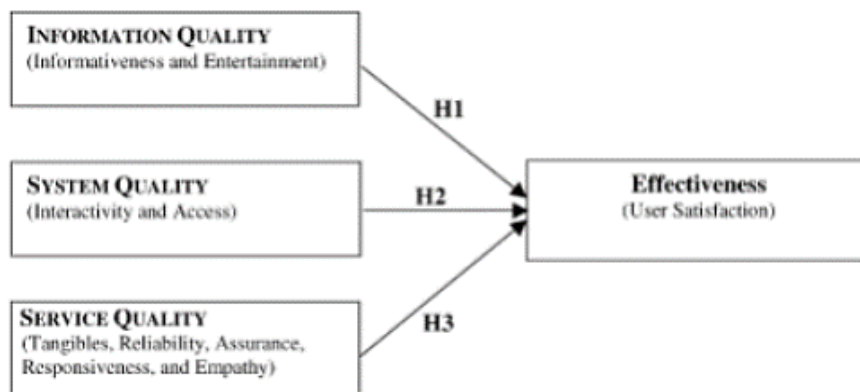


Figure 16: Negash et al. 2003. The impact of quality on Web-based customer support system effectiveness

Negash et al. (2003) described that information quality is usually connected to ability of IT support system to provide relevant, up-to-date and accurate information that is entertaining, fulfilling needs of aesthetic and diversity or being enjoyable. They stressed out that system quality provides processing capabilities to customers related to interactive modification of some system components and availability of service when is needed. They told that service quality tells that system should meet or exceed customer expectations in area of tangibility, reliability (performance and dependability), responsiveness (readiness and promptness), assurance (knowledgeable and trustworthy) and empathy (care and customer attention). (Negash et al. 2003.) Negash et al. (2003) pointed out that all those characteristics increases IT support systems effectiveness where factors like business satisfaction, decision quality and performance improvement, perceived benefits on system, level of system usage and user satisfaction can be successfully increased thanks to meeting customers' expectations. Van Velsen et al. (2007) explained that dimensions of customer satisfaction with IT support services are described through abilities of IT support personnel to satisfy customers' needs. It can be done based on high internal standards and on high quality solutions with great customer experience (Van Velsen et al. 2007).

Next chapter explains study approach that author of this thesis took during research process.

4 Study

The goal of this thesis report is to find what kind of factors determining customer experience in using Tieto Service Channel. In addition, it is important to know which of those factors influence the most on digital service channel functional and process areas and which areas are the most important from customers' point of view. Therefore author of the report stress out

the importance of choosing good research methods and its suitability in terms of research content. Due to limited amount of responders, results could not be accurate enough and because of that, the research methods and their usage should be widely analyzed.

Having in mind study approach author of the thesis took into consideration various aspects like subject, current knowledge, gap analysis, available research techniques, limitations, ability to communicate results and possible scaling in the future. Based on purpose of the study, mentioned research questions, theoretical framework and possible methods of gathering data author decided to look closer into constructive research approach as main thesis research approach described by Kasanen et al. (1993). Constructive research approach is a method using problem-solving approach to produce solution of practical and theoretical problems utilizing different research tools (Oyegoke 2011). Constructive research approach is taking into consideration qualitative data gathered from the past. It aims not just to observe and analyze problems but as well construct real and unique solutions - innovate. It takes into consideration design aspects and therefore ensures author that this approach will help to achieve goals of the thesis and help to explain outcomes through this approach. Figure below presents features of constructive research approach in condense diagram flow.

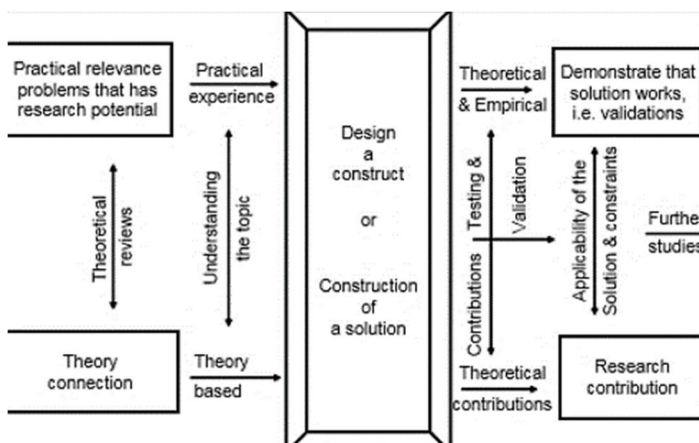


Figure 17: Oyegoke, A. 2011. The features of the constructive research approach

Kasanen et al. (1993) explained that constructive research approach consists of 6 phases that need to be considered and they are represented in Figure below:

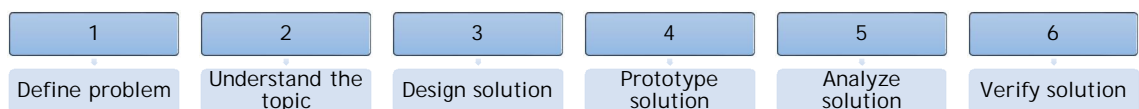


Figure 18: Kasanen et al. 1993. Constructive research approach - framework

Phases to consider:

1. Find a practically relevant problem which also has research potential (define problem).
2. Obtain a general and comprehensive understanding of the topic (understand the topic).

3. Innovate, i.e., construct a solution idea (design solution).
4. Demonstrate that the solution works (prototype solution).
5. Show the theoretical connections and the research contribution of the solution concept (analyze solution).
6. Examine the scope of applicability of the solution (verify solution).

Kasanen et al. (1993) pointed out to use as many methods as possible to unleash correlations, dimensions and connection between results as this will help in demonstration of usability of designed constructs as problem solvers. In following sub chapters author explained methods and tools used in this research.

4.1 Qualitative methods

Author of this thesis introduces various qualitative methods and tools to help in define problem, understand topic, analyze and verify solution. In addition, design methods and tools are utilized to design and prototype solution. The methods chosen to support the research were selected based on the nature of research itself. As the aim is to find out what are the factors determining customer experience within selected customers' end users, chosen focus should be put on analysis of social, behavioural and emotional aspects like features, qualities or kinds, and therefore qualitative methods are more suitable. Being able to compare one or more cases of different kind of data, qualitative research is good alternative in assessing factors playing vital role in phenomena. (Hammersley 2012, 14.) Hammersley (2012, 1) explains that qualitative method uses qualities of words in data collection and analysis in opposition to quantitative ones focusing is as per definition on quantities. Hammersley (2012, 10) points out that qualitative methods relying on verbal data and context which might be uninformative and unsatisfied from scientific point of view, and therefore presence of quantitative data can help in analysis more sophisticated dimensions of phenomena. However, author of thesis things that in the University of Applied Science it is important to highlight real life implications, observe what actually happened by listen to people and that cannot be achieved by quantitative research based on experimental conditions or official interviews. Author thinks that there is no need to utilize sophisticated statistical analysis as the focus is on small numbers of cases with quite unstructured data. (Hammersley 2012, 11-12.) Emphasis is put to obtain as much details of phenomena as possible to be able to generate flexible data categories based on research output. Unfortunately, such characteristics will always have personal and social outlook due to influence of the person who is performing research, therefore it is important to analyze possible errors and unclarified data in research, as well as research limitations. (Hammersley 2012, 13.) There are various qualitative methods described in literature as presented in Figure below by Portigal (2013).



Figure 19: Portigal, S. 2013. Qualitative and quantitative methods correlation

Author of this thesis focuses mainly on methods which are important to provide data for constructive research approach in terms of problem definition and topic understanding, therefore next sub chapters explains one by one methods chosen by author.

4.1.1 Focus group

Choice of Focus group as a method for this research partially came from fact that constructive research approach at first is looking into finding out the problem that can be researched. In principles of focus group method is that it put a lot of attention to project and group research issues. It is normally used as primary research method with cooperation of others like interviews or observations. The whole idea of focus group is to bring different points of view of various interviewees, enabling them to interact and discuss within themselves, and look for comparison of viewpoints and expertise. (Morgan 1996.) This was considered by author as the main characteristic allowing to achieve the goal of first and second phase of constructive research approach and therefore this method was chosen.

Morgan (1996) stated that applying focus group method each researches needs to take into consideration several aspects. Firstly, he talked about standardization, where each group should be approach with identical or close to identical set of questions and procedures. Minor variations are acceptable. Moderator should be well prepared for the discussion, having knowledge about subject from literature, trend analysis and real situations. It complies then with second phase of constructive research approach. (Morgan 1996.) Secondly, he talked about sampling as it is quite important to compose groups from participants having similar characteristics, belonging to particular categories or having similarities in other aspects. Thanks to that it is easier to build dimensions, analyze data and have view on different aspects. Moderator should inform participants on which basis sampling is done, what is the subject of discussion

and participants' background data. (Morgan 1996.) Thirdly, he talked about numbers of groups where there is a rule of thumb, where optimal amount of groups is between 4 and 6 as the data get easily saturated and there is information overflow. (Morgan 1996.) Next he mentioned about level of moderation involvement where group moderator should be able to control group either by structured questions or by controlling interaction dynamics of the group (Morgan 1996). At last, he explained group size issue where moderator should decide upon who to invite to group having in mind that smaller size groups having high level of participants involvement, there is more time to discuss subject and subject can touch emotional aspects. Larger group can generate more responses, it is easier to manage from people's response point of view and neutral subjects are easier to discuss. (Morgan 1996.) Cook (2005) stressed out that it is important after each focus group to inform about actions to be performed. In addition, proper data analysis is required to uncover patterns and dimensions and to address issues to respected parties (Cook 2005).

4.1.2 Interviews

Another qualitative method that author chosen is Interviews. To be able to perform interviews, it is important to be well prepared and gains as much expertise from the subject as possible. It is important to be able to form questions in best possible way to suits the methods outcomes (Qu & Dumay 2011). Interviews can be great source of information about the issues if prepared and performed well (DiCicco-Bloom & Crabtree 2006). DiCicco-Bloom and Crabtree (2006) explained that interviews are in nature personal and intimate as includes open, direct and verbal questions in order to find out narratives and detailed stories. Therefore, author of this thesis chosen this method as its elements matches with second phase of constructive research approach, where researcher should have good understanding about a topic. Author thinks that interviews will help in that.

Due to nature of customer experience phenomena that author is researching, it was decided that semi-structured approach to interviews will be optimal. It is due to fact that in opposition to structured interviews, semi-structured ones allowing to prepare questionnaires having various and broader subject themes, making this method more flexible in revealing tacit knowledge and behavioral aspects. The attention is put to achieve as in-depth character of interview as possible, despite its semi-structure level. (Qu & Dumay 2011.) Qu and Dumay (2011) pointed out that asked questions should be enough comprehensive to be able to fulfill research needs and should have ability to formulate issues which are easily understandable by interviewee. Therefore, author of the thesis chosen format of questions which is a mixed of closed and open-ended ones allowing to have best grip on researched phenomena. They should be enough close so it will possible to compare results with others and there should be a set of open-ended questions allowing interviewee to express issues in his own way.

DiCicco-Bloom and Crabtree (2006) informs that to obtain the best possible results from interviews there are several conditions to be met. At first, participants' selection should be done to maximize goal of research. Then, an interview place should be chosen to suits best the nature of researched phenomena. Additionally, interviewer should have control over interview. They pointed out that data collection should be perform to point where saturation of data appears. Next, they stressed out that Interviewee should be well informed about nature and outcomes of the study. They pointed out that ethical issues should be well considered and communicated. Finally, they told that anonymous aspects of interview should be very well explained. And lastly, they said that interviewer cannot take advantage over interviewee who is revealing information. (DiCicco-Bloom and Crabtree 2006.)

Portigal (2013) indicated that interview process can be aggregated into areas where people can be understood from the context of the phenomena, it is possible to discovery of the behavioral meaning, there should be way to perform data analysis and interpretation and utilize outcomes as inputs in new development process. Portigal (2013) stressed out that interview process should be well understand from both side interviewer and interviewee. It is necessary to be transparent, accurate and always have in mind interviewee and his capabilities. Ethical and personal issues should be addressed to minimize risks and maximize outcomes.

4.1.3 Observations

The method that author selected as complementary to interview and focus group are observations. The idea to use observations came from the fact that previous methods do not capture behaviors and actions done by people (Leruste et al. 2013). Leruste et al. (2013) pointed out that observations helps in understanding specific aspects of actions that people do, especially the way how they are done over the time. They stated that observations as method has unique ability to research the roles which people performs. It has a huge advantage over interviews as observer will not only know what is going to happen but exactly know how it will happened. Natural setting of observation is the key differentiator here. Revealing "taken-for-granted" situation helps to focus on true purposes of performed actions. Therefore, author of this thesis thinks that observations will suit well as method used in constructive research approach. Leruste et al. (2013) explained that to be able to succeed is such exercise observer should be really familiar with the subject of observation. Ethical and security constraints needs to be taken always into consideration and the nature of observation should stay because of that not changed. (Leruste et al. 2013.) Despite the fact Leruste et al. (2013) pointed out that observer itself is always a part of observation and his influence will always be there. Leruste et al. (2013) stressed out that there are some steps to be taken to perform good observations. They pointed out that first research should be done over what is required for observation. Then, there should be discovered if there is possibility of using video or audio recording. Thirdly, they expressed to keep field notes always up to date. Next, they told to analyze how to deliver

reports. And at last, they told to consider emotional effects on observers during observations. (Leruste et al. 2013.)

Latvala et al. (1999) explained that in this method vital role plays data collection and management. To be able to analyze results it is important to correlate observations with more contextual analysis i.e. from interviews. Latvala et al. (1999) informed as well that by obtaining such data like verbal communication patterns, environmental information, feelings, interactions with other objects or even with observer, researcher is able to analyze each and every step of relation in the way it was not possible previously. This verbal and nonverbal patterns are the key elements in qualitative research and thanks to techniques like video recording, study credibility is enriched and more behavioral patterns can be discovered. (Latvala et al. 1999.) Because of that author of the thesis is convinced that method will suits his research needs.

4.2 Service design methods and tools

There is plenty definitions of service Design. According to UK Design Council presented on SDN Network pages in article "About Service Design" (n. d.) service design is "all about making the service you deliver useful, usable, efficient, effective and desirable." Aaltonen (2010) connected in The Guardian's article "Experience Matters' service design thinking with customer experience, employee experience, company's brand identity, core business assets and customer's relevancy. Stickdorn and Schneider (2011) gave an example of 5 principles on which service design thinking is based on. In the book it is explained that user centricity, co-creativity, sequencing, evidencing and holistic approach are the basic principles (Stickdorn & Schneider 2011, 80-86). Erl (2007, 4) pointed out on abstraction, reusability, composability or discoverability. In literature there is a lot of examples of service design processes. Many times they are mixed with methods, however authors Stickdorn and Schneider (2011, 124-126) gave several examples of 2 processes worth to note: the squiggle or the double diamonds. Miettinen and Koivisto (2009, 82) pointed out that those processes are described by some characteristics like analytical, depictive, symbolic, enactive, physical, virtual, ongoing, and explorative. Stickdorn and Schneider (2011, 124) articulated that service design processes are by nature nonlinear. It means, that those processes might be adapted, changed and updated. Because of the characteristics design processes are iterative. As Stickdorn and Schneider (2011, 123) explained you can always take step back and review what was done. You can even start from the beginning. In addition, Miettinen and Koivisto (2009, 83) pointed out that service design processes based can be divided based on dimension: design process, design representation and production process. Stickdorn and Schneider (2011, 125) told that are some basic steps which can be found in every service design process. Stickdorn and Schneider (2011, 125) told that exploration is a first step, where service designers getting understanding about current state, perspectives, identifying real problem, potential customers, or even understand the people who are involved in the process. Then they pointed out on creation as step which involves creation of ideas and

concepts, testing or retesting findings (new possibilities) and making and learning on mistakes. Next, they described reflection as step where previously created ideas and concepts will be prototyped and tested in circumstances as close to reality as possible. What is important in this step is taking into consideration emotional aspects of the service. Lastly, they talked about implementation as last step where current service is going to be changed based on earlier defined concepts. It is highlighted, that the key factors like motivation and desired customer experience are critical for customer and employees understanding. (Stickdorn & Schneider 2011, 125.)

There are several service design frameworks available. From the point of third phase of constructive research approach (focus on design innovative construct based on literature interpretation and problem practicalities) author of this thesis decided to use "the double diamond design process" as it consists of elements complying with the approach. Davies and Wilson (2005, 6) explained that the double diamond process consists of 4 phases: discover, define, develop and deliver presented in Figure below. Process takes into consideration the start of project, where ideas are clarified, through the possible variations of ideas, solution creation and development and ending on finalization of solution (Davies and Wilson 2005, 7).

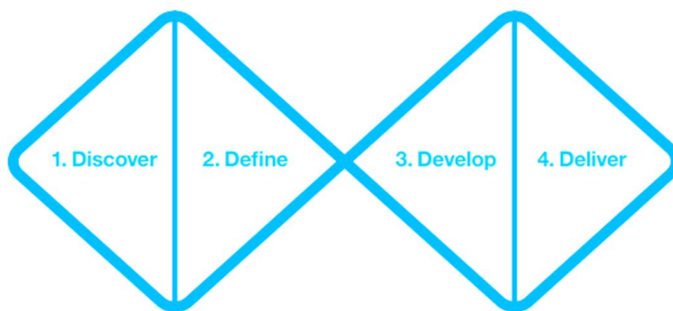


Figure 20: Davies, U., Wilson. K. 2005. The Double Diamond design process. Design Council UK

Each of 4 phases are characterized by different approaches and tools. Next sub chapters will highlight those that author of this thesis chosen for research purpose having in mind goal of the thesis.

4.2.1 User personas and stakeholders map

First phase in double diamond design process is called discovery phase. This is the phase where researcher is collecting all possible insights and knowledge about the problem which is addressed (Davies Wilson 2005, 8). Author utilizes here qualitative data from focus groups, observation, interviews and questionnaires to visually represent gathered information by creating user personas and stakeholders map.

Stickdorn and Schneider (2011, 177) explained that user personas is a tool where assumed profile of ideal person or group of people is created to present the characteristics or common

interests of that person or the group. By visual presentation and ideation of persona, design team as well as customer is having a characteristic they can rely on (Stickdorn & Schneider 2011, 177). The input to previous qualitative researches is provided through methods which are helping to understand and utilize behavior of actors (Miettinen & Koivisto 2009, 21). Miettinen and Valtonen (2012, 47) stressed out that it results in ideation of behavioral aspects of groups of people representing main features of real users. This kind of research create archetypes that outline certain types of people (Moritz 2005, 62). Figure below presents example of user persona in form of template.

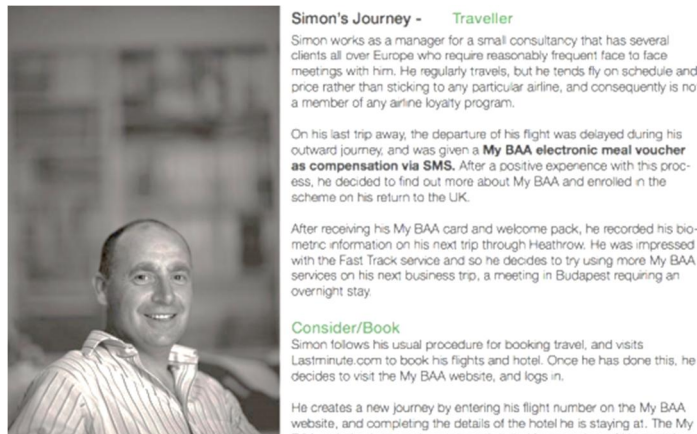


Figure 21: Service Design Tools. 2009. Actors map

Another tool that author is going to use is stakeholder map. Stickdorn and Schneider (2011, 149) told about stakeholders' map that in visual way they describes different group of people involved in process of design, their connections, interactions and relations with each other. Author of thesis thinks that it serves the purpose of this thesis by giving opportunity to explore interactions between actors. Moritz (2005, 101) highlighted that stakeholders' map helps to understand hierarchies and the interests of people involved in design as they always are the one to be considered, involved, have interest and are affected by service. Figure below presents example of stakeholders' map used in projects.

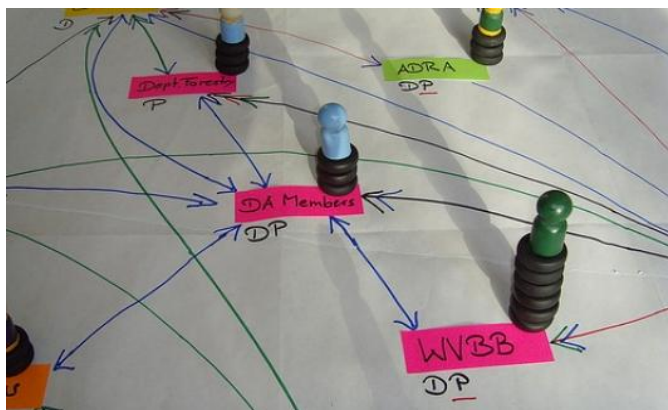


Figure 22: Service Design Tools. 2009. System map

4.2.2 Customer journey map

Second phase in double diamond model is defined phase where outputs from discovery phase are analyzed, findings are synthesized and aligned with organizational needs. As a result clear definition of problem is stated. (Davies & Wilson 2005, 8.) In this phase author of the thesis during brainstorming session will use Customer Journey Map tool as in his opinion is able to capture the most important customer data at one glance and it addresses all aspects need in constructive research approach.

Furthermore, Stickdorn and Schneider (2011, 157) pointed out that customer journey map is used to help in graphical presentation of user experience where the most important parts is represented by touch points of user interacting with service. They explained that in the basis of customer journey map is fact that customers are creating a memorable journey via service where emotions playing vital role (Stickdorn & Schneider 2011, 157). Miettinen and Koivisto (2009, 15) stressed out that foundation for this creating customer journey map is interaction with the service which consists of 3 parts: pre-phase, customer journey and post phase where starting and end point are strictly defined. Moritz (2005, 178) told that this interaction is always over particular. Miettinen and Valtonen (2012, 75) explained that it gives an impression of customers' expectations during his service journey. Figure below presents example of customer journey map with all touch points.

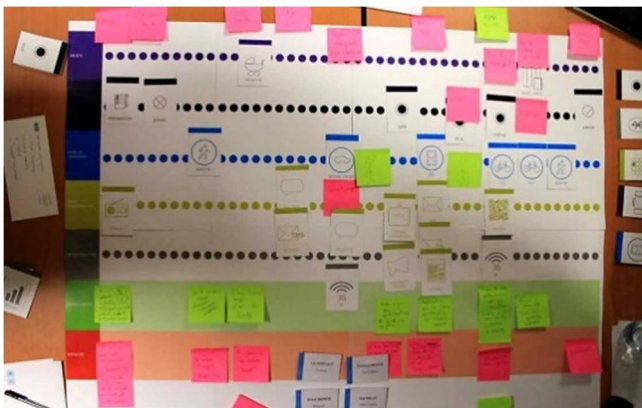


Figure 23: Service Design Tools. 2009. Customer journey map

4.2.3 Storyboard

Third phase in double diamond model is development phase. Davies and Wilson (2005, 9) explained that in this phase concept is developed as initial proposal. They stressed out that development phase is an iterative process where service components are designed in more detailed way (Davies and Wilson 2005, 9). Through the experience prototyping method described in next chapter author of the thesis hopes to build functional prototype using storyboard as the tool.

Stickdorn and Schneider (2011, 185) explained that storyboard is a tool of graphical presentation of mock-ups, images, visualizing particular occurrence of everyday situation of designed service. Miettinen and Koivisto (2009, 23) pointed out that It is an illustration of a service storyline and interface interactions in its contextual situation. Moritz (2005, 230) indicated that it helps designers to feel the situation of particular users and it is treated as step by step explanation of a service experience. That's why according to author's best knowledge it will be good tool that suits the goal of double diamond phase by visual proposal. Therefore, author thinks that is complies with constructive research approach.

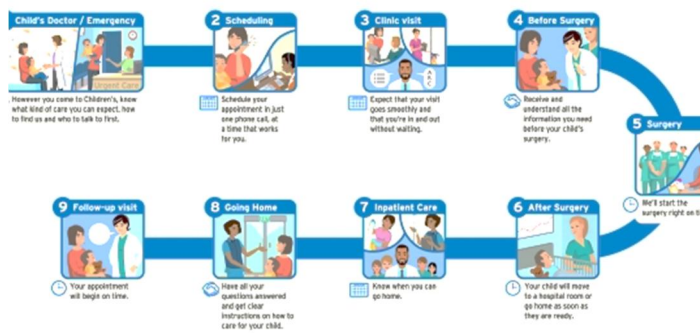


Figure 24: Service Design Tools. 2009. Storyboard

4.2.4 Scenarios

Last phase of double diamond model is delivery phase. Davies and Wilson (2005, 9) explained that this phase is about verification of customer needs and requirements against developed solution. They pointed out that it is necessary to test solution and capture feedback to produce lessons learnt (Davies & Wilson 2005, 9).

Author of this thesis suggest it can be done via usability tests performed in mentioned later verification phase of constructive research approach. Therefore, author of thesis will utilize test scenarios to describe in details all possible interaction with service in form of use cases. Based on expected outcome author is thinking that mentioned tool will suits well this double diamond research purpose needs by structuring cases in scenarios which are easy to capture. Therefore scenarios might comply with constructive research approach proposed by author of this thesis.

4.3 Experience prototyping

Prototyping as method was selected by author of thesis for this research due to ability to demonstrate that new construct actually works (Bae & Leem, 2014). Bae and Leem (2014) pointed out that prototyping is often used to confirm concept development direction by being

able to perform investigation and evaluation of ideas. Thus, prototyping as a method very well suits the purpose of fourth phase of constructive research approach that is followed by author of this thesis by being able to show to customer how delivered item or service will look like and what experience will be deliver.

Bae and Leem (2014) expressed fact that its advantage is in helping to imagine situations, emotions, places or even conditions of provided item or service. Bae and Leem (2014) explained that thanks to tools like videos, scenarios, role-play or even simple pen and paper, users can analyze and discuss over subjects or characteristics of delivered items or services without need of deep description. They thought that it is possible to achieve a level of details being close to reality which is really important from the context of customer experience. (Bae & Leem 2014.) Bae and Leem (2014) identified several steps of prototyping process and it presented in Figure below.

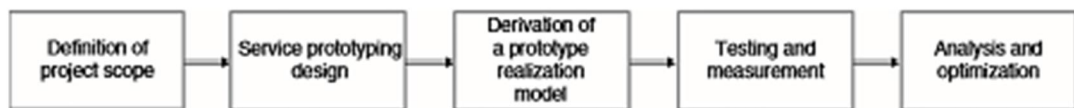


Figure 25: Bae, D.J., Leem, C.S. 2014. Prototype stages

Bae and Leem (2014) indicated phases to consider:

1. Scope of the project definition.
2. Data about customer needs acquisition.
3. Prototype design.
4. Prototype deviation and improvements.
5. Prototype testing.
6. Prototype optimization.

Prototyping is a method in service design field that allows to develop services in more visual way (Bae & Leem 2014). Wohlers (2002) explained that to be effective, prototyping requires to focus on one idea at time and answers to one issues at time only. He stated that prototype should be done incrementally, with small steps. Decision when prototype is ready should not be done at the end of the process. It might be so that already in early stages prototypes are good enough and work on new features will not really bring much add value. The faster prototype is made, the faster will be developed so the success in prototyping depend how well development is managed. (Wohlers 2002.)

4.4 Framework analysis

Smith and Firth (2011) defined analysis as process which is interpretive and where systematic search for patterns in data is performed to give phenomenon illuminating description.

Li and Seale (2007) stressed out that qualitative method analysis is not that easy task to follow. They pointed out that there are various approaches or principles to be addressed in analysis and there is not one way to do it. Li and Seale (2007) articulated that researchers need to take into consideration data ambiguity, over interpretations or even inaccuracy. Despite that, analysis as method helps to reveal problem categories and dimensions (Li & Seale 2007). Having this in mind author decided to utilize this method in his research as it might help to compare common attributes of empirical data with theoretical part which will serve the purpose of fifth phase in constructive research approach.

Ward et al. (2013) stressed out that framework analysis as a method requires rigorous approach. There is no way to do any shortcuts. They pointed out that data management needs to be taken very seriously and research data needs to be properly analyzed from connectivity, separation and even contrasting point of view. (Ward et al. 2013.) Smith and Firth (2011) explained that thanks to this approach rich insight results can be obtained base on analysis that do not require detailed theoretical background. As a consequence themes and categories are formulated so they captures structured functions, forms and mode of experiences (Smith & Firth 2011). Beck (2003) pointed out, that themes are critical in interpretation of data. Ward et al. (2013) explained that framework analysis has several stages described below.

1. Familiarization - immersion, getting a sense of interviews or observation before categorization.
2. Theoretical framework development - utilizing themes which are familiar, important and recurring quite often.
3. Indexing and charting pilot - preparing transcripts and notes.
4. Data summary - reducing data to understandable batches.
5. Data synthesis - interpretation of data by theme competition.

Ward et al. (2013) stressed out that framework analysis always requires some sort of data re-organization and transformation. This might cause wrong data interpretation and context misunderstandings about which researchers should not forget (Ward et al. 2013).

4.5 Verification

Miller (2006) explained that solution verification is used not just at the end of development process but as well during prototyping phase. He stressed out that it is necessary to know what customers think about solution, how they are utilizing it or what are the constraints and limitations they experienced. He pointed out that verification method serves the idea to check if proposed solution is applicable from point of scope and addressed problem to research. (Miller 2006.) Author of this thesis thinks that it is a good method to utilize in constructive research approach. It suits its sixth phase by being able to verify by research proposed solution in un-

derstandable way. Author of the thesis stated that there are various ways to perform verifications. As the goal of this thesis is to determine customer experience factors, then behaviors and insights should be the main driver to verify here.

Author of thesis chosen usability testing as verification tool as according to Møller (2013) usability testing is able to capture customer interaction with object or service and receive almost immediate feedback. Raungpaka (2010) explained that usability testing is evaluation technique of products made by people where testing is performed with users or by getting information in respect to people's usage of technology. It is an important method as it is taking into consideration customers' involvement (Hura 2012, 10). Raungpaka (2010) stressed out that usability testing allows to measure specific object's readiness of use. He pointed out that there are five areas where usability testing is used the most for (Raungpaka 2010). First of all it is efficiency where time of task completion is important. Then he talked about accuracy in context of amount of mistakes made. Then he explained recall as ability to remember things after idle period. Then he stressed out emotional response where participants' feelings are vital. Lastly, he told about learnability through easiness of task accomplishment. (Raungpaka 2010.)

Bastien (2010) argued that by assessing degree of solution's usability, usability testing helps to evaluate solution from the point of readiness to use by user - user based evaluation. Bastien (2010) indicated that usability testing has several implementation steps to consider.

1. Test objective definition.
2. Participants' qualifications.
3. Test tasks selection.
4. Tasks scenarios creation and description.
5. Measurement definition.
6. Test materials and environment preparation.
7. Test protocol design and tester's choice.
8. Data analysis.
9. Test results presentation and communication.

Bastien (2010) told that the most important part of usability testing are test participants itself. He pointed out that there are no direct evidences in literature specifying amount of participants needed. It is usually determined by costs, time and amount of scenarios to test. That's why it is really important to do proper estimations before usability tests are performed. (Bastien 2010.)

In next chapter, author of the thesis presents results of research performed through period April - October 2015 and solution ideas generated thanks to utilizing methods and tools presented in previous chapter.

5 Empirical results

Qualitative research was conducted utilizing 3 different methods: focus group, observations and interviews. They were spread through the time of 6 months (April - October 2015). It was dictated by fact that Service Channel project state of development did not realized according to schedules. Customers' utilization rate was really low after rolling out of Service Channel to production at the beginning of 2015 and that was the main challenge identified by project team. Figure below presents utilization rate in period April - October 2015.

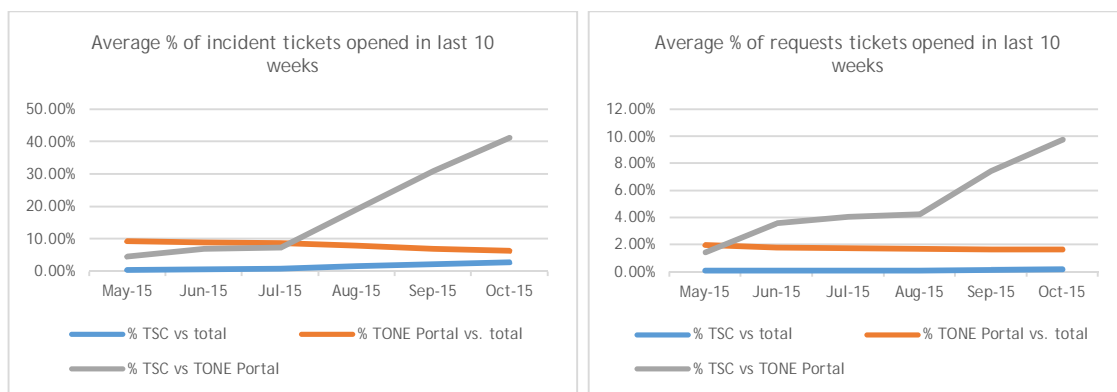


Figure 26: Tieto. 2015. Average % of incident and request tickets opened in last 10 weeks

At the beginning of April 2015 Tieto Managed Services management decided that they have to do something with this problem. Tieto report about opened incidents and requested Items in last 10 weeks indicated that in May 2015 9.3% of incident tickets and 1.96% of requests tickets were created using TONE Portal. In comparison to only 0.42% of incident tickets where only 0.03% of requests tickets were created using Tieto Service Channel. It was visible that amount of tickets created using Tieto Service Channel was approximately 20 times lower than using TONE Portal. It was an evidence to start finding out what causes such issues. Management decided that root cause of the problem needs to be found immediately. This was the main driver for author of this thesis to focus on the problem and make research around the subject. Thus, outcomes of this thesis are empirical results from the study made.

I. Focus group results

Author of the thesis decided to find our factors influencing on the results by conducting field study. He utilized focus group method first. In April 2015 there was all together 34 companies Service Channels portals (11 Swedish, 23 Finnish) technically configured with possibility to be used by customers' end users. What was communicated to author, only approximately 7 companies were really using Service Channel. Having that in mind author of the thesis decided to conduct sessions to meet all 34 customer teams from Tieto (Tieto delivery managers, service managers or customer managers of affected companies) and analyze with them the problem. As there were customer teams from 2 countries, meetings had to happen in Stockholm

(13.04.2015) and Helsinki (14.04.2015). Due to amount of people (approximately 2 persons per customer team) author decided to divide Swedish and Finnish customer teams in two groups so 2 sessions would happen per day. Decision about division to particular group was decided by taken into consideration aspects like: customer base (amount of end users from particular company) and pro-active approach of Tieto customer teams to report problems in Service Channel implementation. Author sent invitations to meetings one week before explaining what is the subject and how he is going to conduct the meeting. It gave author time to prepare topics for discussion. Topics for discussion were based on issues that Tieto customer teams reported via emails or incident tickets to project team till April 2015. Table below presents categorized issues together with sub categories defined.

Table 3: Tieto. 04.2015. Tieto Service Channel: Categorized issues

Category	Sub-category	Issues
1. Preparation & Planning	1.Customer team internal issues	1.Discussion about SC usage with customer did not happen, late or other issues 2. Worries about SC not being "polished" for customer usage
	2.TONE foundation data should be correct	1.Issues with foundation data (Service Offerings, Catalogue Items, Incident Options not in place) 2.Translation issues
2. Configuration	1.IdP federation should be in place	1.Issue with delivering it on time 2.Issue with money (who should pay for adaptation of customer/3rd party systems) 3.Connect issues - lack of end user data, two companies with same domain on top level
3. Testing	1.Orders' module should be available	1. Some broken forms
4. Browser Issues	1.Attachment (IE 9)	
	2.Blank Page (IE 8, 9)	
	3.Small other UI issues/improvements	
	4.Chat	1. Language, mixed Swedish and English translations 2.The welcome text "soon an SD agent will come Etc" is translated to Swedish but it doesn't follow the language settings when switching to English (still in Swedish) 3.Time is in EET 4.When you are writing in the chat window it doesn't scroll down when you enter a text (you need to scroll down manually) (IE 9)
	5. End user received an error message saying "Request failed" when trying to register an issue. The application seem to be functioning but "request failed" is flashing in the top corner.	
	6.Log out option is missing	
	7.Monitoring tickets visibility	
5. Rollout / Verification / Hand over to continuous services	1.SharePoint configuration	1.Issue with explorer mode causing issues with transferring docs from CSP to Governance

During each 2h session author showed exact categories presented above and discussed with Tieto customer teams about how they see the problems and what are the priorities indicated

from their side. He utilized whiteboard and sticky notes. Additionally, due to some location issues some of people participated in meeting via Lync, online collaboration tool.

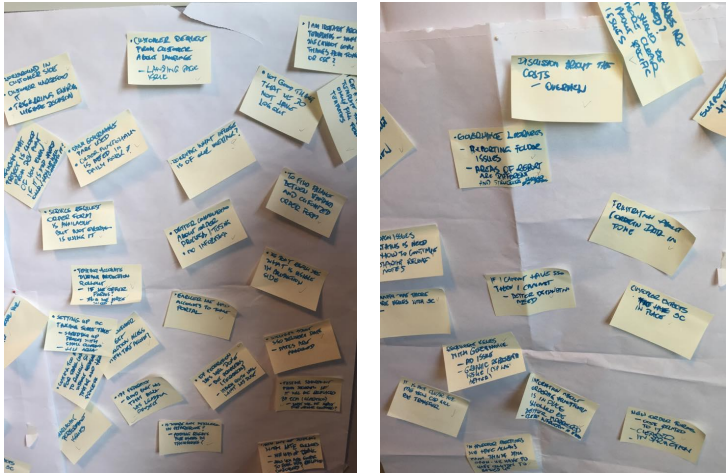


Figure 27: Tieto. 04.2015. Focus group outcomes

Results from the meetings were recorded and analyzed few days after. They are available in Appendix 1 - Focus group results, Sweden and Appendix 2 - Focus group results, Finland.

In Sweden, Tieto customer teams indicated real factors influencing customer experience described below.

Customer interaction (7), pointing on:

1. Process ease: "Governance section i.e. how to use upload function", "We would like to be heard, give feedback", "User guide is required", "Chat training should include end to end view".
2. Cross product comparison: "There should be only one service offering", "Possibility to change priority of ticket".
3. Past experience: "It should work well. No reoccurring issues".

Affective experience (6), pointing on:

1. Past experience: "Now during tests we have various different issues", "results are not satisfactory", "working, in short period of time", "IdP federation process should have wow effect too"
2. Process ease: "We got told that SC must be implemented now, without proper discussion."
3. Freedom of choice: "we have working TONE portal"

Customization (6), pointing on:

1. Cross product comparison: "There should be possibility to import content and details", "There should be copy paste function", "Cut paste tool for adding attachment", "We need to have proper tool for transfer data", "smart billing capabilities".
2. Expertise: "SD information in SC should be based on end user location"

Service process (5), pointing on:

1. Process ease: "hard to understand rollout process", "Where we can add enhancement".
2. Cross product comparison: "standard solutions", "Standard implementation for SC should be in place".
3. Past experience: "there should not be any not working functionality delivered to production".

Online aesthetics (3), pointing on:

1. Past experience: "Chat function should have Wow effect".
2. Cross product comparison: "text looking quite big".
3. Expertise: "There is discrepancy between orders of modules in landing page".

Online hedonic elements (3), pointing on:

1. Past experience: "you spot problems you don't want to use it again", "Wow effect is missing. Look and feel factor should be prioritized".
2. Common grounding: "Abbreviation for Service Channel".

Convenience (2), pointing on:

1. Process ease: "who should see monitoring tickets", "why we are dropping email usage for chat usage".

Online functional elements (1), pointing on:

1. Past experience: "we cannot go to production without sorting out orders' issues".

Relationship experience (1), pointing on:

1. Proactivity: "If we feel that there are issues to be fixed, let's do that and enable all necessary resources".

Value added (1), pointing on:

1. Cross product comparison: "More system integration".

Out of mentioned factors, the ones which influence the most on Service Channel functional and process area (based on Swedish Tieto customer team answers) are related to:

Customization (6), pointing on:

1. Cross product comparison: "There should be possibility to import content and details", "There should be copy paste function", "Cut paste tool for adding attachment", "We need to have proper tool for transfer data", "smart billing capabilities".
2. Expertise: "SD information in SC should be based on end user location".

Service process (5), pointing on:

1. Cross product comparison: "standard solution", "Standard implementation for SC should be in place".
2. Past experience: "should not be any not working functionality delivered to production".
3. Process ease: "hard to understand process", "Where we can add enhancement".

Online hedonic elements (4), pointing on:

1. Past experience: "you spot problems you don't want to use it again", "we cannot go to production without sorting out orders' issues", "Wow effect is missing. Look and feel factor should be prioritized".
2. Common grounding: "Abbreviation for Service Channel".

Online aesthetics (3), pointing on:

1. Past experience: "Chat function should have Wow effect".
2. Cross product comparison: "text looking quite big".
3. Expertise: "There is discrepancy between orders of modules in landing page".

Online functional elements (1), pointing on:

1. Past experience: "we cannot go to production without sorting out orders' issues".

To find customer experience factors which are the most important from customers' loyalty point of view (Swedish Tieto customer teams) author indicated which of them are affected by the lowest benevolence and credibility. As those two categories are connected with customer trust (based on literature review), they are directly influence on customers' loyalty. Below categorized factors can be found.

Service process (3), pointing on:

1. Process ease: "Where we can add enhancement".
2. Cross product comparison: "standard solutions".
3. Past experience: "there should not be any not working functionality delivered to production".

Affective experience (3), pointing on:

1. Process ease: "We got told that SC must be implemented now, without proper discussion".
2. Past experience: "IdP federation process should have wow effect too".
3. Freedom of choice: "we have working TONE portal".

Customer interaction (3), pointing on:

1. Process ease: "Governance section i.e. how to use upload function", "We would like to be heard, give feedback", "Chat training should include end to end view".

Online functional elements (1), pointing on:

1. Past experience: "we cannot go to production without sorting out orders' issues".

Online hedonic elements (1), pointing on:

1. Past experience: "Wow effect is missing. Look and feel factor".

Convenience (1), pointing on:

1. Process ease: "why we are dropping email usage for chat usage".

Most of mentioned factors having similar characteristics indicated by past experience, process ease or cross product comparison. Results showed that past experiences which those people have with other services are influencing on their interactions with Service Channel, based on emotions triggered during interaction, their perceptions over service processes and functional and attractiveness aspects. In addition, they are evaluating Service Channel pretty much through their first interaction with service where emotional aspects, service interaction activities and their confidence level over service during interactions are the biggest influencers on their perception. Lastly, they are judging Service Channel based on experiences with other similar services where they are expecting that the interaction with Service Channel, specific requirements they have, emotional aspects (wow effects), functionalities that attract to use and additional services that Service Channel provides will be at least on the same level as in other services.

In Finland, Tieto customer teams indicated real factors influencing customer experience like: Service process (11), pointing on:

1. Process ease: "There is a confusion if we say that project is done from dev point of you", "Availability of service request order form should be wider advertised", "Setting up process for small customers should be checked", "Why CSM needs to contact SD managers", "Rollout list/roadmap should be widely available", "We do not have

much time to be present on trainings", "clear information about costs", "Information when ordering will be available is need", "New order forms creation - what are the costs and instructions need", "To many things still not solved in handover meetings".

2. Risk perception: "We should have a way to deal better with late rollouts. What is the implication?"

Customer interactions (10), pointing on:

1. Process ease: "There is need better communication about testing of order forms", "There should be better visibility over rollout of TEAP/SSO", "SC communication package should be reviewed/updated", "We want to have more information from KOP projects status update", "Configuration phase is not visible for customers", "template difficult to fulfill", "how CSP files should be transferred to Governance".
2. Past experience: "without order forms fixed it is difficult to maintain daily work", "SharePoint performance issues".
3. Cross product comparison: "Fulfilling templates taking ages".

Customization (5), pointing on:

1. Cross product comparison: "Logout functionality is really need", "SharePoint more intelligent functionality is need", "SLA reports catalogue structure should be more flexible".
2. Process ease: "There should be set of standard order forms available", "We do not see what production configuration is. We should have this possibility".

Affective experience (3), pointing on:

1. Risk perception: "What impact will be for customers if SharePoint will be switched", "Reoccurring issues causing lower credibility of SC".
2. Freedom of choice: "Customer expects to have ready-made product".

Online functional elements (2), pointing on:

1. Process ease: "Library management in SharePoint is not clear enough."
2. Risk perception: "Reoccurring issues with SharePoint visibility."

Convenience (1), pointing on:

1. Past experience: "test accounts are available for us before rollout."

Online aesthetics (1), pointing on:

1. Process ease: "Language issue on landing page."

Figure below presents cumulative information about factors influencing customer experience.

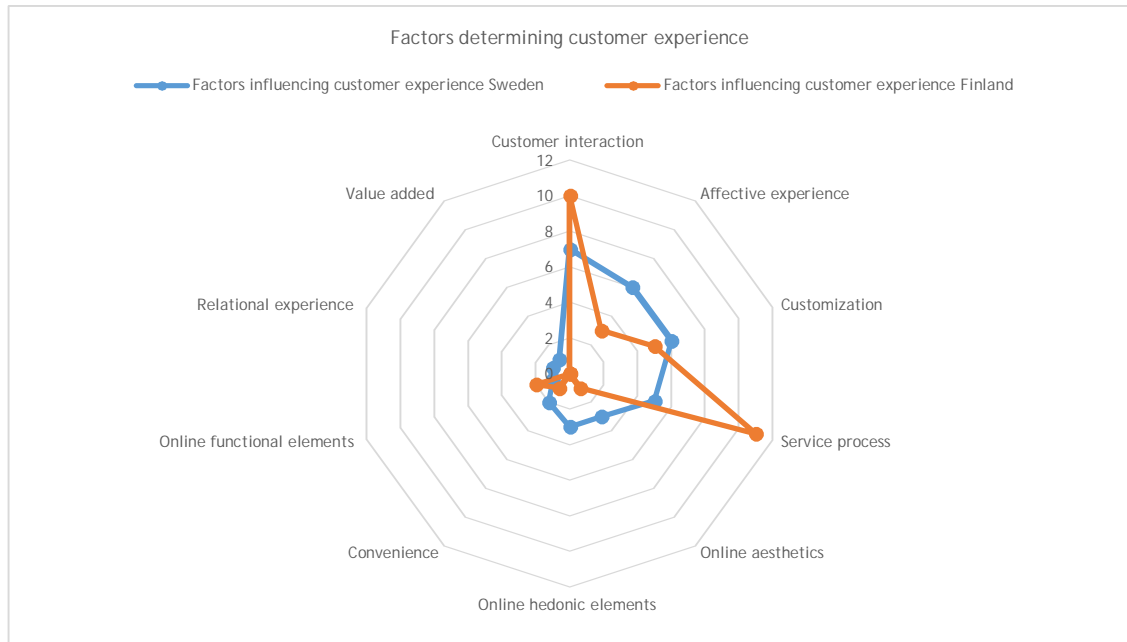


Figure 28: Tieto. 10.2015. Tieto Service Channel: Factors influencing customer experience

Out of mentioned factors, the ones which influence the most on Service Channel functional and process area (based on Finnish Tieto customer team answers) are related to:

Service process (11), pointing on:

1. Process ease: "There is a confusion if we say that project is done from dev point of you", "Availability of service request order form should be wider advertised", "Setting up process for small customers should be checked", "Why CSM needs to contact SD managers", "Rollout list/roadmap should be widely available", "We do not have much time to be present on trainings", "clear information about costs", "Information when ordering will be available is need", "New order forms creation - what are the costs and instructions need", "To many things still not solved in handover meetings".
2. Risk perception: "We should have a way to deal better with late rollouts. What is the implication?"

Customization (5), pointing on:

1. Cross product comparison: "Log out functionality is really need", "SharePoint more intelligent functionality is need", "SLA reports catalogue structure should be more flexible".
2. Process ease: "There should be set of standard order forms available", "We do not see what production configuration is. We should have this possibility".

Online functional elements (2), pointing on:

1. Process ease: "Library management in SharePoint is not clear enough."
2. Risk perception: "Reoccurring issues with SharePoint visibility."

Online aesthetics (1), pointing on:

1. Process ease: "Language issue on landing page."

Figure below presents cumulative information about factors influencing on functional and process area.

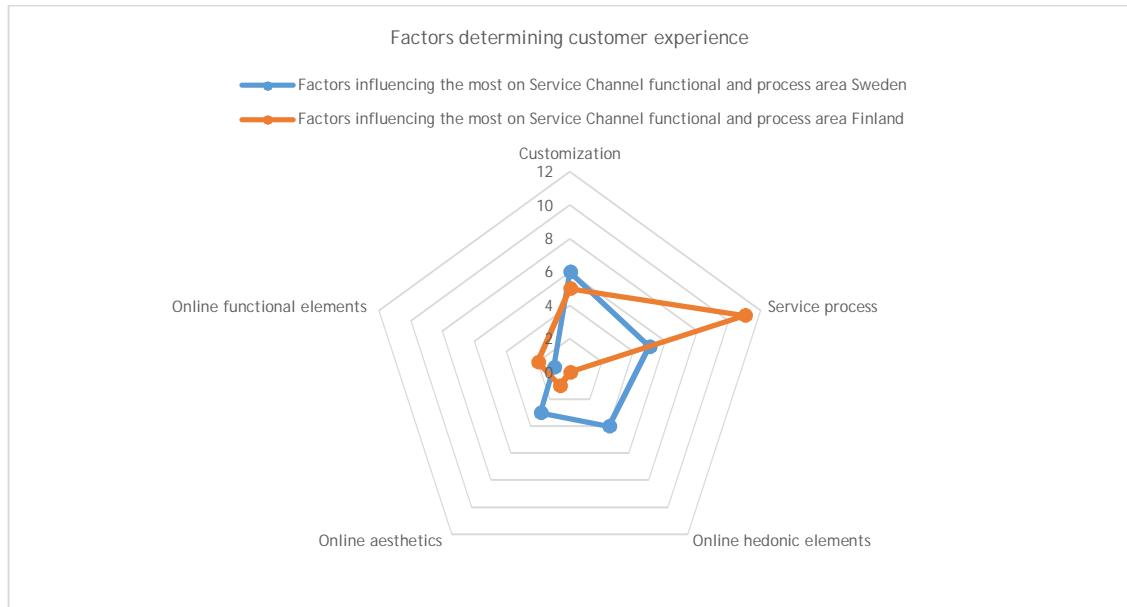


Figure 29: Tieto. 10.2015. Tieto Service Channel: Factors influencing the most on functional and process area

To find customer experience factors which are the most important from customers' loyalty point of view (Finnish Tieto customer teams) author as in previous case indicated which of them are affected by the lowest benevolence and credibility.

Customer interaction (6), pointing on:

1. Process ease: "here is need better communication about testing of order forms", "There should be better visibility over rollout of TEAP/SSO", "KOP projects status update", "Configuration phase is not visible for customers".
2. Cross product comparison: "Fulfilling templates taking ages."

Service process (6), pointing on:

1. Process ease: "There is a confusion if we say that project is done from dev point of you", "Availability of service request order form should be wider advertised", "Rollout list/roadmap should be widely available", "We need to have clear information about costs", "Information when ordering will be available is need".
2. Risk perception: "We should have a way to deal better with late rollouts. What is the implication?"

Affective experience (3), pointing on:

1. Risk perception: "What impact will be for customers if SharePoint will be switched", "Reoccurring issues causing lower credibility of SC".
2. Freedom of choice: "Customer expects to have ready-made product rather than work on it."

Customization (1), pointing on:

1. Process ease: "We do not see what production configuration is. We should have this possibility."

Figure below presents cumulative information about factors influencing on loyalty.

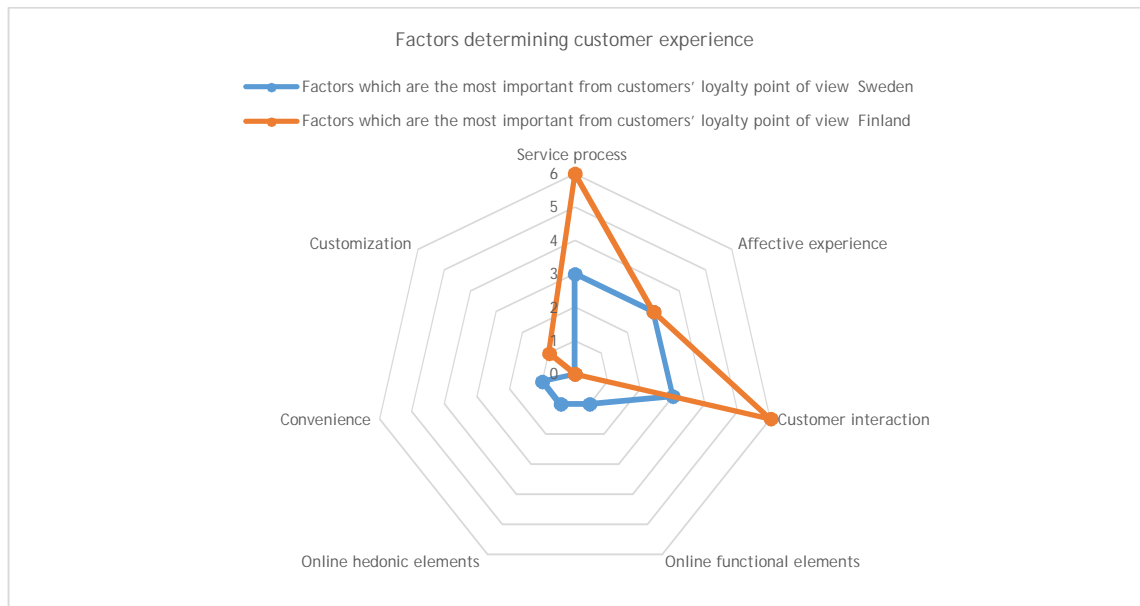


Figure 30: Tieto. 11.2015. Tieto Service Channel: Factors which are the most important from customers' loyalty point of view

Drivers of customer experience in case of Finnish Tieto customer teams are based on process ease, cross product comparison, risk perception and past experiences. Finnish Tieto customer teams are evaluating Service Channel through service interaction activities, specific customer requirements, overall service functionalities and functionalities that attracts to use Service Channel. They judge Service Channel based on experiences with other similar services. Result indicates as well that past experiences that those people have with other services are influencing on their confidence level over service during this interactions. Lastly, very important customer experience factor is about risk perception, where effective recovery from issues connected with service interaction activities and service functionalities affects their emotional experience over Service Channel. Table below presents cumulative information about drivers influencing on customer experience.

Table 4: Tieto. 11.2015. Tieto customer teams customer experience factors

Drivers	Swedish Tieto customer teams	Finnish Tieto customer teams
Process ease	Customer interaction Service process Affective experience Convenience	Customer interaction Service process Customizations Online functional elements Online aesthetics
Cross product comparison	Customer interaction Customizations Value added	Customer interaction Customizations
Past experience	Customer interactions Service process Affective experience Online aesthetics Online hedonic elements Online functional elements	Customer interaction Convenience
Risk perception		Service process Affective experience Online functional elements

Finnish Tieto customer team indicated customer experience factors connected with process ease (emotional aspects of service evaluation) putting attention to functional and keeping attention elements of the service, hence Swedish Tieto customer team paying attention to emotional values and higher confident elements in provided service. Tieto Swedish customer team paying more attention when it comes to additional services provided by Service Channel. In addition, they are perceiving services provided through Tieto Service Channel comparing past experiences related to functional, and attractive elements of provided services. In opposition, Finnish Tieto customer teams paying a lot of attention to risks of provided services based on service activities and functionalities which affects their emotional experience.

Concluding focus group method, author of this thesis found that it very well suits purpose of finding issues which are related to customers and their experiences, especially emotional ones. It allows to have free discussion around subject and find out pain points which would not be revealed by simple feedback given via email or feedback tools. Having possibility to compare different viewpoints this method allows to confront issues that different group members have and verify their validity. Additionally, this method met goal of first phase of constructive research approach method that author expected, providing valuable customer insights for further research. Unfortunately, this method was used only with Tieto internal customers (Tieto delivery managers, service managers, customer managers). Author did not have time to prepare a workshop with Tieto external customers (end users). It would require a lot of preparation, coordination and customer's willingness to join such a session, and that was not confirmed.

That initiative is still in plans of author for further insights collection requires in future's development. From research point of view, focus group method revealed that to be able to drive discussion efficiently, researcher need to be well oriented in subject. Unfortunately, researcher can influence on focus group outcomes by steering discussion in areas that might not be relevant from researched subject point of view. Additionally, participants of focus group might try to steer discussion to other subjects. Therefore researchers need to be always conscious and aware of the fact that he need to be able to facilitate and control such discussions without interfering on the outcomes or at least in minimal way.

II. Observations results

Outcomes from focus group method highlighted aspects in respect to user experience that our internal customers indicated. It was self-evident that interaction with Service Channel tool causes the most of problems and author of the thesis decided to have a closer look towards issues. He decided to use observation method to find out what are the pain points in using Service Channel. This method suits well this kind of goal as it reveals aspects of the interface which normally cannot be found during feedback text scanning received by email of feedback tool from end users. For the purpose he sent information to customer teams asking for help to get in touch with users and invite them for observation meetings. This is an official Tieto procedure that by no means cannot be obeyed. Information about observation's ideas (explaining reasons, goal, possible time, and outcomes) was send to all 34 customer teams invited to focus groups sessions (Appendix 3). Initial interest declared 10 customer teams out of which author was able to observe 2 end users from 2 companies and 2 internal Tieto customer team end users keeping accounts of 2 companies (In total 3 different customer accounts). As an official reason why other Tieto customer teams did not shared interests in observation they indicated various constraints (Appendix 4) showed in Figure below.

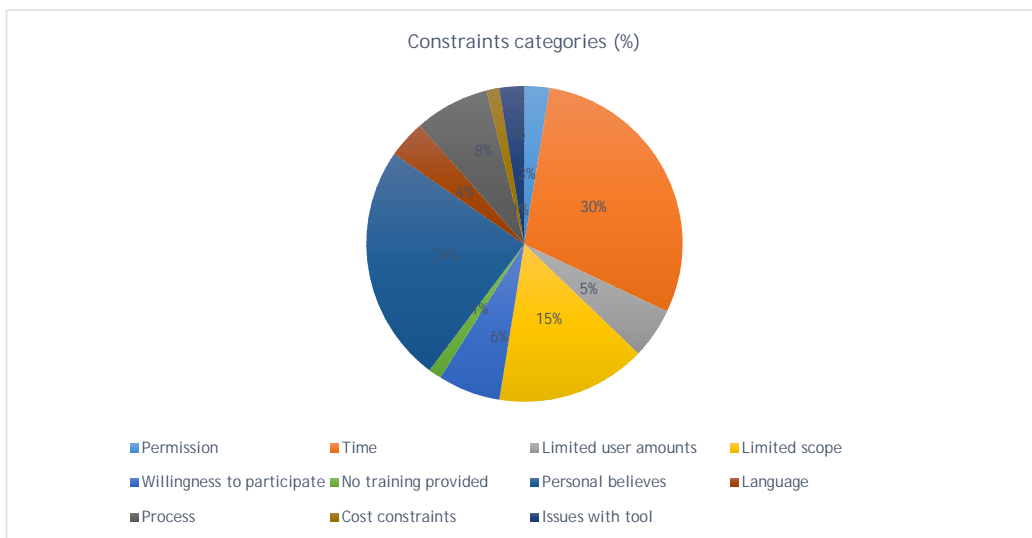


Figure 31: Tieto. 10.2015. Constraints categories: Tieto customer teams

Author points out that major constraints comes from proposed time (30% of answers) for observations that did not match with Tieto customer teams plans. Second biggest constraints is related to Tieto customer teams believes (24% of answers) about it, how or when observations should actually happen. Third biggest constraints comes from Tieto customer teams worry about limited functionalities (15% of answers) to be observed and its reasons for it. Fourth biggest constraint is about that Tieto customer team has problems with their perception of processes (8% of answers) on customer side affecting possibility to have observations. Fifth biggest constraints comes from unwillingness for Tieto customer team to participate in observations (6% of answers) dictated by internal perception of customer reasons. Sixth biggest constraint comes from Tieto customer team perception about limited amount of users (5% of answers) that could participate in observation. Seventh biggest constraint comes from language barrier (4% of answers) issues or customer agreement language related issues. Eight biggest constraint comes from Tieto customer team issues related to permissions (3% of answers) to do observations, internal or given by customer. Ninth biggest constraint comes from perception of lack of training provided (1% of answers) that could effect on Tieto Service Channel observations. Tenth biggest constraint comes from perception of additional costs (1% of answers) to Tieto customer teams related to performing observations.

Author of the thesis believes that Tieto customer team constraints radiating on factors determining customer experience that this group of Tieto Service Channel customer have while approached for performing observations (Appendix 5). Author indicated 6 areas where those factors influences and they are described below.

Service process (4), points to:

1. Past experience: time, no training provided.
2. Freedom of choice: process.
3. Account management: permissions.

Customer interaction (4), points to:

1. Past experience: limited users amounts, language.
2. Freedom of choice: willingness to participate.
3. Process ease: issues with tool.

Relational experience (1), points to:

1. Expertise: personal believes.

Online functional elements (1), points to:

1. Cross product comparison: limited scope.

Convenience (1), points to:

1. Past experience: costs constraints.

From description above it is visible that major effect on Tieto customer team experience towards observations have processes related to time issues, lack of training received by customers where Tieto customer teams decision upon having observations or not resides in received permissions from their peers and customers. Additionally, there is a lot of influences concerning past experiences with limited amount of users that could participate in observations, problems with Service Channel itself, costs related to it and language used in observations' meetings. Quite big constraint have here willingness of customers in observation's participation as it is just free choice of customers. Important factors plays here personal believes not necessary connected directly with service context, the fact that observations would touch only limited scope.

Observations' meetings were planned 2 weeks in advance. Author sent information (Appendix 6) to affected Tieto customer teams explaining what will going to happen, how it will happen, who it concerns, prerequisites, steps in observation, what is with data analysis and privacy issues, and outcomes to be provided. Invitations to end users (Appendix 7) to be observed were sent one week before observations' started. It included similar information like to customer teams and addressed end users issues. It gave author time to prepare observations artefact, test accounts and select right scenarios for execution (Appendix 8). Each observation session was planned for 1h and consisted of 2 phases. First phase was about observing the usage of the Service Channel tool based on mentioned scenarios. It was done utilizing tool that allows to record computer desktop movement, face picture from camera and voice. Second part was short interview about usage of Service Channel capturing usability topics (it is described in next chapter).

Observations happened between 02.10.2015 -15.10.2015 in users' premised and on users computer to simulate as close as possible end user's work environment. One end user did not accepted software installation on his computer due to security constraints so observation's recording was done using camera pointing on user's desktop from authors' computer. During observations author asked users to perform scenarios tailored to their roles and accesses in Tieto Service Channel. Author did not interfere in execution of the scenarios but in one case he need to help user by providing url address of Tieto Service Channel as there was a risk that it would result in no progress in scenario execution. After observations meeting, results were downloaded and stored in authors usb drive for further analysis. Users were informed what will happen with those results and what are the next steps. Results from observations can be found in Appendix 9.

Author of the thesis prepared 9 scenarios for users to be able to indicate their experiences in utilizing Tieto Service Channel at their work. Each scenario was constructed in a way to find out if and how end user are able to interact with the tool. Each step was recorded and analyzed. Deep analysis revealed that in following scenarios users experience there are some issues to be investigated. Author categorized those issues based on factors categories and presented below.

Please log in to service channel with test account and set language to English:

1. Cognitive experience: "Users had issues with remembering url: my.tieto.com as Tieto Service Channel one, they all uses links to connect.portal.tieto.com."
2. Online hedonic elements: "It was very inconvenient for Connect users to fulfill email address twice during login."
3. Cognitive experience: "User's put credentials to SSO window even though they could use SSO button."

Please report a problem on issue where you:

1. Online aesthetics: "When creating incident ticket and choosing people on behalf of to create ticket, user was annoyed of amount of time spent on query such information."
2. Cognitive experience: "After incident ticket creation, instead of using button to go to ticket details user went to "Track a problem or order" and look for ticket there."

Please order with selected service catalogue item (make 2 orders which requires approval):

1. Cognitive experience: "User knows by heart which order forms requiring approval and do not put attention to column "need approval"."
2. Online functional elements: "User did not know where he make mistake in form so he could not find place where to correct information."
3. Online functional elements: "User put name to approval field (field did not respond and correct information at all) instead of using magnifier to look for approvers. Observer had to help user with this task to proceed to next phase."

Please go to Track a problem or order and:

1. Search for incident tickets that has been created by test account
2. Online hedonic elements: "user was annoyed by spinner running below list of tickets indicating search but nothing happens (possible TSC issue with search function)."
3. Search for medium and low priority incident tickets which are closed and created by myself created on i.e. 24.08.2015
4. Online hedonic elements: "user could not indicate nowhere today's day in date-picker"

5. Online hedonic elements: "information that nothing was found was not visible at first to user - he had to scroll up to see it."

Please check if there are any incident tickets that requiring your action:

1. Online aesthetics: "User first was looking for "need my action" tickets in filters instead in grouped by area. Only after some time he found it grouping."

Please check if you have any orders requiring approval from your side:

1. Cognitive experience: "User was searching for Ritm tickets in Track problem search tab."
2. Online aesthetics: "User clicked on magnifier to search - it wasn't visible from system that order was found (results below screen visibility)."

Please search for orders created earlier in test account with order ID requiring your approval and approve first order:

1. Online aesthetics: "If nothing was found, system message shows many messages inside but user do not pay attention as it does not disappear and appear. Always there."

Please go to Governance -> Calendar and select 2 service offerings for which you would like to have visibility over events and specify time frame of visibility. We are interested in some change tickets available:

1. Online functional elements: "User was looking for possibility to clear all chosen service offerings."
2. Online aesthetics: "User could not find check for change tickets. It looks that if they are all in colors it does not appear to user as to check them."

Please go back to main view of Report & Documents and search for document you uploaded before:

1. Online hedonic elements: "User does not know that indexing of new files takes 1h so they cannot be searched at first immediately."

From formal analysis point of view it is visible that online hedonic issues were indicated 5 times. Additionally, online aesthetics issues were indicated 5 times. Next, that cognitive experience issues were indicated 5 times and online functional elements were indicated 3 times. Online hedonic issues as well as online aesthetic issues are focusing on functionalities which are attracting users to navigate and use service as well as keeping attention of user. Cognitive experience issues are results of cognitive and mental abilities of users to interact with service. Online functional elements are service functionalities affecting user experience. Most of issues

(55%) belongs to online hedonic or aesthetic categories connected with emotional experiences that people have based on attractiveness of service, therefore if such issues will not be fixed ASAP, it will definitely radiate on usage of Service Channel by users. The most of issues were found in Track a problem or order section and it may indicate that development effort should be focused on improving at first this part of Tieto Service Channel. As it got the highest attention from users' author suggests that this area has serious user experience issues to be fixed as soon as possible. 27% of cases were in respect to cognitive experiences suggesting that more investigation should be done to find out how users understand those functions and what can be done with it from concept and development point of view. Only 16% cases are about online functional elements which could be addressed as bugs or concept enhancements for existing functionality.

Summarizing, observation method is really good in revealing tacit knowledge and issues normally not visible in problem descriptions or feedback given by users. This method helps to analyze step by step user's journey through service and point out on usability, functional and experience issues. Using tools for video recording of computer screen author was able to analyze issues with highest precision. Thanks to face recording, author of thesis was able to connect elements of the service with users' perception just by analyzing their face expressions. Additionally, utilizing voice recording author was able to capture comments or sounds indicating problems with particular service elements. Observations made by author utilizes scenarios that observed people had to perform. Due to that fact author was not able to observe users in their natural interaction with service but only simulating certain actions. Therefore, it is not sure if author did not influence on observed object by i.e. repeating some questions, clarifying some situations or even helping in overcoming some issues. Thus, observations should be treated in this case as method focused on revealing issues with service, rather than pure behavioral aspects of the users, where shadowing would help. As it is chosen method in author's research, observations met its goals revealing user experience categories and areas requiring future development in digital service helping in achieving goal of first and second phase of constructive research approach.

III. interviews results

Interviews performed by author were done on the same meeting when observations were made. After observations finished author performed interview based on prepared earlier questionnaires available in Appendix 10. Due to time constraints author decided to focus only on those questionnaires and send questionnaires related to customer experience few days after session with users via email. Those questionnaires which touches user experience (Appendix 11) subjects of Tieto Service Channel were as follow:

1. Idea of using Tieto Service Channel - closed questions
2. Tieto Service Channel usage - closed questions

3. Tieto Service Channel usage - open questions

Those questionnaires which touches customer experience aspects (Appendix 13) related to whole service were as follow:

1. Overall Tieto MS performance - closed questions
2. Tieto MS customer focus, characteristics and service challenges - closed questions
3. Customer interaction with Tieto customer support - closed questions
4. Interaction with Tieto customer team during rollout project (if applicable) - closed questions

Other questionnaires (Appendix 12):

5. Tieto Service Channel communication
6. Demographic information

Author formulated questions based on theoretical factors of user experience and customer experience he found in literature. Questions were mostly closed and required to answer on one or many answers. There were 10 open questions related to user experience of Service Channel and there were questions to Tieto customer team users related to rollout project. Additionally, there were contextual questions related to communication with Tieto and touches demographic information. Due to specific users' group (IT End users and IT Tieto Customer team users) analysis, conclusions from questionnaires are based on those two groups of users. General statement below are given based on all users' results.

Discussing user experience factors of customer IT End users it is important to highlight several things. Government office customer IT End users have very neutral opinion about Service Channel. They do not think that Service Channel is innovative enough, well developed and delivers high quality. It is mainly dictated by their low knowledge about new tool and their comparison to previous one (CSP) they use often, and tailored to their needs. Author suspects that it might derive from the fact that in public sector renewal of tools usually do not happen quite often and those offices are reluctant to fast change, it might be due to costs constraints. Comparing to TONE Portal and CSP they would only slightly use Service Channel as they were forced to use Service Channel as CSP was getting closed. They did not find that it meets their everyday needs and it is not easy to operate. They have trouble with opening documents in Governance: documents & report section. In addition, their reports are not structured well in Service Channel- in one place, without sub-categories. They do not like visual appearance of Service Channel however they are pointing out that understanding information presented on Service Channel is very easy. They trust information presented on Service Channel a lot and finding it taking expected enough of time for them. Due to that fact government organization's IT End users are quite dissatisfied of Service Channel and would not consider Tieto as first choice based on those issues or even recommend it to their friends or colleagues.

In opposition, customer IT End users from private organizations think that Service Channel is somehow innovative service for them, delivers moderate level of quality and quite well meeting their needs. They are using often other services like TONE Portal or CSP and they would be able to buy Service Channel if it would be tailored to their need. They would consider it based on delivered quality and innovations. They found it easy to use, easy to find information they are looking for and it does not taking much time for them. They say it is pretty fast tool. They fully trust information presented by Service Channel but they see some improvement needs like in case of datepicker pointing to current date or setting last chosen filters as default ones after login. Due to that fact they would quite likely chose Tieto service as first option among others but only slightly recommend it to their colleagues or friends.

When it comes to user experience factors of Tieto internal IT users they stressed out several things. Those internal Tieto IT users who are working in accounts serving government offices have very neutral opinion about Service Channel. They do not find it innovative. They say that it is only slightly well developed and has slight well level of quality. It appears to them not that visually attractive. However, they consider it as user friendly tool that is moderately easy to use, especially calendar part. They trust a lot information on Service Channel but they see that finding information is taking for them a bit more time. They found finding information moderately easy. They are looking for some self-guide function to understand how Service Channel works. They use often other tools like TONE Portal and CSP and they would moderately consider buying Service Channel if it would be tailored to their needs. They are just slightly satisfy from it and they are looking at Service Channel from quality point of view. They see that it would require some improvement related to action point functionality in Calendar and better sorting of reports in Governance: documents & reports section. They did not hear much advertising about Service Channel but by surprise, they would consider Service Channel among other tools however it should not be radically changed often.

Having in mind Tieto IT users working in private sector customers' accounts their first reaction about Service Channel is somehow positive. They are finding Service Channel moderately innovative, slightly well developed and with slight well quality. They are pointing out that they can find very easy what they are looking for and information is easy understood. They trust a lot information presented in Service Channel. It moderately suits their needs. They use other tools like TONE Portal or CSP extremely often and they would slightly like to use Service Channel. They would moderately consider buying Service Channel if it would be tailored to their needs but they still think that TONE Portal is better. When they consider Service Channel they look at price and innovations. They are looking for possibility to have report's dashboard and possibility to see internal comments from SD side. Service Channel wasn't advertised to them much. They are somehow satisfied from Service Channel and they would quite likely consider Service

Channel among other tools if it would be developed constantly, however only moderately recommending it to friends or colleagues.

If we talk about customer experience factors of customer IT End users they pointed on several aspects. Government office customer IT End user sees Tieto MS as vendor providing moderately convenient services and performing there moderately professional. Tieto MS quite well understands customer needs and is able efficiently discover and try to understand customer better. Customer sees that quality and price wise Tieto MS provides services on same level as competitors. Customer sees that Tieto is quite responsive in providing need answers and doing it quite well but is neither satisfied nor dissatisfied of consultancy he receives. Customer neither would recommend nor recommend Tieto MS to his friends or colleagues. Customer perceives that Tieto MS is moderately committed to provide excellent services providing moderately good customer care. Customer sees that Tieto MS moderately well shows respect. If there are events for which there is no solution customer thinks that he moderately keen would use Tieto's process. Customer very often consider Tieto MS as first to address issues however customer sees only moderate confidence in ability to perform tasks by Tieto MS. Given tasks are done slightly well according to customer. Customer sees Tieto MS having moderately well ability to recognize what to do when issues appears. Customer sees Tieto MS having high ethical standards when it comes to fulfilling tasks.

When it comes to interaction with Tieto customer support customer do not need to wait long to be served. Customer thinks that Tieto customer support quite well understands what customer is asking for and somewhat quickly solves his issues, however he feels that Tieto customer support representative is only moderately eager to help him. He sees Tieto customer support representatives having moderate knowledge but being able to quite clear present information to customer. Customer sees Tieto MS customer services representative being able to solve most of issues. Customer sees experience provided by Tieto customer representative on level that he expected to be and overall he is somewhat satisfied from received services.

Customer IT End user from private organizations perceives Tieto MS very professionally being able to provide moderately convenient services. Customer sees that Tieto MS moderately well understands his needs. Tieto delivers about the same level of quality as its competitors. Tieto MS is quite responsive in answering to customer questions therefore customer is slightly satisfied from Tieto MS consultancy. Customer like a little Tieto MS and things that Tieto customer service representatives answers to customer questions quite well being able to slightly recommend Tieto MS to friends or colleagues. Customer sees that Tieto MS is very committed in providing excellent services and Tieto MS is taking care of customer very well and well respecting customers' and its co-operators. If there are events for which there is no solution customer thinks that he moderately keen would use Tieto's MS process. Customer very often considers Tieto MS as primary company to address his issues seeing Tieto MS as extremely confident in

performing given tasks which are done in very efficient way. Customer sees that Tieto MS Tieto MS moderately well applies high ethical standards to fulfill given tasks. Customer sees Tieto MS effectively discovering and trying to understand customer's point of view and having moderate ability to recognize what should be done in difficult circumstances.

Customer thinks that it doesn't take long to wait to interact with Tieto customer support. Tieto customer service representative slightly well understands what customer is asking for and moderately eager to help. Customer sees that Tieto customer support neither quickly nor slowly solves problems being just slightly knowledgeable. Information provided by Tieto customer service representative was slightly clear and Tieto customer service representative was quite helpful in solving most of customer problems. Customer sees experience with Tieto MS customer service on the level he would expect it would be and overall he is somewhat satisfied from received services.

If we talk about customer experience factors of customer IT End users they stress out few things. Tieto IT user who are working in accounts serving government offices perceives Tieto MS (ITSE tools area) moderately professional having slight convenience towards providing services. Customer thinks that Tieto MS (ITSE tools area) moderately well understand his needs being slightly responsive in responding to questions. Customer is slightly dissatisfied from Tieto MS (ITSE tools area) consultancy neither like it nor dislike it. Customer sees that Tieto MS (ITSE tools area) service representative moderately well answers to his questions however he slightly would not recommend Tieto MS (ITSE tools area) to his friends or colleagues. Customer sees that Tieto MS (ITSE tools area) has slight commitment to provide excellent service but Tieto MS (ITSE tools area) no at all taking care of its customers. From the other hand, Tieto MS (ITSE tools area) is showing slightly well respect to its customers. If there are events for which there is no solution customer thinks that he slightly keen would use Tieto's MS process. Customer extremely often choosing Tieto MS (ITSE tools area) as primary place to address issues to be solved. Customer sees that Tieto MS (ITSE tools area) acts with slight confidence to perform tasks but it is not efficient at all. Customer sees that Tieto MS (ITSE tools area) applies slightly well high ethical standards to fulfill tasks effectively discovering and trying to understand customer's point of view. Customer sees that Tieto MS (ITSE tools area) has slightly well abilities to recognize what to do if problems occurs.

Customer has to wait quite long to interact with Tieto MS (ITSE tools area) however Tieto MS (ITSE tools area) service representatives slightly well understands what customer is asking for. Tieto MS (ITSE tools area) service representatives are moderately eager to help customer doing it quite slow. Customer sees Tieto MS (ITSE tools area) service representatives moderately knowledgeable and being able to provide slightly clear information to customer. Only about half of customer issues were resolved by Tieto MS (ITSE tools area) service representatives, however those representatives tried to be quite helpful. Customer sees experience with Tieto

MS (ITSE tools area) service representative on the level he would expect it would be but overall he is somewhat dissatisfied from received services.

Tieto IT user working in private sector customers' accounts sees Tieto MS (ITSE tools area) very professionally. He is moderately convenient by services provided by Tieto MS (ITSE tools area). Customer thinks that Tieto MS (ITSE tools area) quite well understands his needs and compared to other Tieto service areas providing somewhat better quality being moderately responsive to customer's needs. Customer is slightly dissatisfied with Tieto MS consultants and only liking Tieto MS (ITSE tools area) a little. Tieto MS (ITSE tools area) service representatives are able quite well to answer to customer's questions therefore customer moderately recommends Tieto MS (ITSE tools area) to friends and colleagues. Customer thinks that Tieto MS (ITSE tools area) is moderately committed to provide excellent service but Tieto MS (ITSE tools area) shows moderately good respects for its customers. If there are events for which there is no solution customer thinks that he moderately keen would use Tieto's MS (ITSE tools area) process however Tieto (ITSE tools area) is extremely often considered as primary choice to address issues. Customer sees moderately confidants in Tieto (ITSE tools area) abilities to perform tasks however those tasks are performed extremely efficient for customer. Customer sees that Tieto (ITSE tools area) applies high ethical standards to fulfill given tasks and is able to moderately good discovers and tries to understand customer's point of view. Customer thinks that Tieto (ITSE tools area) has abilities to well recognize what to do in difficult situations.

Customer perceives that is not at all long to wait for interaction with Tieto (ITSE tools area) service representative and in addition this representative is able to quite well understand what customer is asking for. Customer sees that Tieto (ITSE tools area) service representative is very eager to help and is able to quite quickly solve his problems. Customer thinks that Tieto (ITSE tools area) service representative is quite knowledgeable and helpful and is able to moderately clear provide information. However, Tieto (ITSE tools area) service representative was able to resolve only about half of problems. Customer perceives experience with Tieto (ITSE tools area) service representative somewhat better and he is somewhat satisfied with service received.

Analysis of communication needs discovers that. Government office customer IT End user would like to receive every now and then information about Service Channel in friendly form through face to face meetings and presentations. Customer IT End user from private organizations would like to receive information once a week in informative form through face to face meetings, presentations or utilizing videos and slideshows. They would like that content would consider Tieto new services outlook. Tieto IT user who are working in accounts serving government offices would like to receive every now and then information about Service Channel in friendly and educational form through face to face meetings, presentations, slideshows or even trainings. They would like to get more information about Service Channel lifecycle, its release plans and upcoming improvements. Tieto IT user working in private sector customers' accounts would

like to receive information every now and then in informative form through face to face meetings, presentations and utilizing videos and social media channels.

Verification of user's profiles provides information that average government office customer IT End user is a female, between 32-49 years old, working in medium size organization (1000-10000 people) and on service manager position. She does not use any other Tieto services than CSP and TONE Portal and uses it couple of times per week usually at work. She does not use her MS Windows Phone mobile devices at work and she only use Service Channel through laptop's IE 10 or Firefox web browser. Average customer IT End user from private organizations is a male, between 32-49 years old, working in medium size organization (1000-10000 people) and on process manager position. He does not use any other Tieto services than CSP and TONE Portal and uses it couple of times per week usually at work or working from home where he uses laptop with installed IE11 and Firefox. He uses sometimes his Apple iPhone smartphone at work too. Average Tieto IT user who is working in account serving government offices is a female, between 49-60 years old, working on service managerial position utilizing TONE Portal and CSP daily. She uses TONE Portal or CSP usually at work or working from home where she uses laptop with installed IE11. She uses sometimes her Android smartphone at work too. Average Tieto IT user working in private sector customers' account is a female, between 32-49 years old on service managerial position utilizing TONE Portal and CSP daily. She uses TONE Portal or CSP only at work where she uses Apple MacBook with installed Safari and Firefox. She uses sometimes his Apple iPhone smartphone at work too.

Interviews is a good method to find out general information about customers and users. Utilizing structured or semi-structured interview questions author was able to achieve level of details allowing to do good comparison between user and customer experience factors and between different types of the users. It would not be possible if questions would be unstructured and having a lot of discrepancies based on different interviewee's roles. Descent amount of open questions that author used in interviews allowed to find more detailed information about specific needs of users. Unfortunately, there were some structured questions that already answered to questions in open format therefore some interviewees were quite confused being asked the same for the second time. Despite the fact, author sees this method as great source of information to build in later phase customer's profiles - personas. Author of thesis found interview method easy to use. The biggest trouble he had was in forming questions that would answer to problems that he is looking for. Thanks to theory gathered earlier he was able to focus on right aspects of user and customer experience. Because of mostly closed character of questions there was almost no possibility to influence on interviewees. Thus, author could compare results with other interviewees and categorized outcomes. Author was able to keep all privacy standards of interviews and give confidence to interviewees that their data will be utilized for right purpose. Author of the thesis did not forget to gratify interviewees after meeting and inform about next steps related to Service Channel and Tieto Managed Services.

Summarizing empirical results, author would like to point out that using focus group method with cooperation of observations and interviews gives quite good results when it comes to find out user and customer experience factors and indicate specific users' characteristics. Focus group was the best in finding user and customer experience factors, observations helped in finding tacit knowledge in respect to user experience and interviews were able to classify knowledge about users and customers in right fashion taking into considerations different users' and customers' roles. Author of the thesis would not be able to achieve the goal of this phase of research if those all methods would not be used. Customer experience subject is quite broad and requires really good understanding of different topics. In addition, thanks to knowledge from emails, social intra channels and customers' feedback author of the thesis was able to indicate not only factors determining customer experience but as well internal factors influencing on possibilities to make such observations which are important factors to take into consideration. Thanks to insights generated by those methods author of the thesis can continue working on solution design to provide outcomes for prototyping phase.

5.1 Solution design outcomes

To be able to design solution author of the thesis decided to utilize set of service design tools that will capture, identify and categorize aspects of the service. In October 2015 there was a set of small sessions where findings from previous research were discussed and described. Due to lack of time author decided to invite at first only the closest stakeholders from Tieto Service Channel product team to co-create with him. Only in later phases he included more stakeholders and validated finding. In his opinion it can give the best possible results in short time as the data was already there. Additionally, it brought focus only on necessary aspects of services and eliminate unnecessary and not important discussions to subject.

At first, it was really important to author to understand the environment, connections and relationships between all actors of the service. Therefore author utilized Stakeholders Map tool to define levels of relationship and describe connection between actors. Thanks to some previous researches done by external vendor author could construct detailed picture of important relationship. On short session with Tieto Service Channel solution architect, author was able to define draft levels of interaction between actors.

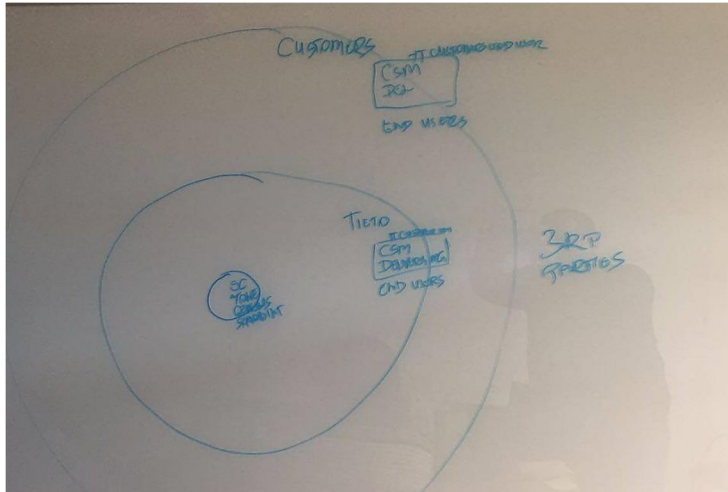


Figure 32: Tieto. 10.2015. Tieto Service Channel: Levels of interaction session

This process started from definition of who is the founder, the one who sponsor initiatives in the area. After that there was an analysis of foundations for the project, related programs and its stakeholders. That helped to position Tieto Service Channel stakeholders within the chain of relationships. After defining that, author decided to describe surrounding stakeholder that are in charge of Tieto Service Channel. Later on there was a definition of first, second and third level stakeholders to find out which of those influences the most on Tieto Service Channel. As a result, map of stakeholders were created. It seems it was not difficult for participants to use the tool. The biggest challenge came from fact being able to place right actors in right levels. There were some actor's groups like CSC-SD or other product teams that might belong to two levels depend on angle we look at - outside in, or inside out organization. It has something to do with perception of value-in-use and value co-creation phenomena described by Vargo and Lusch (2008) and Grönroos (2011) as for team it was difficult to indicate where value based on this relationship is delivered and consumed. It turned out that value for customer is in combination between Tieto Service Channel which provides channel for interaction with customer and delivery of CSC-SD services (incident management, request fulfillment) utilized by customers. This unique combination proves complicity of relations in Tieto Service Channel presented in Figure below and capabilities to execute SD logic which Karpen et al. (2012) talked about.

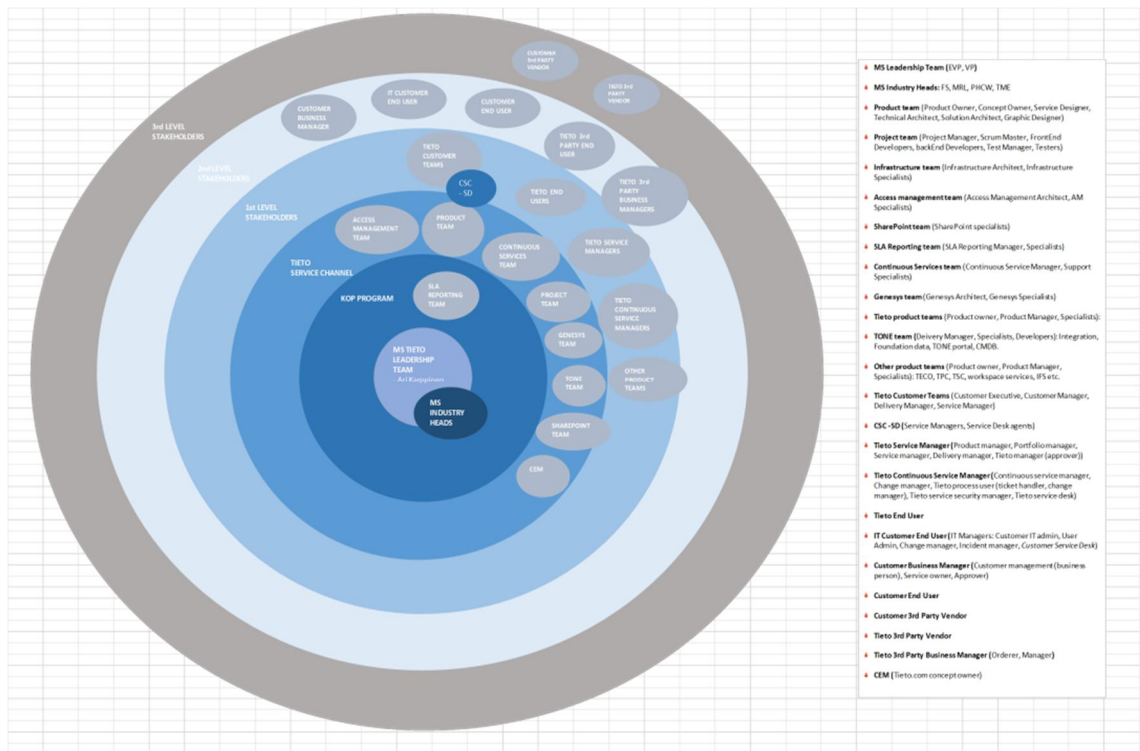


Figure 33: Tieto. 10.2015. Tieto Service Channel: Stakeholders Map

The map shows that Tieto Service Channel has a lot of internal and external stakeholders. It revealed the fact that there is a lot of dependencies when it comes to internal project suppliers - the organizations and teams cooperating with building and maintenance. It visualized service landscape important relationship aspects between Tieto teams responsible for customers, customers itself and even with 3rd parties. As a tool in research approach it met fully authors expectations defined for 3rd phase of constructive research approach as it provides useful knowledge about Tieto Service Channel ecosystem. As an outcome, author was able to identify main actors to which Tieto Service Channel addresses its services which is presented in Figure below.

Customer	Tieto	3rd party
Customer End User	Tieto End User	3rd party End User
Business Manager	Service Manager	Business Manager
IT manager	Continuous Service Manager	Tieto 3rd party vendor
		Customer 3rd party vendor

Figure 34: Tieto. 10.2015. Tieto Service Channel: Summary of actors

Based on that, author decided to construct actor's characteristic and use for this purpose user personas tool. On following session with Tieto Service Channel technical and solution architects author was able to define some of personas characteristics. It was based on available data from focus group, observations and interviews. User personas as a tool was found intuitive and easy to work with. The biggest challenge came from identification of right area because of available data. Figure below present outcomes from the meeting.

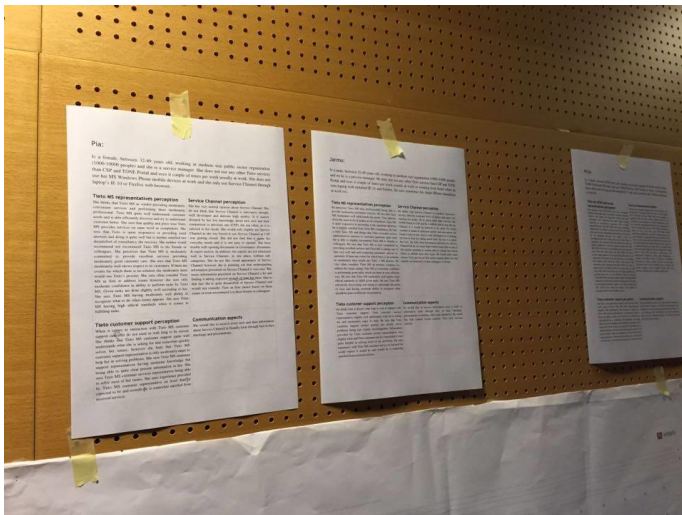


Figure 35: Tieto. 10.2015. Tieto Service Channel: Personas session

There were only 4 observations and interviews, so author had very limited set of data to work on. Team focus on 4 core elements important from service point of view: service perception, Tieto Service Channel perception, customer support perception and communication aspects. It derived from focus group discussion. Based on that categorization, task was to find out and described each element. Together with the team author was able to describe two types of personas: IT customer end user (Eddie Sandy IT End user) and Tieto IT end user (Sheila Service).

Eddie Sandy IT End User (pub):	Eddie Sandy IT End User (priv):	Sheila Service (pub):	Sheila Service (priv):
<p>Tieto representative perception</p> <p>The user has a positive perception of Tieto's service. They see Tieto as a reliable and professional partner. They value Tieto's expertise and the quality of their support. They are satisfied with the speed and effectiveness of the service. They also appreciate Tieto's proactive approach to problem-solving.</p> <p>Service Channel perception</p> <p>The user has a positive perception of the Tieto Service Channel. They find it easy to use and accessible. They value the self-service options and the ability to get help when needed. They are satisfied with the quality of the information provided in the channel.</p> <p>Tieto customer support perception</p> <p>The user has a positive perception of Tieto's customer support. They value the expertise and professionalism of the support team. They are satisfied with the speed and effectiveness of the support. They also appreciate the personalized and proactive approach to problem-solving.</p> <p>Communication aspects</p> <p>The user values clear and concise communication. They prefer direct and to-the-point information. They appreciate the use of visual aids and examples to help them understand complex concepts. They also value the use of multiple communication channels to suit their needs.</p>	<p>Tieto representative perception</p> <p>The user has a positive perception of Tieto's service. They see Tieto as a reliable and professional partner. They value Tieto's expertise and the quality of their support. They are satisfied with the speed and effectiveness of the service. They also appreciate Tieto's proactive approach to problem-solving.</p> <p>Service Channel perception</p> <p>The user has a positive perception of the Tieto Service Channel. They find it easy to use and accessible. They value the self-service options and the ability to get help when needed. They are satisfied with the quality of the information provided in the channel.</p> <p>Tieto customer support perception</p> <p>The user has a positive perception of Tieto's customer support. They value the expertise and professionalism of the support team. They are satisfied with the speed and effectiveness of the support. They also appreciate the personalized and proactive approach to problem-solving.</p> <p>Communication aspects</p> <p>The user values clear and concise communication. They prefer direct and to-the-point information. They appreciate the use of visual aids and examples to help them understand complex concepts. They also value the use of multiple communication channels to suit their needs.</p>	<p>Tieto representative perception</p> <p>The user has a positive perception of Tieto's service. They see Tieto as a reliable and professional partner. They value Tieto's expertise and the quality of their support. They are satisfied with the speed and effectiveness of the service. They also appreciate Tieto's proactive approach to problem-solving.</p> <p>Service Channel perception</p> <p>The user has a positive perception of the Tieto Service Channel. They find it easy to use and accessible. They value the self-service options and the ability to get help when needed. They are satisfied with the quality of the information provided in the channel.</p> <p>Tieto customer support perception</p> <p>The user has a positive perception of Tieto's customer support. They value the expertise and professionalism of the support team. They are satisfied with the speed and effectiveness of the support. They also appreciate the personalized and proactive approach to problem-solving.</p> <p>Communication aspects</p> <p>The user values clear and concise communication. They prefer direct and to-the-point information. They appreciate the use of visual aids and examples to help them understand complex concepts. They also value the use of multiple communication channels to suit their needs.</p>	<p>Tieto representative perception</p> <p>The user has a positive perception of Tieto's service. They see Tieto as a reliable and professional partner. They value Tieto's expertise and the quality of their support. They are satisfied with the speed and effectiveness of the service. They also appreciate Tieto's proactive approach to problem-solving.</p> <p>Service Channel perception</p> <p>The user has a positive perception of the Tieto Service Channel. They find it easy to use and accessible. They value the self-service options and the ability to get help when needed. They are satisfied with the quality of the information provided in the channel.</p> <p>Tieto customer support perception</p> <p>The user has a positive perception of Tieto's customer support. They value the expertise and professionalism of the support team. They are satisfied with the speed and effectiveness of the support. They also appreciate the personalized and proactive approach to problem-solving.</p> <p>Communication aspects</p> <p>The user values clear and concise communication. They prefer direct and to-the-point information. They appreciate the use of visual aids and examples to help them understand complex concepts. They also value the use of multiple communication channels to suit their needs.</p>

Figure 36: Tieto. 10.2015. Tieto Service Channel: Personas

It was interesting to find out that those two personas and their subtypes defined by customer organization type - public and private. Some actors from different companies have similar basic profiles (function, role, tools utilization etc.) but different perception about services received.

Users from public organizations were somehow dissatisfied from services received pointing out that it do not bring any add value to their work, hence users from private organizations thought completely different. They found it somehow innovative and somehow meeting their needs. Author thinks that it has something to do with customer driven innovation phenomena of dissatisfied user who are perceiving services negatively (Duverger 2012) and active informers' problem where users do not have enough knowledge about services (Blazevic & Lievens 2008). Additionally, it touches customer experience phenomena of expertise of customers who are aware of functionality and experience levels they should receive (Ojasalo 2001), customer's betrayal feelings to the company aspects after using current services for quite long time (Johnson at al. 2008) and perceived value that is changing through the time (Walter et al. 2010).

Author of the thesis wanted to find out if such personas were described anywhere else in company to see if there are any similarities. He decided to compare results with Tieto level outcomes provided to him in Tieto presentation "Customer journey and personas" (Kuustonen 07.2015). Figure below presents Tieto level personas.

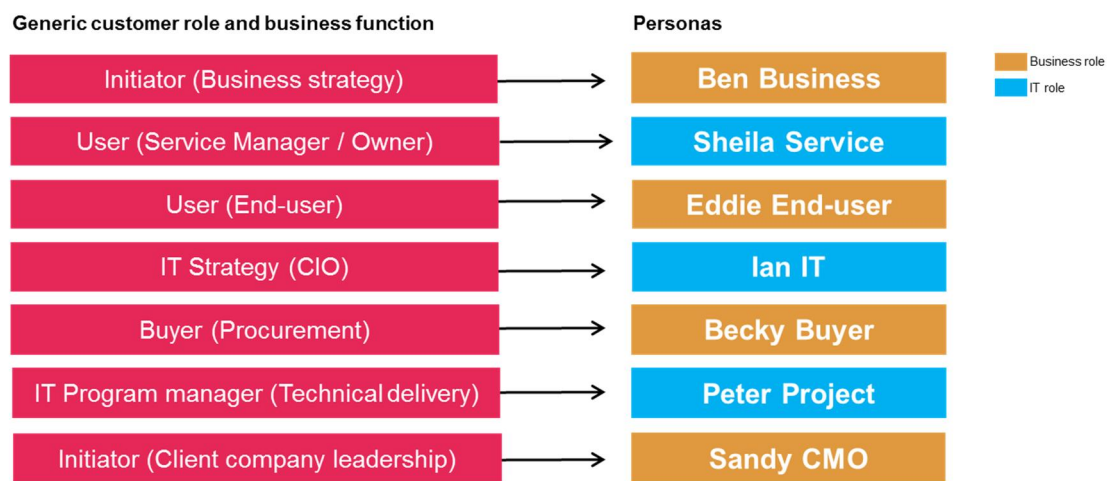


Figure 37: Kuustonen, T. 07.2015. Customer journey and personas. Tieto CX

Author made analysis and figured out that on company level there were similar personas characterized which validates his findings. However, what was interesting is that during user personas session, team was able to indicate additional persona characteristics that was not taken into consideration on Tieto tactical level - IT manager (End User), the combination of Sheila Service and Eddie End-user. It seems that this persona plays critical role in relations between Tieto customer teams and customer end users on tactical and operational level. This persona is first contact point on tactical level when it comes to governance plans, decisions and contracts, and on operation level when it comes to daily operations. Therefore it quite important element to consider on Tieto level itself. Author still don't know if this should be just one persona to consider or actually two, but that's the input for future persona development activities on Tieto level.

User persona tools is very useful in discovering insights about users being able to characterize and systemize in one model user's characteristics and therefore it suits well 3rd phase of constructive research approach.

Author of the thesis felt that at the end there is a need to systemize all findings from research in one unified way to be able look at problem from wider perspective and to discover all possible element of service landscape affecting on it. He decided to utilize Customer Journey Map as in addition to touchpoints, channels, actors and processes it embraces emotional experience of the user. Together with solution architect and product owner he defined all necessary elements on short session and work independently to finalize maps. Figure below presents output from session.

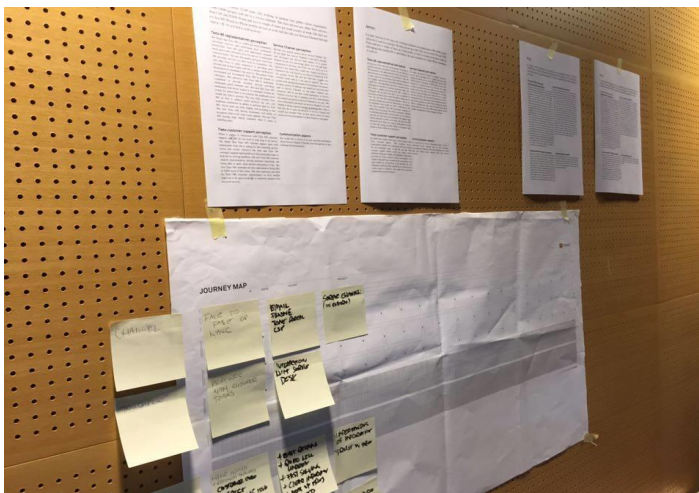


Figure 38: Tieto. 10.2015. Tieto Service Channel: Customer Journey Map session

Author started from definition of touch points through which 4 personas interacting with services provides. The list consisted of elements like: operations, agreements, rollout, configuration activities, Service Channel usage (login, interface, incident creation, order creation, tracking, governance issues - calendar and documents and reports), Chat, Service Channel support, Training, Communication and Service Desk support. After that, author mapped think & feel aspect of customers and their problems to touch points. Later on, author distinguished actors, channels and backstage through which interaction takes place. Lastly, he looked into processes and supported processes finalizing work by providing indication on emotional experience which would give a hint about improvements and ideas for the future. Figure below presents outcomes from customer journey mapping.

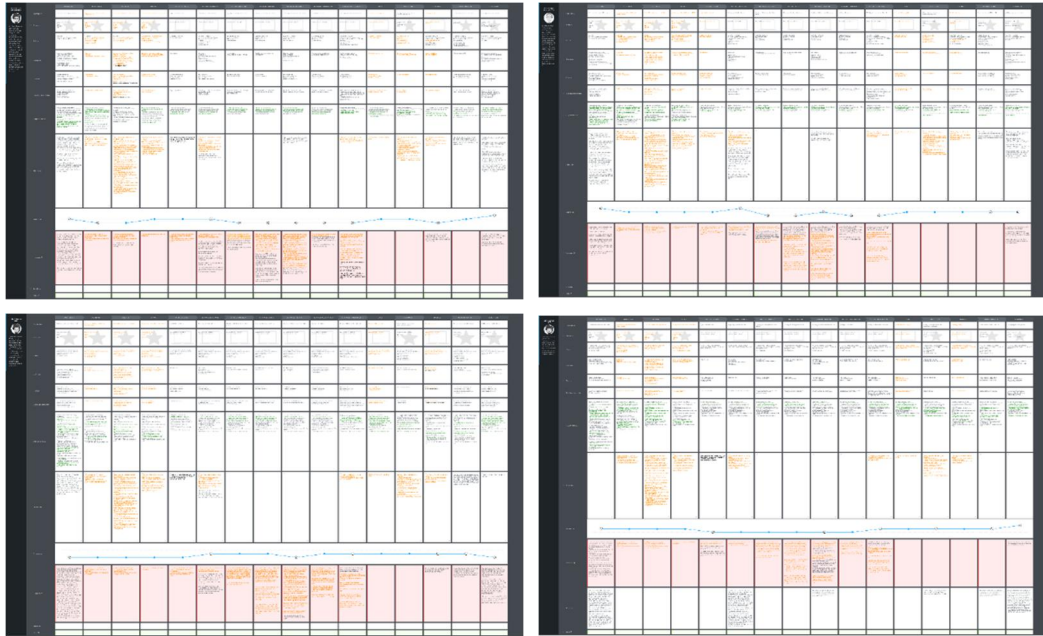


Figure 39: Tieto. 10.2015. Tieto Service Channel: Customer Journey Maps

Constructing Customer Journey Maps was not an easy task as team had troubles with identifying relevant touch points to be able to focus on right elements of the service. There was a decision made that it should cover customer and user experience aspects as only based on that combination picture about customer journey will be close to complete. Therefore customer journey map consist of issues from focus group outcome that do not directly indicates exact end user task but to understand the nature of issues it had to be compared with. Figure below presents emotional experience in 4 customer journeys where different colors is indicating relevance for particular personas.

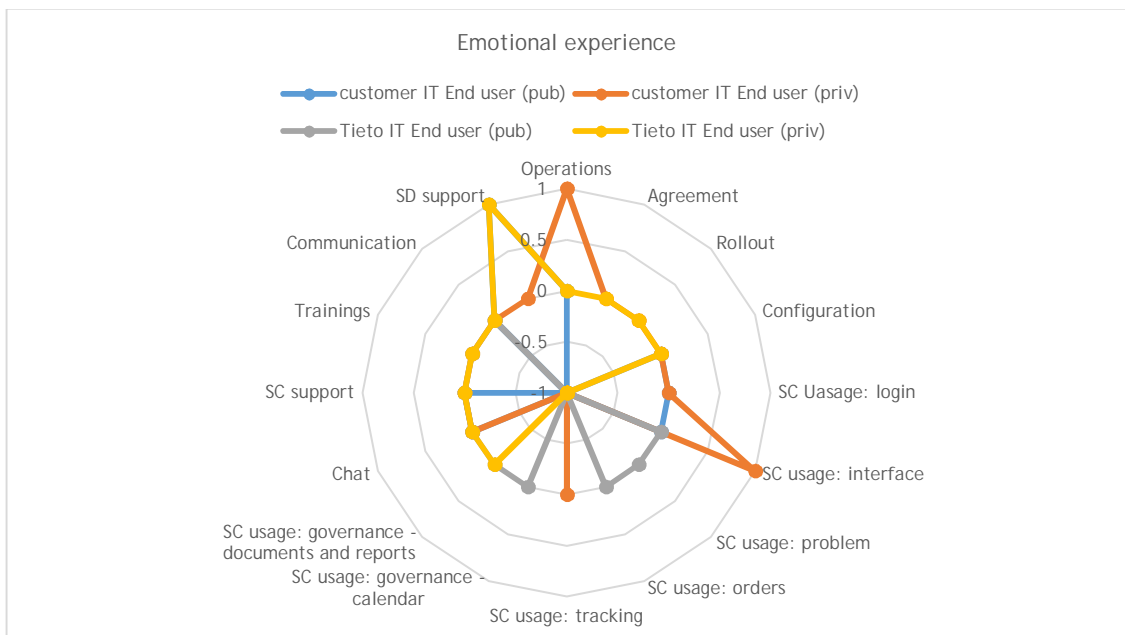


Figure 40: Tieto. 10.2015. Tieto Service Channel: Customer journey emotional experience aspects

From the journey below it is clear that Customer IT end users putting a lot of attention to user experience part of Service Channel itself, operations issues and Service Desk support. From the other hand Tieto IT end users put attention on governance - documents & reports aspects as well as communication, operations and Service Desk support. When it comes to overall perception of service delivered customer IT End users are the most satisfied from all 4 groups having close to neutral point of view about experience. The least satisfied are users from public sector being somehow dissatisfied. For most of the groups the least problematic area is Service Desk support. The areas where experience is the worse is related to Service Channel usage, connected with user experience. From the area of customer experience the most problematic are agreements and trainings. Those are the moments of truth. It has its own ground in theory of personal experiences and the way how they are designed (Johnston & Kong 2011), service flow aspects (Bitner 1992) and customer satisfaction in IT support services (van Velsen et al. 2007).

Customer journey map is a good tool to map all important elements of service landscape being able to concentrate only on those elements which are relevant from end user point of view. Emotional engagement is key differentiator here allowing to find out so called moment of truth. Of course, customer journey map captures only the snapshot from time however if well-defined it can analyze potentials of service and embrace connected touch points. It meets goal that author put towards 3rd phase of constructive research approach giving holistic overview about customers.

5.2 First prototype

At the end of October author of the thesis decided to set up ideation workshop and invite all necessary stakeholders (technical and solution architects, Service Channel product owner, Workspace service product owner, Service Desk operations managers) to validate personas, stakeholders, customer journey maps and most importantly to look at the service touch points and ideate possible solution of the problems. Workshop took 2 hours and during that time author was able to validate outcomes from previous sessions and discuss several elements from service flow which affected customers' experiences.

Stakeholders were amazed of amount of information gathered during research project and were looking forward to work on possibilities. The most difficult issue from this phase was to keep team focused on subjects and not let to discuss topics that would not have direct connection to problems. Author was able to moderately well keep track on discussion and discussion went to right direction. Figure below presents outcomes from the meeting.

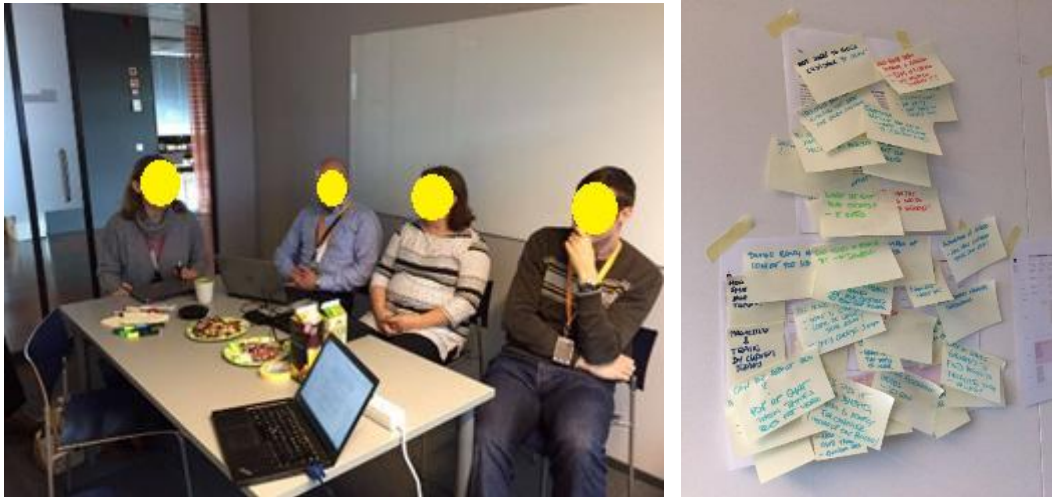


Figure 41: Tieto. 10.2015. Tieto Service Channel: Ideation workshop

Stakeholders were able to generate useful insights that reflects current situation and point out issues related to various different aspects of service landscape. Thanks to materials delivered by Tieto CX team. 06.2015. Tieto Customer journey, author of thesis was able to reflect and compare problems with Tieto governance model and its touch points. Figure below presents core elements of the Tieto personas journey.

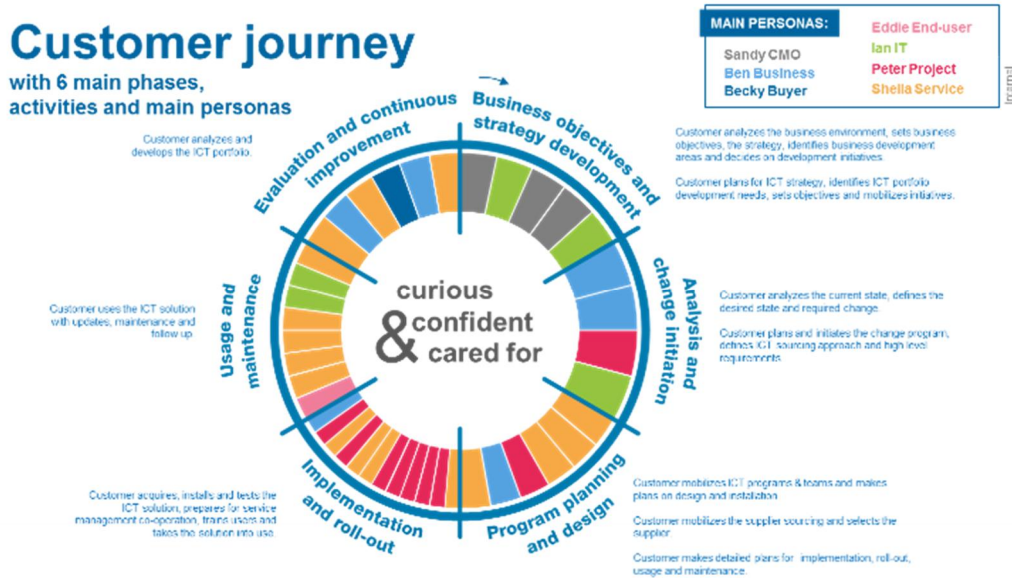


Figure 42: Tieto. 06.2015. Customer journey

Author took into consideration 6 phases of the model and reflect those through findings from ideation workshop. It was pretty clear that author cannot just look at relations with Tieto customer teams but as well customer IT end users. Therefore author identified activities (processes) directly connected with each persona's characteristics. That gave foundation to draft the activities required in each phase to be accomplished and to formulate guideline. Author mapped need activities, outcomes and find out dimensions that bonds those values together. Author iterated few times to find out if all findings matches the categories and phases. Each

deviation was analyzed and proper group was indicated. From Tieto customer team point of view assessment and analysis of end user needs was the place where the most ideas was generated. Following sub phase was related to alignment of business and IT strategies. When it comes to customer IT end users, biggest amount of ideas were generated around change and incident management sub phase as well as high level requirements definitions. Tieto customer team approach and customer approach with ideas generated can be found in Appendix 19.

Based on those outcomes author of the thesis created a complementary guideline for customer teams to take into consideration while approaching customers in case of possibility to provide digital services. It does not replace current governance model but it give additional look to customer teams on how to be prepared. Author utilized for this purpose storyboard tool, describing each phase findings to be visually understandable. Following figures presenting storyboards created by author for particular customer groups.

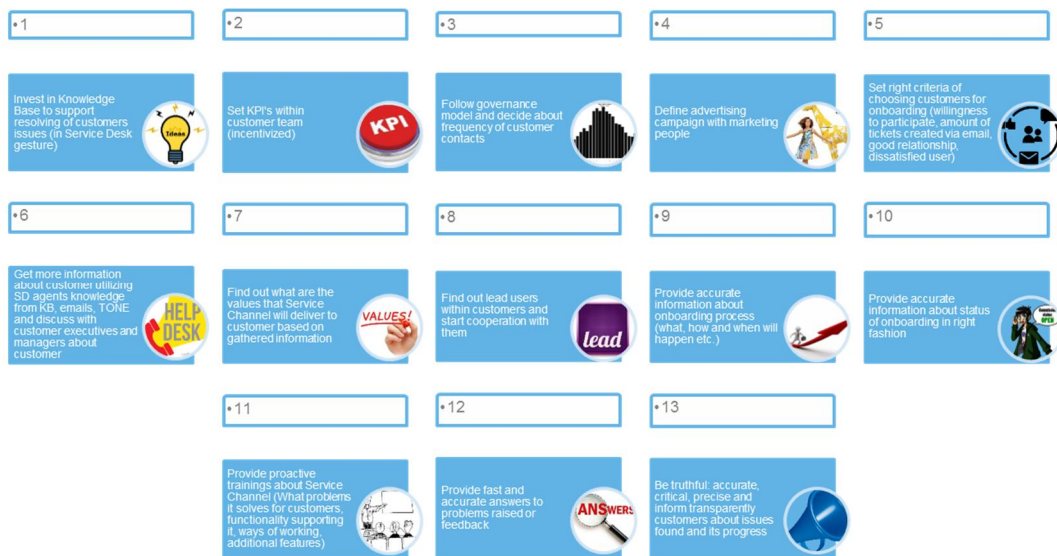


Figure 43: Tieto. 10.2015. Tieto Service Channel: Storyboard, Tieto customer team activities

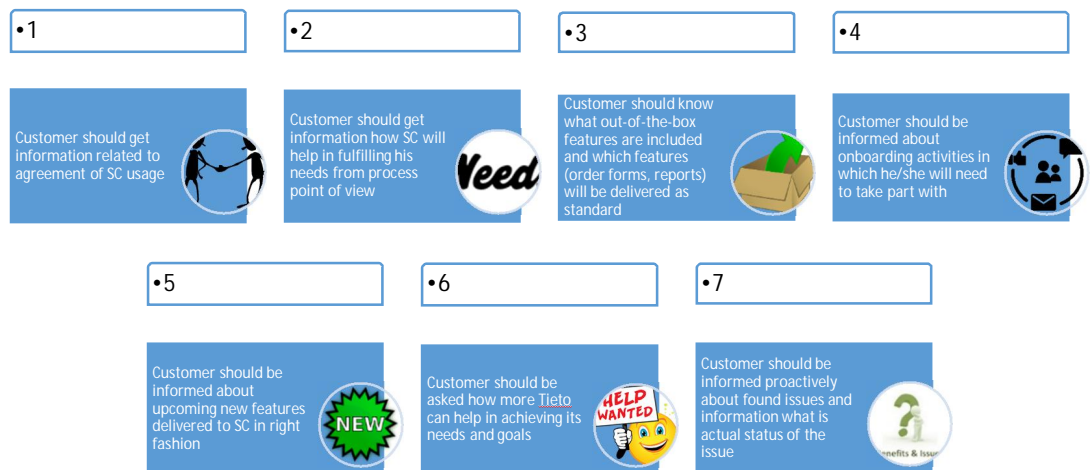


Figure 44: Tieto. 10.2015. Tieto Service Channel: Storyboard, IT customer end user activities

Key elements of this guideline for customer teams are:

Business objectives and strategy development

1. Invest in Knowledge Base to support resolving of customers issues (in Service Desk gesture).
2. Set KPI's within customer team (incentivized).
3. Follow governance model and decide about frequency of customer contacts.
4. Define advertising campaign with marketing people.

Analysis and change initiation:

5. Set right criteria of choosing customers for onboarding (willingness to participate, amount of tickets created via email, good relationship).
6. Get more information about customer utilizing SD agent's knowledge from KB, emails, TONE and discuss with customer executives and managers about customer itself.
7. Find out what are the values that Service Channel will deliver to customer based on gathered information.
8. Find out lead users within customer and start cooperation with them.

Program planning and design:

9. Provide accurate information about onboarding process (what, how and when will happen etc.).

Implementation and roll-out

10. Provide accurate information about status of onboarding in right fashion.
11. Provide proactive trainings about Service Channel (What problems it solves for customers, functionality supporting it, ways of working, additional features).

Usage and maintenance

12. Provide fast and accurate answers to problems raised or feedback.

Evaluation and continuous improvement

13. Be truthful: accurate, critical, precise and inform transparently customers about issues found and its progress.

Key elements of this guideline for customers are:

Analysis and change initiation

1. Customer should get information related to agreement of SC usage.

2. Customer should get information how SC will help in fulfilling his needs from process point of view.
3. Customer should know what out-of-the-box features are included and which features (order forms, reports) will be delivered as standard.

Implementation and roll-out

4. Customer should be informed about onboarding activities in which he/she will need to take part in.

Usage and maintenance

5. Customer should be informed about upcoming new features delivered to SC in right fashion.
6. Customer should be asked how more Tieto can help in achieving its needs and goals.

Evaluation and continuous improvement

7. Customer should be informed proactively about found issues and information what is actual status of the issue

Utilizing storyboard tool was not difficult to author and results were self-evident. The biggest trouble came from formulation of sentences that would describe in best possible visual way complex information in form that every actor of service would understand. Author thinks that storyboard itself is meeting goal of 4th phase of constructive research approach by providing visual and easy to read guideline that could be used by Tieto customer teams when discussing digital services aspects. Guideline itself do not give detailed information what exactly should happen but only indicates areas to pay high attention in preparation for discussion. Author of the thesis argues that in environment when there is significant lack of sales personnel this framework helps to grasp aspects of providing digital services to customer in right fashion, without their presence. In following chapter this guideline will be analyzed and verified to meet goals of other phases.

5.3 Prototype analysis

Analysis of prototype was done based on theoretical framework utilizing theory and experts to prove that created guidelines will meet expectations. At first, author of the thesis look into each phase of the guideline and tried to find connection with theoretical framework. As guideline already consists of elements that has been identified during ideation meeting it contains expectations, needs, points of view and wishes from experts involved in ideation process. Therefore, author of the thesis reviewed the guideline with Tieto customer teams that will going to utilize it in the future. Main objectives were: being useful, visually understandable

and easy to use. Table below presents the outcome from theoretical analysis. It is interesting to see that most of the task having customer experience background in theory. Additionally, for many of these tasks customer driven innovation is in core. Few, especially when it comes to tasks directed to customers, are having its background in value creation theories. Theoretical analysis shows that described tasks complies with theoretical foundations giving hope that guidelines will actually do their job in right way. Table that presents phases and theories connected with it can be find in Appendix 18.

Additionally, author wanted to analyze guidelines with small amount of real users to see if there are useful, visually understandable, and easy to use and implement. Therefore, author set up a meeting at the beginning of November 2015 to which he invited 3 different customer teams' representatives. Figure below presents picture from meeting with customer team members.

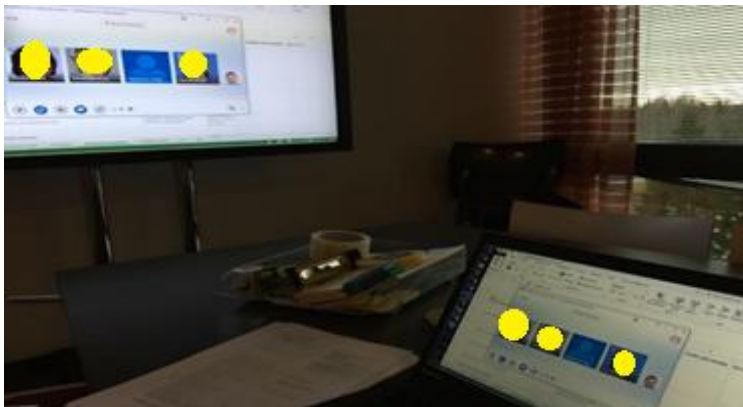


Figure 45: Tieto. 11.2015. Tieto Service Channel: Tieto customer team verification meeting

Meeting took approximately 1h and it was performed face to face and utilizing video conferencing capabilities. Author went through phases in guidelines, one by one describing the origin, the application and needs. Secondly he asked customer team members to tell more about guidelines they saw. Table below presents outcomes from the discussion.

Table 5: Tieto. 11.2015. Tieto Service Channel: Expert perception about guidelines

	Useful	Visually understandable	Easy to use and implement
Expert 1	Long story. It has good points and useful. As CSM I see when I could find time on this and to which customers or services. Delivery manager or Customer executive should more describe it to customer. Solving problem with delivery installation is taking time. How many questions will generate it to CSM? It will be a lot of work to us?	Very good visually, clear steps, at glance.	It might be easy to use. It would increase the workload a lot.
Expert 2	Very useful. Some of the tasks already are in use.	One or two words - headings, key words To see in one look a keyword	It is easy to use. Relationship with different counterparties should be well discussed i.e. marketing department.
Expert 3	I don't see any point why it could not be useful.	Seems ok.	I do have to have more knowledge to judge about it.

From the discussion it was clear that guidelines will going to be useful tool to embrace customer experience factors. Customer team members pointed out they found it visually appealing and understandable and in addition they generally think that it might be easy to use. It was really interesting to hear that there were few concerns around utilizing guidelines that it might actually increase workload in terms of time spent on preparation and involving other counterparties into discussion. Author sees, that more discussion is need around this topic, thus he is happy from results received. Scenarios are good tools to embrace direct and non-verbal communication summarizing complex service ideas in more tangible form. Scenarios decreases barrier between designers and Tieto customer team in understanding service ideas, making them more playful and iterative. First brief analysis shows that guidelines might be a good tool for customer teams, or at least a check point. It meets goal of 5th phase of constructive research approach helping in analysis of solution in simple and easy way, without engaging sophisticated tools. Author sees challenges in adoption of the tool in real work context due to received comments (especially time constraints), which should be checked in the future.

5.4 Prototype verification

Outcomes verification of this prototype will not be delivered before this thesis is completed, therefore will not be presented at this place. Author of the thesis utilized usability testing principles to create scenario based cases that will be tested when new project onboarding process will start, which is planned for June 2016. Main objectives for usability testing that author wants to achieve is based on usability testing principles:

1. Efficiency - time of task completion.
2. Accuracy - amount of mistakes made.
3. Recall - ability to remember things after idle period.
4. Emotional response - participants' feelings.
5. Learnability - easiness of task accomplishment.

Therefore, author prepared scenarios and tasks to be measured during testing phase that can be found in Table below. Task for each scenario came from guidelines.

Table 6: Tieto. 11.2015. Tieto Service Channel: Scenarios for usability testing

Scenario	Task selection
S1: User needs to set up business objectives and strategy development	S1T1: Invest in Knowledge Base to support resolving of customers issues (in Service Desk gesture).
	S1T2: Set KPI's within customer team (incentivized).
	S1T3: Follow governance model and decide about frequency of customer contacts.
	S1T4: Define advertising campaign with marketing people.

S2: User needs to perform analysis and initiate change	S2T1: Set right criteria of choosing customers for onboarding (willingness to participate, amount of tickets created via email, good relationship)
	S2T2: Get more information about customer utilizing SD agents' knowledge from KB, emails, TONE and discuss with customer executives and managers about customer itself.
	S2T3: Find out what are the values that Service Channel will deliver to customer based on gathered information.
	S2T4: Find out lead users within customer and start cooperation with them
	S2T5: Customer should get information related to agreement of SC usage
	S2T6: Customer should get information how SC will help in fulfilling his needs from process point of view
	S2T7: Customer should know what out-of-the-box features are included and which features (order forms, reports) will be delivered as standard.
S3: User needs to plan and design digital service channel project transition	S3T1: Provide accurate information about onboarding process (what, how and when will happen etc.)
S4: User needs to help in implementation and rollout of digital service channel	S4T1: Provide accurate information about status of onboarding in right fashion
	S4T2: Provide proactive trainings about Service Channel (What problems it solves for customers, functionality supporting it, ways of working, additional features)
	S4T3: Customer should be informed about onboarding activities in which he/she will need to take part in.
	S4T4: Customer should be informed about upcoming new features delivered to SC in right fashion.
	S4T5: Customer should be asked how more Tieto can help in achieving its needs and goals.
S5: User need to be able to maintain digital channel solution	S5T1: Provide fast and accurate answers to problems raised or feedback
S6: User needs to be able to evaluate digital channel solution	S6T1: Be truthful: accurate, critical, precise and inform transparently customers about issues found and its progress.
	S6T1: Customer should get information related to agreement of SC usage
	S6T2: Customer should be informed proactively about found issues and information what is actual status of the issue

When it comes to measurements author defined KPI's based on objectives presented in Table below.

Table 7: Tieto. 11.2015. Tieto Service Channel: Measurement, prototyping

Test objectives	Explanation	Measurement
Efficiency	Time spend from starting scenarios to complete scenarios	In days
Accuracy	How many tasks were omitted during scenario's execution	In items
Recall	How many tasks were forgotten during scenario's execution	In items
Emotional response	What was the feeling: positive, neutral or negative during scenario execution	positive/neutral/negative
Learnability	What was the perception: easy, neutral or difficult to execute scenario	easy/neutral/difficult

Selection of testers will be done based on conditions within the project. What author is aiming at is to test with Tieto customer teams members which are actively involved in onboarding activities of digital service channel for customers. For that purpose test protocol will be used where all information's will be recorded. Outcome data will need to be aggregated, summarized and categorized. Results will be presented to customer executives as lessons learnt to analyze how to improve processes.

Usability tests and scenarios as method is in opinion of author of the thesis an easy way to approach verification of solution. From guideline point of view it only verifies Tieto customer team point of view and way how they are implementing tasks. It does not measure customer impact itself and therefore other methods and tools would need to be used. Author argues here that best measurement of the impact is by checking in reports utilization rate of digital service channel. It should have direct effect on usage of Tieto Service Channel. Utilizing user scenarios in verification phase is seen by author positively. It definitely meets goal of 6th phase in constructive research approach being able to verify prototype at least from one angle. The downside is that it does not verify effect on prototype itself but only on how it is utilized. However, utilizing other, complementary tools might decrease that gap. Author suggests that this aspect could be took into consideration in the future when selecting right methods and tools.

5.5 Future development of the prototype

Work on prototype, analysis and verification ideas gave overview about possible utilization of the tool. Author sees that most importantly it can be use in onboarding/rollout process to make sure that all important element of service having customer experience outlook. It is as well open enough to be utilized in improving existing customer relationships by providing useful tips how and what to do. When it comes to current and future development of the tool, author sees it as iterative process, reviewed every quarter with customer teams and updated based on customer team inputs while using its principles. The goal would be to use it by whole organization or even in the future by whole Tieto customer teams as a standard approach in their governance processes. As the tool has two stages, it can be implemented flexibly having in mind customer teams and its problems as well as customers' needs too. Someone might argue that guidelines are pretty general and do not tell exactly what to do. This was the aim of the author to provide tool that can be utilized in different situations as at the end customer team practices might slightly vary from customer to customer. Author emphasized the fact of visual appearance and will try to work on better storyboard visualization, more realistic and more detailed. Author expects that tool will be proposed in whole MS organization as a standard approach but for that purpose he will need to overcome tool adoption issues that he explained earlier.

6 Futures thinking

Gould (2014) talks that future “is *not an empty space but like the past an active aspect of the present.*” Therefore, future is a connected with situation which happening in undefined time of few days, weeks, months or even years. It touches the images, ideas and visions to make sense out of it in time. (Gould 2014.) Gould (2014) pointed out that future can be studied or interpreted (thinking of visions, ideas, images etc.). He stressed out that futures thinking is not the same as future studies and that future studies aiming at finding out ways how we come up to know the future and how this knowledge shape our futures thinking. (Gould 2014.) He explained that futures thinking role can be described then as questioning, investigate ideas and consequences and seeking for possibilities and alternatives and grouping such ideas can help in classifying different concepts around futures thinking. Gould (2014) pointed out here on Default futures which are communicated as an option, normalized, where inputs and feedback is not primary thing. Additionally he described Used/borrowed futures where ideas are constructed by other people and adopted by us. Then he talked about disowned futures which are ignored by us, to which we do not pay enough attention. Then he pointed on alternative futures created using scenarios to show alternative possibilities. Lastly, he told about models of social change which are influences and patterns from social environment around us. (Gould 2014.)

Gould (2014) suggested that is more important to know how we influence on what we know about the futures and how we are able to fulfil it with ideas to make statements if we can make difference to official futures rather than make plans what to do with that future. Therefore, he indicated 4 major categories of those futures presented in picture below.

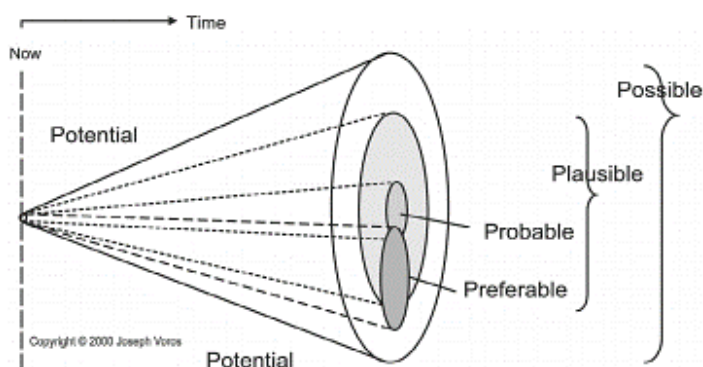


Figure 46: Gould, S. 2014. Futures categories

He explained that there are possible futures (might happen) which are based on physics law. Additionally, there are pleasurable futures (could happen) which are based on considerations. Thirdly, he mentioned probable futures (likely to happen) based partially on historical data. And at last he pointed on proffered futures (want to happen) based on vision of society. (Gould 2014.)

In addition Gould (2014) informed that futures thinking might be performed based on 4 approaches. First he told about empirical approach looking after knowledge of future of the things that exists now. Then he explained interpretive approach by looking after different account of future of things that exists now. Next he talked about critical approach looking after power relations disturbances of the future that exists but is problematic. Lastly he mentioned about anticipatory action learning approach looking after experiments questioning future of created alternatives. (Gould 2014.)

Ojasalo et al. (2015, 199) expressing the fact that, futures researches has a lot of advantages for the organizations thanks to exploring alternative futures by utilizing i.e. foresight studies. They told that it helps in risk management analysis, in innovation process to generate the ideas for the future and to create readiness, competencies and agility supporting its innovation process (Ojasalo et al. 2015, 199). Meristö and Laitinen (2009, 12) expressed fact that foresight process main purpose is to bring information about futures development closer to mentioned innovation process and that it put attention to concrete forward-looking work (Ojasalo et al. 2015, 198). Kuosa (2011, 22) described foresight process with 3 pillars constructing approach towards futures research. First he said about analysis (what seems to happen) of trend, cross-impact analysis, social network analysis, data management, FSSF, futures triangle, futures wheel, self-organized map, abduction etc. Then he explained interpretation (what is really happening) as casual layer analysis, four-quadrant mapping, MRR, systems thinking, macro historical analysis, pattern management, synthesis, induction, falsification etc. Lastly, he talked about prospection (how things could go) through scenarios, visioning, what ifs, wild cards, visualizing options, normative methods, back casting, strategic thinking etc. (Kuosaa 2011, 22.)

Meristö and Laitinen (2009, 16) argued that In order to get bigger picture of foresight process, there are 4 steps to complete in every research. Firstly, they mentioned about information collection related to theories and applied futures methods like PESTE analysis, technology roadmap, Delphi analysis, shared history etc. Additionally, they talked about information processing (anticipation of futures, understanding time and space in future and deepening) through active participants engagement in questioning or application of foresights methods through the time like futures table, cross-impact, time-series, trend analysis, macro futures, future wheel, ways of knowing etc. Then they expressed issue of structuring alternative futures by synthesis for sense making of the futures by utilizing methods like scenarios working, futures table etc. Lastly, they talked about selecting and evaluating alternative futures to present by methods like strategy working, alternative courses of action, business potential estimation of scenarios and competition analysis, contradictions, social innovation etc. (Meristö and Laitinen 2009, 16.)

Gould (2014) told that only after that there is possibility to transform presents and create futures. He said that it can be done by visioning, analytics, back casting etc. (Gould 2014).

Figure below presents foresights activities from innovation process point of view. In addition, it gives great overview about tools and methods that those stages include.

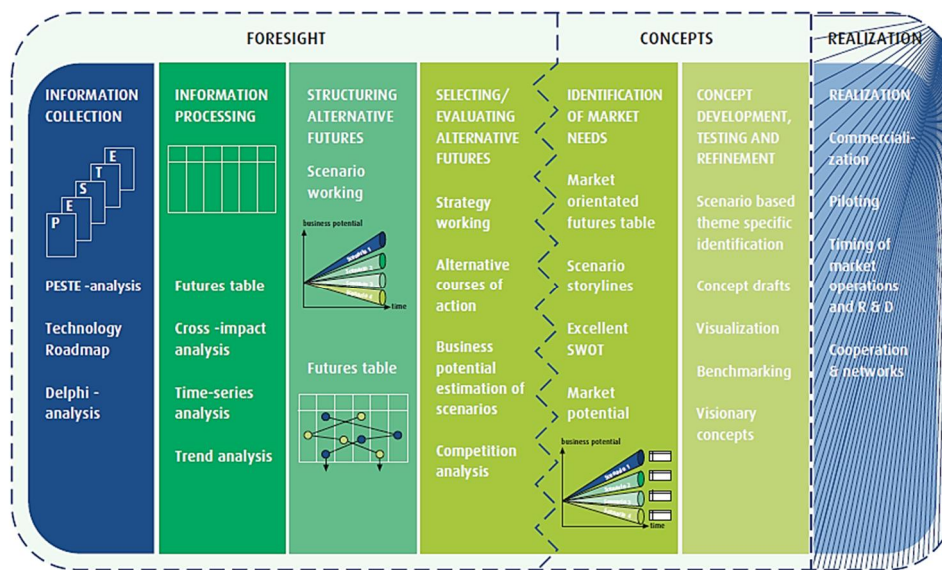


Figure 47: Meristö, T., Laitinen, J. 2009. Foresights activities, p. 16

Author found very interesting to focus on futures research methods around information processing as from perspective on the research, it will give additional dimension to his work and possibly define future development actions. Specifically trends analysis method is in his attention and that will be covered in next sub chapter.

6.1 Trends analysis - method and tools

Vejlgaard (2008, 9) explained that the world "trend" is widely used in the society indicating some major changes or influences in areas like economy, social environment, demography, technology or even politics. He stated that trends are usually determined by two factors (Vejlgaard 2008, 9). First is influence range about how wide influence of trend is. Secondly, it is about lifespan and how long trend going to exists. (Vejlgaard 2008, 9.) Vejlgaard (2008, 9) pointed out that literature recognizing 5 trends' types. First one is fad which is enthusiasm about innovation, usually short, and affecting individuals. Second one is micro trend, a signal that mainstream adopting innovation, usually short in time, affecting very small part of society. Third one is trend which is a wider adoption of innovation, usually last longer in time, and affecting society locally. Forth one is megatrend a major change, long lasting, and affecting large part of society. Last one is futurology a research field trying to predict future development. (Vejlgaard 2008, 9.) Figure below presents trends from their lifespan and influence point of you.

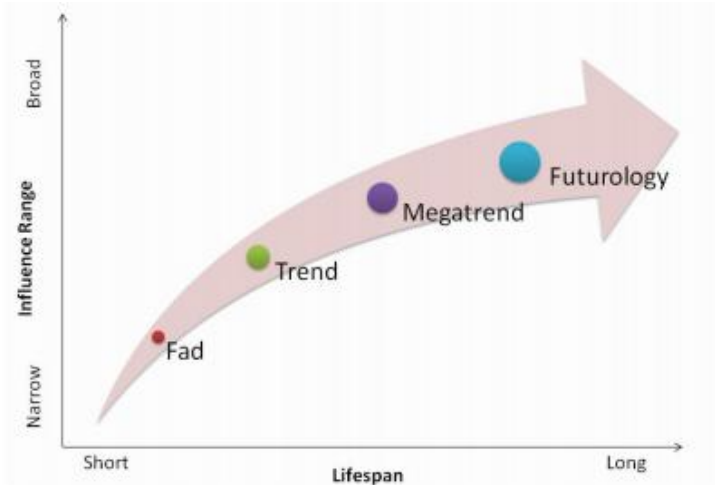


Figure 48: Vejlgard, H. 2008. Trends spectrum, p. 9

Vejlgard (2008, 9) indicated some common characteristics of trends. First one was connected with trends evolving over time (using observation and forecast). Second one is about trends creators as indicators of ideas. Third one is related to trendsetters as adopters of ideas. Forth one touching aspects of trends which are emerging in places with wide concentration of trend-setters. Fifth one is about development of trend ideas which is done continuously and as fast as possible. Last one is about new trends as reaction in mainstream adoption. (Vejlgard 2008, 9.)

Maurya et al. (2007) indicated two phases of trend analysis. First one trend-extraction phase where trends are spotted and indicated. Second one, trend-matching phase where trends are categorized and analyzed. In trend-matching phase the major part is categorization of relations between trends and factors. It is determined by so called primitives. (Villez et al. 2013.) Villez et al. (2013) defined primitives as qualitative values from range positive (+), zero (0), negative (-) to unknown (?). Maurya et al. (2007) pointed out on 7 different primitives presented in figures below.

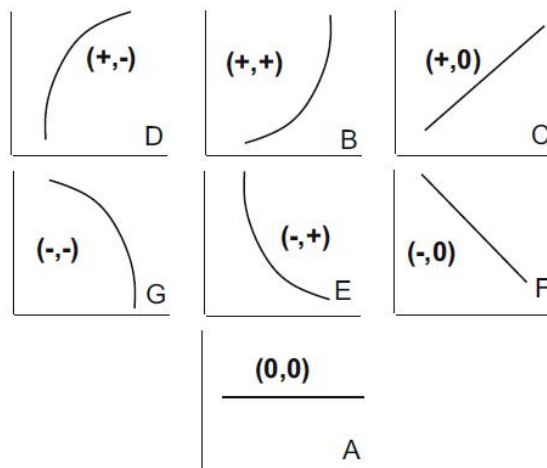


Figure 49: Maurya et al. 2007. Primitives

Ojasalo et al. (2015, 205) pointed out that thanks to data generated in discovery phase of service design process tool called trend cards can help in visualizing and describing spotted trends. Ojasalo et al. (2015, 205) explained, that basic trend cards creation process can be described in few steps. First, it is important to gather ideas (to look for meaningful, relevant manifestations of ideas). Then it is need to cluster and group manifestations. Thirdly, there should be done identification and analysis of trends (incl. finding of sources). Next, trends should be described and countertrends should be given. In addition, there should be done analysis and description of driving forces. Lastly, there should be done analysis and description of effect on people and environment. (Ojasalo et al. 2015, 205.) Therefore, Ojasalo et al. (2015, 205) claimed that by having trends described in one glance it is possible to understand well upcoming change and its effect on people and society.

In next sub chapter author of the thesis describes trends in IT customer support service area.

6.2 Trends in IT customer support service

Molin and Petersson (2012) highlighted 3 main trends that will shape condition of IT customer support service market in near future (till 2016). These trends are representing the point of buyer and explains the way in which this market might follow. It is discussed that Third-party maintainers (TPMs) will be heavily used thanks to their ability to provide more individualized services. Era of multi-vendor support might get to an end due to fact that customers are looking for easy way of support characterized by single point of contact (SPOC) and lower maintenance costs. Finally, customers' wants to be served as soon as possible.

In analysis of future it is necessary to describe driving forces which are standing behind trends and how they influencing on their application in real situations (Molin & Petersson 2012). Molin and Petersson (2012) indicated that first driving force is economy, which will be in a dawn position for next few years. As a results it will limit possibilities of companies to get necessary loans for investments in IT customer support services. Therefore customers' approval decision and delays in making decisions for those investments will impact whole area. Finally, because of cloud computing, new types of IT customer support services will be introduced to customers which will have effect on maintenance resources needs in traditional IT customer support services. (Molin and Petersson 2012.)

Recent studies made by Forrester in 2014 are going a bit further in discussion about IT customer support service future. Leggett (2014) pointed on 4 megatrends which will shape IT customer service industry in 2015. They are presented in figure below.

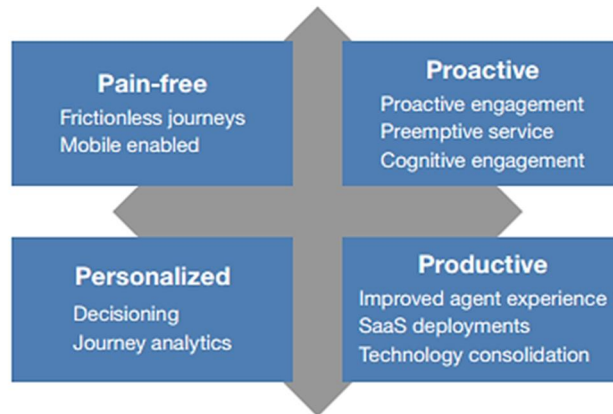


Figure 50: Leggett, K. 2014. Top customer service trends for 2015. Forrester

He indicated drivers that focusing mainly on customer experience and its win-win factor. Loyalty is seen as a value and providing good service is not just a must, it is necessity. Customer engagement strategy is considered as asset of every service oriented company and investment in customer engagement technology should be prioritized. Leggett (2014) argue that such services are therefore seen as pain-free, proactive, very personalized and productive.

Pain free service means for Leggett (2014) that customer is demanding to obtain right answers on time in way that is least problematic. Trends connected with this phenomena are related to customers will to embrace emerging channels to reduce friction as customers expects to use various digital channels pretty much effortless with real-time authentication, examples: voice calls or video chat, digital portals and social communities. In addition, customer service will adopt a mobile-first mindset where mobile interaction with customer services is a fact. Value added mobile usage is a must. (Leggett 2014.)

Proactive engagement was seen by Leggett (2014) as service where context of customer, its available information and intelligent information systems is a must. Therefore, communication technology is becoming an important factor of customer service business. Trends connected with this phenomena are related to companies that will explore proactive engagement where active monitoring of customer's actions should result in systems being more intuitive and insightful. Additionally, he talked about insights from connected devices that will trigger preemptive service where connected devices must be managed in automated way. IoT is a new business reality. Lastly, he mentioned about knowledge that will evolve from dialog to cognitive engagement where knowledge management should be intuitive and interactive, and propose solution automatically in natural way for users. Automatic knowledge creation is a must. (Leggett 2014.)

Leggett (2014) pointed that personalized interaction in customer services is about experience unification, no matter of communication channel. Trends connected with this phenomena are related to predictive analytics that will power offers, decisions, and connections where power

of predictive analytics helps in offering services based on customer information (profile, historical data, location, and other structured data). Lastly, he talked about journey analytics that will improve end-to-end service which implies on more measurements for different communication channel to efficient cost prediction and successful customer flows. (Leggett 2014.)

Finally, Leggett (2014) described productivity in customer service as efficient provision of experiences by productive satisfaction measurement of the customer processes. Trends connected with this phenomena are related to improved agent experiences which come into the spotlight where there is one place for all information that agents needs to maintain usually in separate tools. Secondly he talked about customer service organizations that will adopt SaaS solutions for agility where software as a service offering is increasing. Lastly he talked about customer service technology ecosystem consolidation where complex technologies ecosystems should be unified and solutions combined to provide focused one access point. (Leggett 2014.)

Leggett (2014) suggested that companies should put attention to customers' ecosystems audits to understand technology maturity, to better understand customers' needs, to identify new areas of opportunity based in operations, and to measure success of customer services continuously. Therefore, next sub chapter presents how Tieto as company adopts IT customer support services trends.

6.3 Trends in Tieto

Tieto way of interpreting global trends is always connected with business side of it. Author found in presentation "Business pressure to increase agility and innovation drives changes in IT" (2013) that Tieto is taking into consideration 5 scenarios to anticipate futures up to year 2018, Tieto wants to provide "zero user incidents" workspace service with fully automated preventive maintenance and self-healing. Tieto wants to improve global workforce skills to use collaboration technology based on real-time behavioral monitoring systems and analytics. Tieto wants to improve contextual search of work information by utilizing technology of "awareness devices" to find out users' needs and facilitate work interaction. Tieto wants to utilize IoT as technology to manage facilities, human density and social aspects of work interactions. Lastly, Tieto wants to improve knowledge based collaboration by utilizing BYOD concepts and community support or Tieto crowdsourcing employee assets. (Tieto 2013.)

Drivers for adoption of those trends in Tieto Service Channel author found in Tieto presentation "Work stream vision and roadmap" (2014) where he was able to indicate business requirements through time presented in Figure below. Three big themes are about improving user experience and personalization, providing digital engagement channel to service management, marketing and sales and making it easier to identify, nurture and promote valuable information. (Tieto 2014.)

2015	2016	2017	Vision
1) Improving user experience and personalization			
Defined Tieto UX policies + implemented in new cloud services. Mobile App for service channel created together with SD Mechanisms to leverage basic user profiling data: role segments Foundational capability for analytics of service channel use	Improve UX further to provide differentiating Tieto service look Job-role based profiling based on analytics: customers' end users, their customers and partners	UX platform and architecture for excellent customer experience Virtual avatars for service channel created together with SD Define a concept about personalizing shown content for a single user based on analytics from various services	Tieto is recognized by user experience of services 80% of services are consumed by digital channels
2) Providing digital customer engagement channel to service management, marketing and sales			
Enable services view: Visualized information dashboards (also key users including SLAs etc) Foundations for digitalized governance: interactive communication via calendars Enable logic and user interface for user self service Provide web link to all Tieto MS service provision automation engines + API based seamless integration to TECO and TCS	Enable marketing channel to run service marketing promotions Digitalized project governance: Project portfolio and finance dashboards for project managers Concept to promote proactively self-service suggestions based on analytics (eg hard disk is getting full, let's fix it) Provide API based seamless integration to all Tieto MS provision automation engines	Enable sales transactions over the portal for known customers Digitalized service governance: Dash-boards and decision making tools (eg change management) for all services Dynamic analytics to combine and modify reporting based on user's needs eg regarding provided value Provide API based integration to all Tieto automation engines including CSI, industry Bus	X0% of additional sales come via digital channels
3) Making it easier to identify, nurture and promote valuable information			
Enable logic and user interface to search digital learning base (eg self-service FAQs for users based on Tieto created content) Concept to import 3rd party data into learning base (eg batch based from customer knowledge base)	Digital interactive learning base (crowdsourced content, single customer and their partners) Concept to integrate 3rd party system into learning base (eg API call to partner knowledge base) Concept and logic how to interact with social layers (eg Yammer feed view in service channel)	Digital community learning base (crowdsourced content; several customers and wider ecosystems) Concept and logic how to embed service channel into social layers (eg SC embedded in Facebook)	Concept to leverage artificial intelligence to populate digital learning base automatically Machine learning from user and support actions and harvesting information from public web. Providing open APIs to 3rd parties to share learnings externally to promote Tieto brand

Figure 51: Tieto. 2014. Tieto Service Channel vision

In the next subchapter author explained results from studies performed.

6.4 Trends research results

Analysis of trends in the context of qualitative research done by author of this thesis is a task done manually. Author indicated that the best approach will be achieved by utilizing Qualitative Trend Analysis method (QTA). It takes into consideration two mentioned factors, influence range and lifespan (Gao et al. 2010). The idea is to categorize trends primitives based on experts' knowledge and analyze their impact on influence range and lifespan. Author of thesis chosen Trends card as trend tool for analysis purposes as this tool gives quite good overview over influence range and lifespan of the trends. Therefore it might be important in providing good visual outcomes as it might help in ideation and idea prioritization.

At the beginning of November 2015 author set up short meeting to which he invited product owner and technical architect to have a look on Forrester (2014) trends and map primitives based on expert's opinion. In Figure below author presents picture from the session.

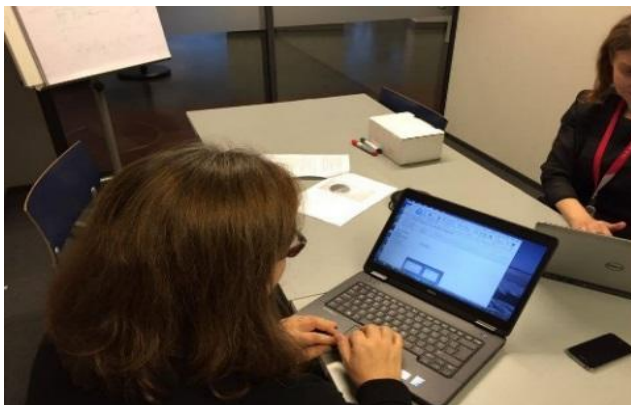


Figure 52: Tieto. 11.2015. Tieto Service Channel: Defining trends - session

Author went with experts through all 10 trends and asked how experts perceives lifespan and influence range. After that he mapped primitives based on those answers. Figure below presents mapped trends, primitives and Tieto weak signals together.

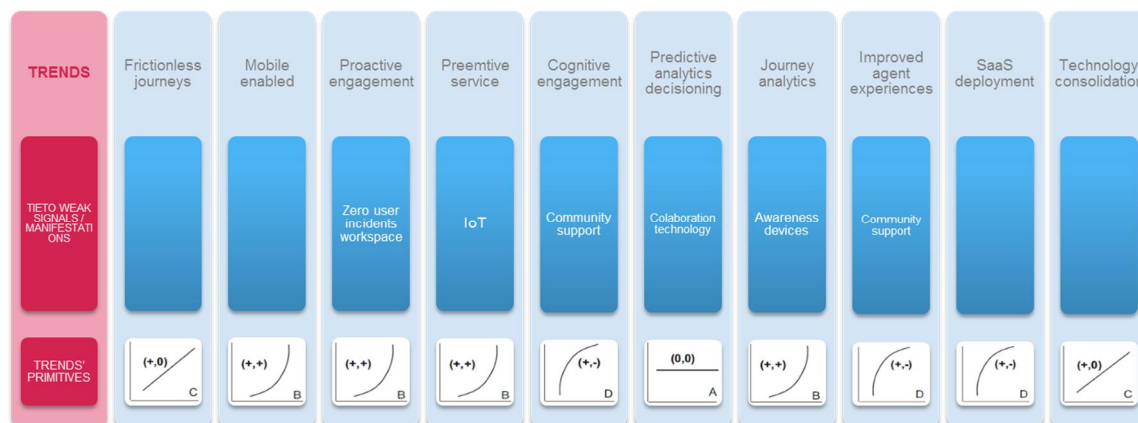


Figure 53: Tieto. 11.2015. Tieto Service Channel: Trends vs. primitives

The most important trends from Tieto Service Channel point of view must drive one of 3 elements defined in Tieto Service Channel vision (2014):

- A. Improving user experience and personalization
- B. Providing digital customer engagement channel to service management, marketing and sales
- C. Making it easier to identify, nurture and promote valuable information

Author decided then to assess which of trends that have steady or fast adoption rate (based on primitives) talks about Tieto Service Channel vision aspects and to concentrate his effort only on those ones which contains all 3 drivers. Trends with slow adoption were not taken into consideration. Table below presents consolidated information from this process.

Table 8: Tieto. 11.2015. Tieto Service Channel: Trends vs. vision

Trends	A	B	C
1. Customers Will Embrace Emerging Channels To Reduce Friction - customers expects to use various digital channels pretty much effortless with real-time authentication, examples: voice calls or video chat, digital portals and social communities.	X		
2. Knowledge Will Evolve From Dialog To Cognitive Engagement - knowledge management should be intuitive and interactive, proposing solution automatically in natural way for users. Automatic knowledge creation is a must.	X		X
3. Improved Agent Experiences Come Into The Spotlight - one place for all information that agents needs to maintain usually in separate tools.	X	X	X
4. Customer Service Organizations Will Adopt SaaS Solutions For Agility - software as a service offering is increasing.	X		
5. The Customer Service Technology Ecosystem Will Consolidate - complex technologies ecosystems should be unified and solutions combined to provide focused one access point.	X		X

From information in the table the outcomes provides information that only one trend meets all 3 requirements: 3. Improved agent experiences come into the spotlight - one place for all information that agents needs to maintain usually in separate tools.

This trend was mapped with Tieto weak signal / manifestation corresponding where Tieto wants to improve knowledge based collaboration by utilizing BYOD concepts and community support or Tieto crowdsourcing employee assets. Author of thesis things that should give a really good base for future investigation and development activities. Therefore, author decided to utilize trend cards to analyze trend situation and find out more about driving forces of this trend, counter trends, people and adoption of it, as well as maturity and speed and how it is covered globally. Figure below presents trends card for chosen trend.



Figure 54: Tieto. 2015. Tieto Service Channel. Trend card for Super command center

It was noticed that following trend comes from phenomenon in consumer market where products and services are unified, consolidated and personalized. There is urge need to compact large amount of data to be more narrowed because amount of information available exceeds human capabilities to grasp it at once influencing the way how efficiently work can be performed. Most importantly, it is about information that can be condensed and streamlined to one place and location. That allows it to be more tailored to individual needs. Another aspect of this trend comes from issues of redundancy where redundant information is everywhere. Internet is one good example where there is thousand sites streaming same audio, video, providing same content. Integrations can consolidate ecosystems elements and complex technologies to form which is more understandable by average consumer. It is natural for human to understand and remember simple set of data and put attention to one element than do multitasking due to our memory capabilities. Unstructured and scattered data can produce irrelevant information, focus on wrong aspects, distract from valid issues, results in making wrong decisions and lastly create information silos hard to overcome. This trend exists in fast growing populations where the average salary is medium or high and the machines can make the work cheaper. Automation services and integrations of the systems are already implemented and

people's role in it is just to receive information, make decision (if not automated) and react on incoming requests or changes. Development of trend has medium speed as consolidation of information is needed but there are still old systems in use. It needs investment in solutions consolidating information and trainings for people to use new tool in efficient manner. If all that will happen people will have information at glance, will be able to make valid decisions and react on issues faster. This implies to resources needs as consolidated systems requiring less operators but more maintenance specialists and integrators. It opens new development possibilities for IoT (Internet of Things), where useful information about states of systems could be captured and populated automatically, and operators would have more accurate information to make better decisions. This situation allows to share gathered information in controlled way, and focus on presenting only the right aspects enabling social integration between resources and co-operators.

Author of the thesis took into consideration Tieto driver in improving knowledge base collaboration and community support and therefore recommends that super command center should consist of elements like:

1. Community support by exchanging information and ideas between actors.
2. Collaboration tools to facilitate and crowdsource actions between actors.
3. Integrate data from all possible systems and present it into one stream to actors.
4. Be able to select only relevant information to actor (configuration capabilities).
5. Automate decision and business flows that do not require human interactions.
6. Allow actors to access super command center from every location with any device.
7. Involve end users in support process introducing easier self-service functionalities.

Trend card as tool has a lot of advantages. It helps to visualize important elements in one place focusing only on important areas. What is interesting for author in this tool is the fact that it puts in one place drivers, people's outlook on phenomena and implications. It results in possibly to analyze information and ideate around solutions that could be developed in the future. Author sees importance of futures thinking aspects and needs to take it into consideration when developing solutions that utilize service design approach. Trends role in whole process is quite significant in discovery phase to understand the phenomena behind issues and to condense latest knowledge and future stories to narrow down important development aspects. It helps to set priorities and vision of the project and inspire people to think about future impact of solution on customer or end user.

7 Conclusion

This thesis treats subject of customer experience (CX) very widely. It is due to fact that anyone who would like to investigate CX in his organization needs to take into consideration various different aspects. Due to limitation of data received from small amount of sources,

outcomes of this thesis are not based on all possible data and therefore are subject of generalization, with possible strong influence by external factors and underestimations that may strongly correlate with results. Thus author of the thesis concentrated on qualitative analysis to receive any valuable information that could be discussed, analyzed and verified utilizing scientific research approaches, method and tools and theoretical framework.

Presented thesis report discuss the issue of trust through its determinants like confidence, honesty and reliability. Special attention is put on customer satisfaction that influence on credibility and benevolence which many authors connects with customers' loyalty towards product or service, and having direct implication on retention. Because of that, author of thesis put stress on explaining the role of company and its interaction with employees in shaping relationship with customers. He argues that, together with service processes, activities leading to higher confidence in providing services and emotional values influencing on those interaction, it defines factors influencing on customers loyalty in the context of B2B services provided by Tieto Service Channel. In addition, factors like specific customer requirements, elements and functionalities keeping attractiveness of the service and issues related to self-realizations of customers and their taken-for-granted beliefs determining the most customer experience of Tieto Service Channel. A lot to do with those issues has expertise which customers' in using the service as well as service customizations made. Through those aspects customers are creating unique emotional bonding towards Tieto brand which unfortunately in some cases was broken because of customers' betrayal feelings they have after using Tieto Service Channel some period of time. Some authors suggest that this fact radiates on extending the psychological distance between employees responsible for customers in Tieto and customers itself. Therefore, the role of service provider should be in creating outstanding service landscape where multi-sensory and interactive relativistic preference aspects of experiences will help to reengage customers to use Tieto Service Channel. It should happen with elements embracing in them cognitive, emotional and behavioral responses to service. As experience is a very personal thing, the qualities like possibility of having choice and be able to compare with other services, way of dealing with problems in service, physical and emotional benefits for customers receiving service are those drivers giving right angle on approach that should be taken for setting up and popularize Tieto Service Channel for all Tieto customers. Because of issues with easiness in following process, comparison with previous products, customers' past experiences and the way how customers perceives risks in delivering Tieto Service Channel. Author sees that there is a need to put the highest attention by Tieto customer teams to drive solution implementation to mitigate the root causes of these issues where its big role has guidelines definition he made.

Presented thesis focused on and validated Constructive Research Approach (CRA) research method that could be useful in defining the problem, understanding the topic, designing and prototyping solution, as well as analyzing and verifying it for purpose of research. The method itself is quite easy to follow and execute and it allows researcher to focus on relevant problem,

understand right topic, innovate and demonstrate solution, and connect theory with research in purpose of examine the applicability of that solution. Someone can argue that this method requires quite many steps to fulfill comparing to lean methods promoted by others as fast and easy, however author find it useful especially in application of service design methods and tools for research purposes. CRA involves service design phase like prototyping which naturally complies with service design methods and do not require any adaptation. In fact, service design phases of chosen framework (double diamond) compliment CRA method phases so there is no need to utilize other tools and methods, which author took as advantage. Author freely utilized customer journey map, stakeholders map and personas, and thanks to project managerial outlook of this method he was able to apply it in context of Tieto Service Channel project case without any troubles. The only deviation comes from the fact that verification phase will not be completed before thesis was written due to Tieto Service Channel project schedules and phases that cannot be overcome. Therefore author described proposal approach for that phase and possible application of chosen tool.

Created solution in form of guidelines for Tieto customer teams was analyzed from being useful, visually understandable, and easy to use and implement. Fast verification with end users suggests that it might be a good tool to embrace customer experience in areas relevant for Tieto customer teams and its customers that should improve current situation that causing problems with adoption of digital services. Digital evolution that is happening right now requires engaging multidisciplinary approaches to develop research skills being able to handle complex service landscapes defined by digital solutions. As it impacts each and every part of our lives, it definitely requires shifting customers' focus to work in digital space. Tieto role in this process is to enable capabilities that Tieto Service Channel has as digital channel to deliver meaningful value for customers. In addition, it should make customers' journey through digital channel as memorable as possible so they will be convinced to utilize it again in the future. There is still long way to go. Current state of adoption of customer centricity in Tieto Managed Services organization is not yet the best possible and therefore author of the thesis sees a lot of opportunities to improve situation in near future. Digitalization enforces in Tieto Managed Services organization transparency, creating more intelligent connected solutions, new data storage capacity possibilities and implementation of analytics and automation, however nothing will happen without outstanding customer experience and right user engagement. This should be the next big hype for Tieto Managed Services area that author will try continuously work on in near future. There are some activities already started for which this thesis might be a great starting point. Only the future might show if Tieto Service Channel become a part of hyper-connected Nordic societies digital channel and be a source and great example of digital customer-centric culture for whole Tieto Managed Services organization.

"I do not wish to speak of any specific journey, for in my mind there is always a journey to Italy. It may be a past journey that still lives on in my memory; it may be a journey I am making or perhaps a journey I am planning. Such a journey is probably necessary, a 'conditio sine qua non' for my work (Alvar Aalto 1954)."

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Appendix 1 - Focus group results, Sweden

Issue	Category	Dimension	Indicator	Benevolence	Credibility
To have standard option to set up TONE portal as now it is hard to understand process	Service process	peace of mind	process ease		
We want to feel proud about SC during presentations and demo. Now during tests we have various different issues.	Affective experience	Outcome focus	past experience		
When you start use SC and you spot problems you don't want to use it again.	Online hedonic elements	Outcome focus	past experience		
If in TONE portal end users using order forms then we cannot go to production without sorting out orders' issues	Online functional elements	peace of mind	past experience		
Not everything has been communicated to us in respect to Governance section i.e. how to use upload function	Customer interaction	peace of mind	process ease		
If we feel that there are issues to be fixed, let's do that and enable all necessary re-sources	Relational experience	moments of truth	proactivity		
TONE and TONE Portal are not the same in case of configuration. There should be possibility to import content and details.	Customization	Product experience	cross product comparition		
We would like to be heard, give feedback, and receive status update. We will not discuss with customer unless we are sure about current status.	Customer interaction	peace of mind	process ease		
Where we can add enhancement, what is the process? How we can see status of these enhancements?	Service process	peace of mind	process ease		
Chat function should have Wow effect.	Online aesthetics	Outcome focus	past experience		
Pop up / warning to people in chat if conversation is restarted. There should be copy paste function	Customization	Product experience	cross product comparition		
Service Offering for EUS issue - there should be only one service offering.	Customer interaction	Product experience	cross product comparition		
KOP is not focusing well on standard solutions.	Service process	Product experience	cross product comparition		
We spend a lot of hours to work on fulfilling templates but visible results are not satisfactonary	Affective experience	Outcome focus	past experience		
Ticket priority - possibility to change priority of ticket - process description is missing.	Customer interaction	Product experience	cross product comparition		
With high resolution, icons/modules/text looking quite big.	Online aesthetics	Product experience	cross product comparition		
After pilot there should not be any not working functionality delivered to production	Service process	Outcome focus	past experience		
Standard implementation for SC should be in place and rest of requirements will be developed via project development.	Service process	Product experience	cross product comparition		
SC is communication channel to watch our customers. It should work well No reoccurring issues	Customer interaction	Outcome focus	past experience		

More system integration (more data to exchange) between customer and Tieto	Value added	Product experience	cross product comparison		
Pushy process. We were forced to use SC. We got told that SC must be implemented now, without proper discussion.	Affective experience	peace of mind	process ease		
Fun was to see page live, working, and in short period of time.	Affective experience	Outcome focus	past experience		
IdP federation process should have wow effect too. Solution should be for end users not IT users.	Affective experience	Outcome focus	past experience		
It is not easy to understand TONE config (Service offering etc.) excels. User guide is required.	Customer interaction	peace of mind	process ease		
Cut paste tool for adding attachment would be good to have.	Customization	Product experience	cross product comparison		
Wow effect is missing. Look and feel factor should be prioritized in development.	Online hedonic elements	Outcome focus	past experience		
Why we should move to SC if SC is not finished yet and we have working TONE portal?	Affective experience	Product experience	freedom of choice		
Good explanation required who should see monitoring tickets	Convenience	peace of mind	process ease		
Better explanation for customer teams (benefits) why we are dropping email usage for chat usage.	Convenience	peace of mind	process ease		
When you use explorer mode in CSP to move files to Governance files are getting new creation date. We need to have proper tool for transfer data.	Customization	Product experience	cross product comparison		
What about smart billing capabilities build in SC?	Customization	Product experience	cross product comparison		
Chat training should include end to end view, as well for SD agent. They should know how each function affect different processes, not just overview	Customer interaction	peace of mind	process ease		
There is discrepancy between order of modules in landing page vs. tabs indicating modules when user is already in some module	Online aesthetics	peace of mind	expertise		
SD information in SC should be based on end user location	Customization	peace of mind	expertise		
Abbreviation for Service Channel - SC or TCS?	Online hedonic elements	Outcome focus	common grounding		

Appendix 2 - Focus group results, Finland

Issue	Category	Dimension	Indicator	Benevolence	Credibility
Language issue on landing page - chosen language setting by end user is not working in SC	Online aesthetics	peace of mind	process ease		
Fulfilling templates taking ages - why project team cannot take information from TONE or CSP?	Customer interaction	Product experience	cross product comparison		
Log out functionality is really need. Causing a lot of frustration	Customization	Product experience	cross product comparison		
in SC we do have only Governance part and without order forms fixed it is difficult to maintain daily work / business with customer	Customer interaction	Outcome focus	past experience		
There is a confusion if we say that project is done from dev point of you even though it is not handed over to continuous services. Proper communication is need	Service process	peace of mind	process ease		
Availability of service request order form should be wider advertised. For now people do not know if such thing exists	Service process	peace of mind	process ease		
There is need better communication about testing of order forms, progress etc	Customer interaction	peace of mind	process ease		
There should be set of standard order forms available immediately to be activated and used.	Customization	peace of mind	process ease		
We do not see what production configuration is. We should have this possibility, test accounts.	Customization	peace of mind	process ease		
How we can make sure that test accounts are available for us before rollout?	Convenience	Outcome focus	past experience		
Setting up SC is taking some time. Setting up process for small customers should be checked i.e. HCW area. It will be too costly if we rollout SC for small customers.	Service process	peace of mind	process ease		
There should be better visibility over rollout of TEAP/SSO (more transparency). SSO delivery date should be better clarified.	Customer interaction	peace of mind	process ease		
We are experiencing SharePoint performance issues	Customer interaction	Outcome focus	past experience		
What impact will be for customers if SharePoint will be switched to other system?	Affective experience	moments of truth	risk perception		
SharePoint more intelligent functionality is need i.e. self-setting rights, structure as in CSP etc.	Customization	Product experience	cross product comparison		
We should have a way to deal better with late rollouts. What is the implication? What kind of impact it will have to new customers?	Service process	moments of truth	risk perception		
Library management in SharePoint is not clear enough.	Online functional elements	peace of mind	process ease		
Why CSM needs to contact SD managers about chat and testing?	Service process	peace of mind	process ease		
SC communication package should be reviewed/updated to bring more clarity	Customer interaction	peace of mind	process ease		
Rollout list/roadmap should be widely available	Service process	peace of mind	process ease		

We want to have more information from KOP projects status update	Customer interaction	peace of mind	process ease		
Configuration phase is not visible for customers i.e. what was done, what is still missing, when tests can start etc	Customer interaction	peace of mind	process ease		
We do not have much time to be present on trainings	Service process	peace of mind	process ease		
Governance roles template difficult to fulfill	Customer interaction	peace of mind	process ease		
We need to have clear information about costs connected with SC usage	Service process	peace of mind	process ease		
SLA reports catalogue structure should be more flexible to handle reports generated for particular issues	Customization	product experience	cross product comparition		
Reoccurring issues causing lower credibility of SC	Affective experience	moments of truth	risk perception		
Customer expects to have readymade product rather than work on it	Affective experience	Product experience	freedom of choice		
Reoccurring issues with SharePoint visibility	Online functional elements	moments of truth	risk perception		
It is not clear for me how CSP files should be transferred to Governance	Customer interaction	peace of mind	process ease		
Information when ordering will be available is need. Process should be more transparent.	Service process	peace of mind	process ease		
New order forms creation - what are the costs and instructions need	Service process	peace of mind	process ease		
Too many things still not solved in handover meetings. There should be way to solve them faster	Service process	peace of mind	process ease		

Appendix 3 - Observation purposes - email

Hello again,

I am writing to you as there were several questions related to activities about Service Channel user's observation. We would like to share with you few things so you will have full picture of what is going to happen and why. We all hope you are able to help in this task as it will bring benefits to all of us. Our aim is to bring Service Channel closer to end users, so they would use it more often (KOP project goal) and advise on possibilities that they have in interacting with Tieto.

- Conducting of end user observations should start still in August. We are looking to have variety of end users from customer side (IT specialists, managers, and most importantly normal end users)
- Observations will be done in the environment preferred by customers. Of course, we are aiming for environment that is end user environment or as close as possible (their working place, their laptops, mobile devices etc.). It is to reveal behavioral patterns or other issues we wouldn't be able to indicate during verbal discussion with them. Prior experience of using Service Channel is not necessary. End users do not have to have all modules activated. We just need their willingness to participate.
- Observations will take approximately 30min up to 1h, depend on amount of scenarios to be checked. After each observation we are planning 10-15min free discussion where we will get to know from users some information specific to situation when he/she is using (or going to use) Service Channel. Observation and discussion will be in English as this is Tieto official language.
- During observations we will utilize software which is capturing desktop screen actions done by user as well as camera recording (behavioral part). Of course, it will require their agreement on it. All ethical, security and privacy standards will be kept!
- Each observed end user will receive small gift from Tieto as a result of their commitment and contribution.
- Collected data will be used to create a report/thesis which will be published by November and will help in further development of our services. Customer team who managed to agree with customer end users on observations will receive the report as well as interesting data about customers' insights from our analytics tool.

We are looking forward to hear from you more about possibility to interview your customer's end users. Please contact us if you managed to agree about it with your customer or if your customer is interested to participate in.

On behalf of Tieto Service Channel team - Thank you in advance!

Appendix 4 - Constrains with observations' idea

Reason	Constraints categories
"I'm afraid you have to ask permission from XXX."	Permissions
"Sorry for not answering, my comments on customer XXX: We have 2 customer users, only Governance for steering group material, customers see this only as a document library, they are not willing to take part in development actions."	Time Limited users amounts Limited scope Willingness to participate
"Sorry for not answering earlier as XXX was on the road last week (and in fact travelling also now as we speak). But now we had a quick chat with XXX and couple of things to consider:"	Time
"XXX is still using CSP mostly as Application-/product side of HCW has not done the document transfer"	Limited scope
"XXX has not yet "properly" started to use SC. XXX is about to arrange couple of hands-on trainings for them at the end of this month - so only after that they do start to get real experiences of using SC"	Time No training provided Personal beliefs
"Their main user is on a vacation the first two weeks of June - so it would seem that first possibility to get meaningful feedback would be on the second half of the June"	Time
"XX really is/will be using the SC very limited way - just the Governance - so would it be somewhat "overkill" to fly other side of Finland and watch them just opening documents and ask, "could this be better - how?"	Limited scope
"They are normally quite allergic to English"	Language
"just makes me wonder is this customer (even if important it is) worth this effort if they by their own choice use only small part of SC."	Personal beliefs Limited scope
"As we are going into production on 1.6. There is no point of meeting XXX users in May yet."	Time Personal beliefs
"I would like to let them use the tool for at least few weeks before asking for comments, so it would be possible earliest after mid-June - when the holiday season already starts"	Time Personal beliefs
"And I'm a bit sceptic of XXX willingness for this (due to language barrier and as they probably will not be extremely active on using it based on the experience from CSP and Tone Portal), but of course I can ask."	Willingness to participate Language Personal beliefs
"Meeting with customer is good idea but at the moment XXX finishing two crucial projects and they don't have much time for other meetings. They are fully booked with testing and fixing issues"	Time
"XXX own customer SD is starting to use Service Channel within May-June and they will use SC different way than IT-people. So we think that maybe during or after summer you might have great conversation with them."	Time Personal beliefs
"Sounds great! I'll ask from XXX from Customer side that if he would be interested about this, I'll get back to you "	Permissions
"SC usage has been very low this far so there aren't many experiences to work on. All current SC end users are gathered on Wednesday and I expect we can suggest a date then, but even early June may be a bit early as most have barely logged on to SC."	Limited scope Time Willingness to participate
"This will be postponed until further notice customer needs to use the service channel for a while first. I would guess a couple of month's maybe?"	Time Personal beliefs
"I think that it was agreed that possibly after the summer it would be the best time."	Time
"Sorry my delay... I think this XXX is not a good customer for Service Channel end user's meeting."	Time Personal beliefs

"Customer has five user accounts to Service Channel but only one of them is a onetime tested Service Channel. User IDs are only members of the management team members (if they want use governance section). End users do not have accounts for Service Channel because customer's own service desk in Finland and Sweden take care of end-user contacts. Customer uses contacts to Tieto XXX own XXX system which is integrated with the TONE system so they send service requests directly to Tieto service desk. Customers have only about 5 -6 service requests per month. Very " quiet" customer and reason for that is the production environment that is very stable"	Limited users amounts Limited scope Process Personal beliefs
"also similar inquiry (...to meet XXX end users) has been made. But they have similar production environment like XXX. The Customer has only one user ID for Service Channel Governance section and service requests per month are pure zero. Continuous services do not directly cooperate with end-users. Customer directly contacts the person who is responsible XXX application"	Process Limited scope Limited users amount
"Considering that only one person in XXX has tested SC, I personally don't see any point in this. I hope you find some other more suitable persons for your study."	
"Official launch of SC for XXX was planned to happen today 1st of June, but we have some delay with SLA reporting so that launch is delayed. Some users are tested SC already but not using officially yet. My recommendation is postpone the customer contacting."	Time Personal beliefs
"Unfortunately XXX haven't answered to my question, I'll remind him."	Time
"XXX hasn't started to use Service Channel yet. So let's postpone this meeting with customer."	Time Personal beliefs
"for XXX this time is not yet suitable, as vacation season continues still. Also customer needs a bit more time to use Service Channel, it has been so far not so actively used. I suggest to come back to this topic in Sep/Oct. "	Time Personal beliefs
"Vacation time is not totally over yet - eg. XXX main contact person for this is still on holiday until 19.8. But I did forward your request to the XXX people mainly using TSC, let's see what they will reply."	Time
"Sorry, but XXX is still not using Service Channel officially, some users are just tested and the usage is planned to start during August. The usage will be only reading documents and reports, nothing else"	Personal beliefs Limited scope Time
"Some customer ICT key persons are still on vacation, expected to return mid-August (17th)"	Time
"From my POV this is ok and a good initiative. I presume that the service unit handles the costs of travel?"	Costs constraints
"Unfortunately we have had major problem with Tieto's XXX-team connections and that's why XXX will start testing Service Channel week 34. So far SC is tested only by two XXX employee so there's not so much experience yet. It would be great if you can come and meet customer a little bit later."	Process Limited users amount Time
"Sorry I don't answered earlier. This is my first week after vacation. XXX is not present for this activity because they have written in their contract that all contact should be in Swedish language. XXX really like the new CSP - we are only waiting for calendar function. I tried to order but it was not ready when the same customer has 2 different portal. For the moment we only have about 30-50 incident every month but 96 % is done by customer in CSP. We also use Governance for lots of documents and it is good that I and the responsible at customer decides who should read which catalog."	Time Process Language Limited scope Issues with tool Personal beliefs
"I don't have any observations as I still don't have access to that site. I have tried to reset the password with SD but no luck. Maybe you should find someone who has actually used the Service Channel"	Process Issues with tool Personal beliefs
"There is no point talking to XXX yet since they aren't really that active in SC."	Limited scope Personal beliefs
"What I meant was that since they haven't really started to use SC they will not be able to give that much feedback."	Limited scope Personal beliefs
"Our end-users och for that manner anyone at our customers do not like to be part of any testing now! Because in their point of view this SC should already work the first time we introduce it! So IF they have opinions about it then we have to have a swift organization that handles those tickets and	Willingness to participate Process Personal beliefs

requests fast! Think banking! Do you think banks who started with "Internet bank" asked their customer to test? No, because we have to have a great product direct from start, otherwise it will collapse and our ONE chance to make a different to our competitors has passed"	
"I am up for this activity, but unfortunately the Service Channel still hasn't been utilized by XXX end users yet. We are waiting for transferring some of the new end users services into continuous services which will hopefully happen late October."	Time Limited scope
"Unfortunately our customers are not able to participate to this now. Other more urgent priorities at customer + in our customer teams. "	Time Willingness to participate Personal beliefs

Appendix 5 - Constraints categories vs. customer experience factors and satisfaction indicators

Constraints categories	Amounts	%	Category	Dimension	Indicator
Permission	2	2.56%	Service process	product experience	account management
Time	23	29.49%	Service process	outcome focus	past experience
Limited user amounts	4	5.13%	Customer interaction	outcome focus	past experience
Limited scope	12	15.38%	Online functional elements	product experience	cross product comparison
Willingness to participate	5	6.41%	Customer interaction	product experience	freedom of choice
No training provided	1	1.28%	Service process	outcome focus	past experience
Personal believes	19	24.36%	Relational experience	peace of mind	expertice
Language	3	3.85%	Customer interaction	outcome focus	past experience
Process	6	7.69%	Service process	product experience	freedom of choice
Cost constraints	1	1.28%	Convenience	outcome focus	past experience
Issues with tool	2	2.56%	Customer interaction	peace of mind	proces ease
TOTAL:	78				

Appendix 6 - Details observation explanation for customer teams - email

Hello XXX,

Thank you very much for the chat. As I promised I am sending you more information about what we are planning to do...

Our aim is to bring Service Channel closer to end users, so they would use it more often (KOP project goal) and advise on possibilities that they have in interacting with Tieto.

- Conducting of end user observations should start ASAP. We are looking to have variety of end users from customer side (IT specialists, managers, and most importantly normal end users)
- Observations will be done in the environment preferred by customers. Of course, we are aiming for environment that is end user environment or as close as possible (their working place, their laptops, mobile devices etc.). It is to reveal behavioral patterns or other issues we wouldn't be able to indicate during verbal discussion with them. Prior experience of using Service Channel is not necessary. End users do not have to have all modules activated. We just need their willingness to participate.
- Observations will take approximately up to 1h, depend on amount of scenarios to be checked. After each observation we are planning 10-15min free discussion (short interview) where we will get to know from users some information specific to situation when he/she is using (or going to use) Service Channel. Observation and discussion will be in English as this is Tieto official language.
- During observations we will utilize software which is capturing desktop screen actions done by user as well as camera recording (behavioral part). Of course, it will require their agreement on it. All ethical, security and privacy standards will be kept!
- Each observed end user will receive small gift from Tieto as a result of their commitment and contribution.
- Collected data will be used to create a report/thesis which will be published by December and will help in further development of our services. Customer team who managed to agree with customer end users on observations will receive the report as well as interesting data about customers' insights from our analytics tool.

Customer / End user preparation:

Preparation

1. To prepare for our meeting I will kindly ask end user to install following software (BB FlashBack Express 5) in local machine/laptop: <http://www.bbsoftware.co.uk/bbflashbackexpress/download.aspx> This is a free software that allows to capture sound, desktop movements and camera at once so we will be able to have at glance all necessary information we need to analyze functional and behavioral part. End user will be able to uninstall it after our session. Please note: to put your email address on the page to obtain free license key need during installation. If end user do not have camera in your laptop, no problem, I will bring additional one.

On the day of the meeting

1. It would be great if we could meet earlier to have time to prepare laptop, instruct end user and give some hints.

2. What we are going to do first is that I will ask to perform certain scenarios. At the beginning we will use test account and after that we will switch to end user own one. We have few scenarios to be performed and that should not take more than 30-40min. We will record all the actions you perform and it will be stored securely in dedicated USB drive. I will use it for analysis. Please note: all gathered data we will treat confidentially. No personal and company information will be stored and we will analyze only functional and behavioral aspects of Service Channel usage (only this window will be recorded).
3. After observation phase we will have short discussion (some sort of interview) about your feelings, thoughts, development ideas of Service Channel. Any feedback is appreciated. I prepared some questions to guide end user through topic.

After the meeting

1. I will gather all results from various observations and analyze it. It will be a base for Service Channel future development and for a report/thesis that will be published on December 2015. Tieto customer team will be able to share it with end user if there will be interested to read it.
2. If end user like to share officially feedback about Service Channel we will be gladly promote it across as a success story of our cooperation.

Proposed time: any day next week is OK for me or if not possible next week then a week later (except 23.10). I will travel to customer's office, no problem with that. In addition, it will be good if in the same day we could make observation of your experience in using SC too. So we will consider not only end user but as well your side as our internal user.

Thank you very much for help!

Appendix 7 - Observation invitation for customer - email

Hello XXX,

Here is the reminder about our upcoming meeting on Friday. Thank you very much for such an opportunity to meet you. Due to that fact I would like to share with you what we are going to do. Feel free to comment if you have any doubts or questions.

Preparation

2. To prepare for our meeting I will kindly ask you to install following software (BB FlashBack Express 5) in your local machine/laptop: <http://www.bbsoftware.co.uk/bbflashbackexpress/download.aspx> This is a free software that allows to capture sound, desktop movements and camera at once so we will be able to have at glance all necessary information we need to analyze functional and behavioral part. You will be able to uninstall it after our session. Please note: Please put your email address on the page to obtain free license key need during installation. If you do not have camera in your laptop, no problem, I will bring additional one.

On the day of the meeting

4. Meeting is planned on Friday 02.10.2015 at 12:00 EET. It would be great if we could meet 11:40EET in the lobby to have time to prepare your laptop, instruct you and give some hints.
5. What we are going to do first is that I will ask you to perform certain scenarios. At the beginning we will use test account XXX, after that we will switch to your own one. We have few scenarios to be performed and that should not take more than 30-40min. We will record all the actions you perform and it will be stored securely in dedicated USB drive. I will use it for analysis. Please note: all gathered data we will treat confidentially. No personal and company information will be stored and we will analyze only functional and behavioral aspects of Service Channel usage (only this window will be recorded).
6. After observation phase we will have short discussion (some sort of interview) about your feelings, thoughts, development ideas of Service Channel. Any feedback is appreciated. I prepared some questions to guide you through topic.

After the meeting

3. I will gather all results from various observations and analyze it. It will be a base for Service Channel future development and for a report/thesis that will be published on December 2015. Tieto customer team will be able to share it with you if you will be interested to read it.
4. If you like to share officially feedback about Service Channel we will be gladly promote it across as a success story of our cooperation.

On behalf of Tieto Service Channel team thank you for your time!

Appendix 8 - Observation scenarios

SCENARIOS: Interaction with Tieto Service Channel

1 Please log in to service channel with test account and set language to English

2 Please report a problem on issue where you:

- Attach the file
- Put exact date
- You reporting in on behalf of someone else
- After creation of ticket please go to ticket details and update ticket with comments and new attachment
- Please notify ticket number

3 Please order with selected service catalogue item (make 2 orders which requires approval)

- Fulfill necessary fields
- Attach file
- After creation of order please go to order details and update order with comments and new attachment
- Please notify ticket number and description of the order

4 Please log out from test account and switch to your own account

5 Please go to Track a problem or order and

- Search for incident tickets that has been created by test account
- Search for medium and low priority incident tickets which are closed and created by myself created on i.e. 24.08.2015
- Please save chosen filter selection
- Please check if there are any incident tickets that requiring your action

- Please check if you have any orders requiring approval from your side
- Please search for orders created earlier in test account with order ID requiring your approval and approve first order
- Please look for orders created earlier in test account with description requiring your approval and reject second order

6 Please go to Governance -> Calendar and select 2 service offerings for which you would like to have visibility over events and specify time frame of visibility. We are interested in some change tickets available.

7 Please go to Governance -> Report & Documents and open one of most recently updated documents

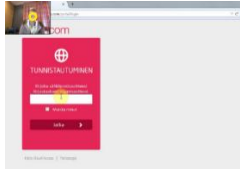
8 Please go to chosen by you library and upload chosen by you document. Please notify the name of the document

9 Please go back to main view of Report & Documents and search for document you uploaded before

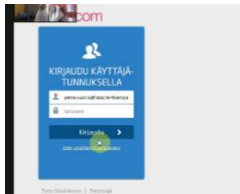
Appendix 9 - Observation results

SCENARIOS: Interaction with Tieto Service Channel - results

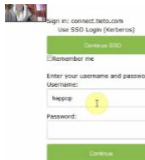
1 Please log in to service channel with test account and set language to English



P/ CSM: No issues with login although user did not remember my.tieto.com (she used saved connect.portal.tieto.com link)



P/ CSM: It was visible that it was inconvenient to put same user name and password again



P/ CSM: User writes credentials even if she can just click on SSO button

2 Please report a problem on issue where you:

- Attach the file

Jarmo / IT_Cus: user asked for drag and drop function

- Put exact date
- You reporting in on behalf of someone else



J/ IT_Cus: Annoyed by spinner in looking for people to create ticket on behalf of them.

- After creation of ticket please go to ticket details and update ticket with comments and new attachment



J/ IT_Cus: instead of using button to go to ticket details user went to "Track a problem or order" and look for ticket there.

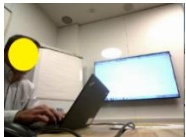
- Please notify ticket number

3 Please order with selected service catalogue item (make 2 orders which requires approval)

- Fulfill necessary fields



J/ IT_Cus: user knows by heart which order forms requiring approval and do not put attention to column "need approval"



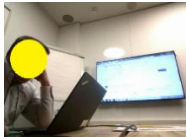
J/ IT_Cus: user did not know where he make mistake in form so he could not find place where to correct information. User put name to approval field (field did not respond at all) instead of using magnifier to look for approvers. Observer had to help user with this task to proceed to next phase.

- Attach file
- After creation of order please go to order details and update order with comments and new attachment
- Please notify ticket number and description of the order

4 Please log out from test account and switch to your own account

5 Please go to Track a problem or order and

- Search for incident tickets that has been created by test account



J/ IT_Cus: user annoyed by spinner running below list of tickets indicating search but nothing happens (possible TSC issue with search function)

- Search for medium and low priority incident tickets which are closed and created by myself created on i.e. 24.08.2015



P/ CSM: Nowhere indicated today's day in date picker



P/ CSM: Information that nothing was found was not visible at first to user she need to scroll up for it.

- Please save chosen filter selection
- Please check if there are any incident tickets that requiring your action



J/ IT_Cus: User first was looking for "need my action" tickets in filters instead on grouped by. Only after some time he found it grouping

- Please check if you have any orders requiring approval from your side



P/ CSM: User was checking Ritm tickets in Track problem

P/ CSM: User clicked on magnifier to search (it wasn't visible from system that order was found - results below screen visibility)

- Please search for orders created earlier in test account with order ID requiring your approval and approve first order



P/ CSM: If nothing was found system message show many messages inside but user do not pay attention, as it does not disappear and appear. Always there.

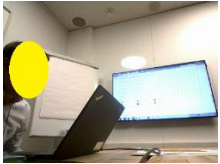
P/ CSM: No approval checked because no order forms requiring approval

- Please look for orders created earlier in test account with description requiring your approval and reject second order

6 Please go to Governance -> Calendar and select 2 service offerings for which you would like to have visibility over events and specify time frame of visibility. We are interested in some change tickets available.



J/ IT_Cus: User was looking for possibility to clear all chosen service offerings



J/ IT_Cus: User could not find check for change tickets. It looks that if they are all in colors it does not appear to user as to check them.

7 Please go to Governance -> Report & Documents and open one of most recently updated documents

8 Please go to chosen by you library and upload chosen by you document. Please notify the name of the document

J/ IT_Cus: user did not have rights to upload documents

9 Please go back to main view of Report & Documents and search for document you uploaded before



P/ CSM: User does not know that indexing of new files takes 1h so they cannot be searched at first immediately.

Appendix 10 - interview questionnaires



GET STARTED

Thank you for allowing Tieto MS to communicate with you via prepared questionnaires. This questionnaire is written for purpose of finding particular information from our customers and its end users. Truthful responses will provide strong bases in continuing or correcting practices and processes in Tieto MS area. We assure you that all responses will be held strictly confidential. Please answer the questions as honest as possible. The questions in this questionnaire are closed and open ended. We appreciate your time and generality.

CUSTOMER SATISFACTION SURVEY: Overall Tieto MS performance

This survey will help to assist with understanding how satisfied customers are based on performance of Tieto Managed Services area. Questionnaire consist of 19 closed questions.

1. How professional is Tieto MS?

- Extremely professional
- Very professional
- Moderately professional
- Slightly professional
- Not at all professional

2. How convenient is Tieto MS in providing services?

- Extremely convenient
- Very convenient
- Moderately convenient
- Slightly convenient
- Not at all convenient

3. How well do you feel that Tieto MS understands your needs?

- Extremely well
- Quite well
- Moderately well
- Slightly well
- Not at all well

4. Compared to Tieto MS competitors, is Tieto service quality better, worse, or about the same?

- A great deal better
- Quite a bit better
- Somewhat better
- About the same
- Somewhat worse
- Quite a bit worse
- A great deal worse
- Don't know

5. Compared to Tieto MS competitors, are Tieto prices higher, lower, or about the same?

- A great deal higher
- Quite a bit higher
- Somewhat higher
- About the same
- Somewhat lower
- Quite a bit lower
- A great deal lower
- Don't know

6. Overall, how responsive have Tieto MS been to your questions or concerns about its services?

- Extremely responsive
- Quite responsive
- Moderately responsive
- Slightly responsive
- Not at all responsive

7. Overall, are you satisfied with the consultants at Tieto MS, neither satisfied nor dissatisfied with them, or dissatisfied with them?

- Extremely satisfied
- Moderately satisfied
- Slightly satisfied
- Neither satisfied nor dissatisfied
- Slightly dissatisfied
- Moderately dissatisfied
- Extremely dissatisfied

8. Do you like Tieto MS, neither like nor dislike it, or dislike it?

- Like a great deal
- Like a moderate amount
- Like a little
- Neither like nor dislike
- Dislike a little
- Dislike a moderate amount
- Dislike a great deal

9. How well did Tieto MS customer service representative answer your question or solve your problem?

- Extremely well
- Quite well
- Moderately well
- Slightly well
- Not at all well

10. How likely is it that you would recommend Tieto MS as a company to a friend or colleague?

- Extremely recommend
- Moderately recommend
- Slightly recommend
- Neither recommend or not recommend
- Slightly not recommend
- Moderately not recommend
- Extremely not recommend

CUSTOMER SATISFACTION SURVEY: Tieto MS customer focus, characteristics and service challenges

This survey will help to assist with understanding how satisfied customers are based on customer focus, characteristics and service challenges of Tieto Managed Services area. Questionnaire consist of 10 closed questions.

1. Tieto MS has a strong commitment (positive attitude and outlook) to provide its customers with excellent service

- Extremely committed
- Very committed
- Moderately committed
- Slightly committed
- Not at all

2. Tieto MS takes care of its customers (and issues) in right way

- Extremely good
- Very good
- Moderately good
- Slightly good
- Not at all

3. Tieto MS shows respect for its customers and co-operators

- Extremely well
- Very well
- Moderately well
- Slightly well
- Not at all

4. Tieto MS has process in place in the event it which we do not have ready solution, and we are seen to use it

- Extremely keen
- Very keen
- Moderately keen
- Slightly keen
- Not at all

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5. Tieto MS is the primary company to which we address issues to solve our problems

- Extremely often
- Very often
- Moderately often
- Slightly often
- Not at all

6. Tieto MS sounds and acts confident in its abilities to perform tasks/jobs and in interactions with its customers and co-operators

- Extremely confident
- Very confident
- Moderately confident
- Slightly confident
- Not at all

7. Tieto MS is efficient in all aspects of given tasks/jobs and handle it in right way

- Extremely efficient
- Very efficient
- Moderately efficient
- Slightly efficient
- Not at all

8. Tieto MS applies high ethical standards to fulfil given tasks/jobs right

- Extremely well
- Very well
- Moderately well
- Slightly well
- Not at all

9. Tieto MS effectively discovers and tries to understand customer's point of view

- Extremely good
- Very good
- Moderately good
- Slightly good
- Not at all

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10. Tieto MS has ability to recognize what to do when encounter difficult circumstances

- Extremely well
- Very well
- Moderately well
- Slightly well
- Not at all

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CUSTOMER SERVICE FEEDBACK SURVEY: Customer interaction with Tieto customer support

This survey will help us assist with understanding how satisfied customers are based on customer support of Tieto Managed Services area. Questionnaire consist of 10 closed questions.

1. How long was your wait on hold before speaking/interacting with Tieto customer service representative?

- Extremely long
- Quite long
- Moderately long
- Slightly long
- Not at all long

2. How well did you feel Tieto customer service representative understood what you were asking for?

- Extremely well
- Quite well
- Moderately well
- Slightly well
- Not at all well

3. How eager to help you were Tieto customer service representatives?

- Extremely eager
- Very eager
- Moderately eager
- Slightly eager
- Not at all eager

4. Would you say that Tieto customer service representative solved your problem or answered your question quickly, slowly, or neither?

- Extremely quickly
- Quite quickly
- Somewhat quickly
- Neither quickly nor slowly
- Somewhat slowly
- Quite slowly
- Extremely slowly

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5. How knowledgeable did Tieto customer service representative seem to you?

- Extremely knowledgeable
- Quite knowledgeable
- Moderately knowledgeable
- Slightly knowledgeable
- Not at all knowledgeable

6. How clear was the information that Tieto customer service representative provided to you?

- Extremely clear
- Quite clear
- Moderately clear
- Slightly clear
- Not at all clear

7. How many of your questions/problems did Tieto customer service representative resolve?

- All of them
- Most of them
- About half of them
- Some of them
- None of them

8. How helpful was Tieto customer service representative?

- Extremely helpful
- Quite helpful
- Moderately helpful
- Slightly helpful
- Not at all helpful

9. Was your experience with Tieto customer service better than you expected it to be, worse than you expected it to be, or about what you expected it to be?

- A great deal better
- Quite a bit better
- Somewhat better
- About what was expected

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Somewhat worse

Quite a bit worse

A great deal worse

Don't know

10. Overall, are you satisfied with Tieto customer service you received, dissatisfied with customer service, or neither satisfied nor dissatisfied?

- Extremely satisfied
- Quite satisfied
- Somewhat satisfied
- Neither satisfied nor dissatisfied
- Somewhat dissatisfied
- Quite dissatisfied
- Extremely dissatisfied

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ROLLOUT PROJECT FEEDBACK SURVEY: Interaction with Tieto customer team during rollout project

This survey will help us assist with understanding how satisfied Tieto customer teams are based on provided solution of Tieto Managed Services area. Questionnaire consist of 5 closed questions.

1. Is Service Channel rollout project in your case currently active, or has it been completed?

- Currently active
- Completed

2. How well did the project manager for rollouts handle your project?

- Extremely well
- Very well
- Moderately well
- Slightly well
- Not at all well

3. How closely did the project manager for rollouts follow your project timeline?

- Extremely closely
- Very closely
- Moderately closely
- Slightly closely
- Not at all closely

4. How likely are you to cooperate with the project manager for rollouts again?

- Extremely likely
- Very likely
- Moderately likely
- Slightly likely
- Not at all likely

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5. How likely are you to recommend the project manager for rollouts to others?

- Extremely likely
- Very likely
- Moderately likely
- Slightly likely
- Not at all likely

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CUSTOMER SERVICE FEEDBACK SURVEY: Idea of using Tieto Service Channel

This survey will help to assist with understanding how customers react to the idea of using Tieto Service Channel provided by Tieto Managed Services area. Questionnaire consist of 10 closed questions.

1. What's your first reaction to new Tieto Service Channel idea?

- Very positive
- Somewhat positive
- Neutral
- Somewhat negative
- Very negative

2. How well, if at all, does the word "INNOVATIVE" describe new Tieto Service Channel?

- Extremely well
- Very well
- Moderately well
- Slightly well
- Not at all well

3. How well, if at all, does the word "WELL-MADE" describe new Tieto Service Channel?

- Extremely well
- Very well
- Moderately well
- Slightly well
- Not at all well

4. How well, if at all, do the words "HIGH QUALITY" describe new Tieto Service Channel?

- Extremely well
- Very well
- Moderately well
- Slightly well
- Not at all well

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5. How often, if ever, do you currently use other, similar services?

- Extremely often
- Very often
- Moderately often
- Slightly often
- Not at all often

6. How likely would you be to buy new Tieto Service Channel if it would offer functions tailored to your needs?

- Extremely likely
- Very likely
- Moderately likely
- Slightly likely
- Not at all likely

7. When you think about new Tieto Service Channel, do you think of it as something you might NEED or as something you might WANT?

- Need
- Want
- Both equally
- Not at all

8. When you're considering new Tieto Service Channel, what are the top two things you generally consider?

- Price
- Brand
- Innovation
- Quality
- Value
- Other:

9. When looking for new Tieto Service Channel, how likely are you to consider Tieto first?

- Extremely likely
- Quite likely
- Moderately likely
- Slightly likely
- Not at all likely

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10. In the past 12 months, how many times have you visited Tieto Customer Support Portal or Tieto TONE Portal?

- Extremely often
- Very often
- Moderately often
- Slightly often
- Not at all often

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CUSTOMER SERVICE FEEDBACK SURVEY: Tieto Service Channel usage

This survey will help to assist with understanding how satisfied customers are of using Tieto Service Channel provided by Tieto Managed Services area. Questionnaire consist of 10 closed questions.

1. Overall, how well does new Tieto Service Channel meet your needs?

- Extremely well
- Very well
- Moderately well
- Not so well
- Not at all well

2. How easy was it to find what you were looking for on new Tieto Service Channel?

- Extremely easy
- Very easy
- Moderately easy
- Not so easy
- Not at all easy

3. Did it take you more or less time than you expected to find what you were looking for on new Tieto Service Channel?

- A lot less time
- A little less time
- About what I expected
- A little more time
- A lot more time

4. How visually appealing is new Tieto Service Channel?

- Extremely appealing
- Very appealing
- Moderately appealing
- Not so appealing
- Not at all appealing

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5. How easy is it to understand the information on new Tieto Service Channel?

- Extremely easy
- Very easy
- Moderately easy
- Not so easy
- Not at all easy

6. How much do you trust the information on new Tieto Service Channel?

- Fully
- A lot
- A moderate amount
- A little
- Not at all

8. Overall, are you satisfied with your experience using new Tieto Service Channel, dissatisfied with it, or neither satisfied or dissatisfied with it?

- Extremely satisfied
- Quite satisfied
- Somewhat satisfied
- Neither satisfied nor dissatisfied
- Somewhat dissatisfied
- Quite dissatisfied
- Extremely dissatisfied

9. How likely would you be to use new Tieto Service Channel instead of Tieto Customer Support Portal or Tieto TONE Portal?

- Extremely likely
- Very likely
- Moderately likely
- Slightly likely
- Not at all likely

10. How likely is it that you would recommend new Tieto Service Channel to a friend or colleague?

- Extremely recommend
- Moderately recommend
- Slightly recommend

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- Neither recommend or not recommend
- Slightly recommend
- Moderately recommend
- Extremely recommend

6. What other information would you like to see our company provide?

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CUSTOMER SERVICE FEEDBACK – OPEN QUESTIONS: Tieto Service Channel usage

This survey will help us assist with understanding how satisfied customers are of using Tieto Service Channel provided by Tieto Managed Service area. Questionnaire consist of 10 open questions.

1. What do you like most about new Tieto Service Channel?
2. What do you like most about competing products currently available from other companies?
3. What would make you more likely to use new Tieto Service Channel?
4. What changes would most improve new Tieto Service Channel?
5. If you are not likely to use new Tieto Service Channel, why not?
6. Did new Tieto Service Channel perform the way the advertising said it would?
7. Did new Tieto Service Channel perform the way you expected it would?
8. Does new Tieto Service Channel conform to a known standard? e.g. AS/NZ Standards, ISO Standards, Government Standards
9. Are the features of new Tieto Service Channel what I thought they would be?
10. Does new Tieto Service Channel have a life time which matches my expectation?

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CUSTOMER SERVICE FEEDBACK SURVEY: Tieto Service Channel communication

This survey will help us assist with understanding what customers expect from communication about Tieto Service Channel of Tieto Managed Service area. Questionnaire consist of 4 closed questions and 1 open question.

1. Through which of the following online formats do you prefer to learn about new Tieto Service Channel?
 - Face to face meetings/presentations
 - Videos / Audio
 - Documents
 - Social media posts
 - Customer review
 - Photos, infographics, images, or illustrations
 - Slides or presentations
 - Forums
 - Other:
2. When you want to learn about new Tieto Service Channel, which tone of communication do you appreciate?
 - Serious
 - Humorous
 - Informative
 - Friendly
 - Educational
 - Other:
3. What is your relationship to Tieto?
 - I'm a customer
 - I've visited the company's website
 - I've received an email from this company
 - I follow the company on social media (e.g., Facebook, Twitter, Instagram, LinkedIn, Pinterest)
 - I've never had contact with this company
4. How often would you want to receive information from Tieto?
 - Once a day or more
 - A few times a week

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- Once a week
- Every now and then
- Never

6. What other information would you like to see our company provide?

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DEMOGRAPHIC INFORMATION

1. What is your sex?
 - Male
 - Female
 - Other
2. To what age range you belong to?
 - < 18
 - 18 - 32
 - 32 - 46
 - 46 - 60
 - > 60
3. What is your company size?
 - < 10
 - 10 - 50
 - 50 - 100
 - 100 - 1000
 - 1000 - 10000
 - > 10000
4. What is your occupation?
 - Specialist
 - Project Manager / Service Manager / Delivery Manager
 - Line Manager
 - Director
 - VP, CEO, CIO, CFO etc.
 - Other, what:
5. Are you end user of Tieto Customer Support Portal or Tieto TONE Portal?
 - Yes
 - No
 - Don't know
 - Other:

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6. How often you use Tieto Customer Support Portal or Tieto TONE Portal?
 - Daily
 - Couple of times per week
 - Couple of time per month
 - Couple of times per year
 - Not at all
7. In which situation you use Tieto Customer Support Portal or Tieto TONE Portal?
 - At work
 - At home
 - In other places, which:
8. Do you use other services provided by Tieto?
 - Yes, which:
 - No
 - I don't know
9. Do you use mobile devices (e.g. mobile phones, tablets etc.) at work?
 - Yes, which:
 - No
10. What operating system does your mobile device have installed?
 - Microsoft Windows Mobile
 - Android
 - iOS (Apple)
 - Other, which:
 - I don't know
11. What browser you have installed on your computer?
 - Microsoft Internet Explorer, which version:
 - Firefox
 - Chrome
 - Safari (Apple), which version:
 - Other, which:

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Appendix 11 - Interview results - User experience

	User 1 - IT End user - Gov	User 2 - IT End user - Fin	User 3 - IT Tieto CSM - Gov	User 3 - IT Tieto CSM - Cle
Idea of using Tieto Service Channel				
1. What's your first reaction to new Tieto Service Channel idea?	Neutral	Neutral	Neutral	Somewhat positive
2. How well, if at all, does the word "INNOVATIVE" describe new Tieto Service Channel?	Not at all well	Very well	Not at all well	Moderately well
3. How well, if at all, does the word "WELL-MADE" describe new Tieto Service Channel?	Slightly well	Slightly well	Slightly well	Slightly well
4. How well, if at all, do the words "HIGH QUALITY" describe new Tieto Service Channel?	Slightly well	Moderately well	Slightly well	Slightly well
5. How often, if ever, do you currently use other, similar services?	Moderately often	Very often	Very often	Extremely often
6. How likely would you be to buy new Tieto Service Channel if it would offer functions tailored to your needs?	Not at all likely	Very likely	Moderately likely	Moderately likely
7. When you think about new Tieto Service Channel, do you think of it as something you might NEED or as something you might WANT?	Need	Want	Need	Both equal
8. When you're considering new Tieto Service Channel, what are the top two things you generally consider?	Other: "We already had well working system CSP"	innovation, Quality	Quality. "Usability, it is easy to me"	Price. Innovation
9. When looking for new Tieto Service Channel, how likely are you to consider Tieto first?	Slightly likely	Quite likely	Extremely likely	Quite likely
10. In the past 12 months, how many times have you visited Tieto Customer Support Portal or Tieto TONE Portal?	Very often	Very often	Extremely often	Extremely often
Tieto Service Channel usage				
1. Overall, how well does new Tieto Service Channel meet your needs?	Not so well	Very well	Moderately well "Calendar we have in CSP was easier to me"	Moderately well
2. How easy was it to find what you were looking for on new Tieto Service Channel?	Not so easy: "Used to work with other tool - CSP"	Very easy	Moderately easy	Very easy
3. Did it take you more or less time than you expected to find what you were looking for on new Tieto Service Channel?	About what I expected	A little less time	A little more time	A lot less time
4. How visually appealing is new Tieto Service Channel?	Not so appealing	Very appealing	Not so appealing	Moderately appealing
5. How easy is it to understand the information on new Tieto Service Channel?	Very easy	Very easy	Moderately easy	Very easy
6. How much do you trust the information on new Tieto Service Channel?	A lot	Fully	A lot	A lot
8. Overall, are you satisfied with your experience using new Tieto Service Channel, dissatisfied with it, or neither satisfied or dissatisfied with it?	Quite dissatisfied	Quite satisfied	Somewhat satisfied	Somewhat satisfied
9. How likely would you be to use new Tieto Service Channel instead of Tieto Customer Support Portal or Tieto TONE Portal?	Slightly likely	Moderately likely	Moderately likely	Slightly likely
10. How likely is it that you would recommend new Tieto Service Channel to a friend or colleague?	Slightly recommend	Slightly recommend	Slightly recommend	Moderately recommend

Tieto Service Channel usage - open questions				
1. What do you like most about new Tieto Service Channel?	"Hard to say. We used earlier CSP"	"Easy to use. Quite fast. Attaching files in ticket details is good thing."	"Difficult to say. I do not like but I need to use it"	"Tracking ticket is ok"
2. What do you like most about competing products currently available from other companies?	-		-	-
3. What would make you more likely to use new Tieto Service Channel?	"Structure and easiness of CSP"	"Date picker to highlight current date. Searching should be done better, to improve. By default I would like to see filters I saved last time"		"Dashboard with reports"
4. What changes would most improve new Tieto Service Channel?	"Opening of reports, now sometimes they are opening blank. Possibility to structure reports based on organizations categories. Now they are stored in one folder. In CSP it was better. There is more time need to look for reports - sub structure of library catalogues is not so deep. Possibility to integrate with outlook Calendar"	"As above"	"Calendar view is very confusing. Would be nice to have action points like CSP. Governance section to be improved. Possibility to sort reports better. Self-guide function-not easy to understand how to use it"	"More information, comments of SD"
5. If you are not likely to use new Tieto Service Channel, why not?	-	-	-	"TONE portal is better"
6. Did new Tieto Service Channel perform the way the advertising said it would?	"We had to use it. There was no other choice. CSP was closed"	"Mostly yes"	"No any advert seen. I had no expectations"	"No any advert seen."
7. Did new Tieto Service Channel perform the way you expected it would?	"Not much"	"Yes"	"Except improvement it does"	"it gives feeling that yes it does"
8. Does new Tieto Service Channel conform to a known standard? e.g. AS/NZ Standards, ISO Standards, Government Standards	-	-	-	-
9. Are the features of new Tieto Service Channel what I thought they would be?	"No"	"Not all"	"I mentioned already"	"No"
10. Does new Tieto Service Channel have a life time which matches my expectation?	"I hope it will not change again shortly"	-	"Hope not short. We don't want to change tools often"	"if develop constantly"

Appendix 12 - Interview results - Other data

	User 1 - IT End user - Gov	User 2 - IT End user - Fin	User 3 - IT Tieto CSM - Gov	User 3 - IT Tieto CSM - Cle
Tieto Service Channel communication				
1. Through which of the following online formats do you prefer to learn about new Tieto Service Channel?	Face to face meetings / presentations. "Our users did not read well manuals"	Face to face meetings / presentations. Videos / Audio. Slides or presentations.	Face to face meetings / presentations. Slides or presentations. Trainings.	Face to face meetings / presentations. Videos / Audio. Social media
2. When you want to learn about new Tieto Service Channel, which tone of communication do you appreciate?	Friendly	Informative	Friendly, Educational	informative
3. What is your relationship to Tieto?	I'm a customer	I'm customer	I'm a customer (internal)	I'm customer (internal)
4. How often would you want to receive information from Tieto?	Every now and then	Once a week	Every now and then	Every now and then
5. What other information would you like to see our company provide?	-	"New tieto services outlook"	"Lifecycle of TCS. Plans of releases. Improvements coming.	-
DEMOGRAPHIC INFORMATION				
1. What is your sex?	Female	Male	Female	Female
2. To what age range you belong to?	32-49	32-49	49-60	32-49
3. What is your company size?	1000-10000	1000-10000	>10000	>10000
4. What is your occupation?	Service Manager	Process manager	Service Manager	Service Manager
5. Are you end user of Tieto Customer Support Portal or Tieto TONE Portal?	Yes	Yes	Yes	Yes
6. How often you use Tieto Customer Support Portal or Tieto TONE Portal?	Couple of times per week	Couple of times per week	Daily	Daily
7. In which situation you use Tieto Customer Support Portal or Tieto TONE Portal?	At work	At work, at home (when home office)	At work, at home (when home office)	At work
8. Do you use other services provided by Tieto?	No	No	Yes: TONE Portal, CSP	Yes: TONE Portal, CSP
9. Do you use mobile devices (e.g. mobile phones, tablets etc.) at work?	No	Yes. Smartphone	Yes: Smartphone	Yes: Smartphone
10. What operating system does your mobile device have installed?	Microsoft Windows Phone	IOS (Apple)	Android	IOS(Apple)
11. What browser you have installed on your computer?	Microsoft internet Explorer 10, Firefox	Microsoft internet Explorer 11, Firefox	Microsoft internet Explorer 11	Firefox, Safari

Appendix 13 - Interview results - customer experience

	User 1 - IT End user - Gov	User 2 - IT End user - Fin	User 3 - IT Tieto CSM - Gov	User 3 - IT Tieto CSM - Cle
Overall Tieto MS performance				
1. How professional is Tieto MS?	Moderately professional	Very professional	Moderately professional	Very professional
2. How convenient is Tieto MS in providing services?	Moderately convenient	Moderately convenient	Slightly convenient	Moderately convenient
3. How well do you feel that Tieto MS understands your needs?	Quite well	Moderately well	Moderately well	Quite well
4. Compared to Tieto MS competitors, is Tieto service quality better, worse, or about the same?	About the same	About the same	Don't know	Somewhat better
5. Compared to Tieto MS competitors, are Tieto prices higher, lower, or about the same?	About the same	Don't know	Don't know	Don't know
6. Overall, how responsive have Tieto MS been to your questions or concerns about its services?	Quite responsive	Quite responsive	Slightly responsive	Moderately responsive
7. Overall, are you satisfied with the consultants at Tieto MS, neither satisfied nor dissatisfied with them, or dissatisfied with them?	Neither satisfied nor dissatisfied	Slightly satisfied	Slightly dissatisfied	Slightly dissatisfied
8. Do you like Tieto MS, neither like nor dislike it, or dislike it?	Neither like nor dislike	Like a little	Neither like nor dislike	Like a little
9. How well did Tieto MS customer service representative answer your question or solve your problem?	Quite well	Quite well	Moderately well	Quite well
10. How likely is it that you would recommend Tieto MS as a company to a friend or colleague?	Neither recommend or not recommend	Slightly recommend	Slightly not recommend	Moderately recommend
Tieto MS customer focus, characteristics and service challenges				
1. Tieto MS has a strong commitment (positive attitude and outlook) to provide its customers with excellent service	Moderately committed	Very committed	Slightly committed	Moderately committed
2. Tieto MS takes care of its customers (and issues) in right way	Moderately good	Very good	Not at all	Moderately good
3. Tieto MS shows respect for its customers and co-operators	Moderately well	Very well	Slightly well	Moderately well
4. Tieto MS has process in place in the event for which we do not have ready solution, and we are keen to use it	Moderately keen	Moderately keen	Slightly keen	Moderately keen
5. Tieto MS is the primary company to which we addresses issues to solve our problems	Very often	Very often	Extremely often	Extremely often
6. Tieto MS sounds and acts confident in its abilities to perform tasks/jobs and in interactions with its customers and co-operators	Moderately confident	Extremely confident	Slightly confident	Moderately confident
7. Tieto MS is efficient in all aspects of given tasks/jobs and handle it in right way	Slightly efficient	Very efficient	Not at all	Extremely efficient
8. Tieto MS applies high ethical standards to fulfill given tasks/jobs right	Very well	Moderately well	Slightly well	Very well
9. Tieto MS effectively discovers and tries to understand customer's point of view	Very good	Very good	Slightly good	Moderately good
10. Tieto MS has ability to recognize what to do when encounter difficult circumstances	Moderately well	Moderately well	Slightly well	Very well
Customer interaction with Tieto customer support				

1. How long was your wait on hold before speaking/interacting with Tieto customer service representative?	Not at all long	Not at all long	Quite long	Not at all long
2. How well did you feel Tieto customer service representative understood what you were asking for?	Quite well	Slight well	Slightly well	Quite well
3. How eager to help you were Tieto customer service representatives?	Moderately eager	Moderately eager	Moderately eager	Very eager
4. Would you say that Tieto customer service representative solved your problem or answered your question quickly, slowly, or neither?	Somewhat quickly	Neither quickly nor slowly	Somewhat slowly	Somewhat quickly
5. How knowledgeable did Tieto customer service representative seem to you?	Moderately knowledgeable	Slightly knowledgeable	Moderately knowledgeable	Quite knowledgeable
6. How clear was the information that Tieto customer service representative provided to you?	Quite clear	Slightly clear	Slightly clear	Moderately clear
7. How many of your questions/problems did Tieto customer service representative resolve?	Most of them	Most of them	About half of them	About half of them
8. How helpful was Tieto customer service representative?	Moderately helpful	Quite helpful	Quite helpful	Quite helpful
9. Was your experience with Tieto customer service better than you expected it to be, worse than you expected it to be, or about what you expected it to be?	About what was expected	About what was expected	About what was expected	Somewhat better
10. Overall, are you satisfied with Tieto customer service you received, dissatisfied with customer service, or neither satisfied nor dissatisfied?	Somewhat satisfied	Somewhat satisfied	Somewhat dissatisfied	Somewhat satisfied

Appendix 14 - Factors determining customer experience

Factors influencing customer experience		
	Sweden	Finland
Customer interaction	7	10
Affective experience	6	3
Customization	6	5
Service process	5	11
Online aesthetics	3	1
Online hedonic elements	3	0
Convenience	2	1
Online functional elements	1	2
Relational experience	1	0
Value added	1	0

Factors influencing the most on Service Channel functional and process area		
	Sweden	Finland
Customization	6	5
Service process	5	11
Online hedonic elements	4	0
Online aesthetics	3	1
Online functional elements	1	2

Factors which are the most important from customers' loyalty point of view		
	Sweden	Finland
Service process	3	6
Affective experience	3	3
Customer interaction	3	6
Online functional elements	1	0
Online hedonic elements	1	0
Convenience	1	0
Customization	0	1

Appendix 15 - Theory vs. guidelines outcomes

Issue	Category	Dimension
To ask SD agents for more information about customers - KB	Analysis and change initiation	Assessment and analysis of end user needs (ICT specific)
We have to carefully choose right customer to pilot	Analysis and change initiation	Business process analysis and benchmarking
Customer must always be oriented around problem	Implementation and roll-out	Communication of change to all stakeholders
To scan existing governance model and find similarities	Business objectives and strategy development	Aligning business and IT strategy
Set KPI's for customer teams	Business objectives and strategy development	Aligning business and IT strategy
Better information about onboarding process	Program planning and design	Starting program management and steering
Be more trustful	Evaluation and continuous improvement	Evaluation & analysis of ICT solution / service performance
Find out what is exact situation with customer	Analysis and change initiation	Assessment and analysis of end user needs (ICT specific)
To decide how often we should meet customer	Business objectives and strategy development	Aligning business and IT strategy
We should approach customers with mindset of eshops	Implementation and roll-out	Communication of change to all stakeholders
To look at customer business and how it is used there	Analysis and change initiation	Assessment and analysis of end user needs (ICT specific)
Proactive training for customer teams and customers	Implementation and roll-out	Deployment (incl. training, support)
We should focus on benefits from customers (value)	Analysis and change initiation	Assessment and analysis of end user needs (ICT specific)
To find out from which customers we received most tickets create by email	Analysis and change initiation	Assessment and analysis of end user needs (ICT specific)
To start with those who are most willing to participate	Analysis and change initiation	Business process analysis and benchmarking
Look at the emails and find out the reason for issues (values)	Analysis and change initiation	Assessment and analysis of end user needs (ICT specific)
Tieto should more advertise SC	Business objectives and strategy development	Aligning business and IT strategy
Buying ready-made KB	Business objectives and strategy development	Aligning business and IT strategy
KB in gesture of SD	Business objectives and strategy development	Aligning business and IT strategy
Approaching customer should be tailored	Analysis and change initiation	Assessment and analysis of end user needs (ICT specific)

Appendix 16 - Emotional experience based on customer journeys

	Operations	Agreement	Rollout	Configuration	SC Usage: login	SC usage: interface	SC usage: problem	SC usage: orders	SC usage: tracking	SC usage: governance - calendar	SC usage: governance - documents and reports	Chat	SC support	Trainings	Communication	SD support	Totals
customer IT End user (pub)	0	-1	-1	0	0	0	-1	-1	-1	-1	-1	0	0	-1	0	1	-0.4375
customer IT End user (priv)	1	0	0	0	0	1	-1	-1	0	-1	-1	0	0	0	0	0	-0.125
Tieto IT End user (pub)	-1	-1	-1	-1	-1	0	0	0	-1	0	0	0	0	0	0	0	-0.4375
Tieto IT End user (priv)	0	0	0	0	-1	-1	-1	-1	-1	-1	0	0	0	0	0	1	-0.3125
customer IT End user total	0.5	-0.5	-0.5	0	0	0.5	-1	-1	-0.5	-1	-1	0	0	-0.5	0	0.5	-0.28125
Tieto IT End user total	-0.5	-0.5	-0.5	-0.5	-1	-0.5	-0.5	-0.5	-1	-0.5	0	0	0	0	0	0	-0.375
Public organization total	-0.5	-1	-1	-0.5	-0.5	0	-0.5	-0.5	-1	-0.5	-0.5	0	0	-0.5	0	0	-0.4375
Private organization total	0.5	0	0	0	-0.5	0	-1	-1	-0.5	-1	-0.5	0	0	0	0	0.5	-0.21875
Total	0	-0.5	-0.5	-0.25	-0.5	0	-0.75	-0.75	-0.75	-0.75	-0.5	0	0	-0.25	0	0.25	

Appendix 17 - Guidelines: outcomes from ideation session

Tieto customer team	
Governance phase	Ideation outcome
1. Business objectives and strategy development	
- Functional (ICT) strategy planning and budgeting	
- Aligning business and IT strategy	To scan existing governance model and find similarities Set KPI's for customer teams To decide how often we should meet customer Tieto should more advertise SC KB in gesture of SD Buying ready-made KB
2. Analysis and change initiation	
- Business process analysis and benchmarking	We have to carefully choose right customer to pilot To start with those who are most willing to participate
- Design the changes in processes and way of working (design operating model)	
- High level requirement definition	
- Assessment and analysis of end user needs (ICT specific)	To ask SD agents for more information about customers - KB Find out what is exact situation with customer To look at customer business and how it is used there We should focus on benefits from customers (value) To find out from which customers we received most tickets create by email Look at the emails and find out the reason for issues (values) Approaching customer should be tailored
- Plan and initiate the change program	
- Defining the sourcing strategy and shortlisting suppliers	
- Defining implications to ICT portfolio	
3. Program planning and design	
- Planning program management and financing, set-up of program steering	
- Contacting suppliers and supplier evaluation	
- Negotiations (including requirement refining, risk understanding, technical solution/architecture draft)	
- Starting program management and steering	Better information about onboarding process
4. Implementation and roll-out	
- Adapting service management process and defining way of working with all suppliers	
- Steering	
- Communication of change to all stakeholders	Customer must always be oriented around problem We should approach customers with mindset of eshops
- Preparing deployment and implementing pilot	
- Testing the solution and end-to-end process	
- Preparing maintenance and user instructions, and required training	
- Release planning	
- Approval for production usage	
- Deployment (incl. training, support)	Proactive training for customer teams and customers
- Transitioning to production usage	
- Closing the project	
- People transfers (in outsourcing cases only)	
5. Usage and maintenance	
- Using the application or service	
- Change and incident management, making new orders and requests	
- Major Incident Management (MIM)	
- Co-operation with supplier's delivery organization (operative)	
- Co-operation with supplier's management (tactical)	
- Agreement follow-up and paying for the service	

- Managing conflicts and sanctions	
6. Evaluation and continuous improvement	
- Giving feedback	
- Improving cooperation with supplier	
- Evaluation & analysis of ICT solution / service performance	Be more trustfull
- Planning improvement of existing solutions	

Customers	
Governance phase	Ideation outcome
2 Analysis and change initiation	
-Detailed analysis of business development initiatives and definition of business case (incl. scope of change and budget)	
-Creating investment proposal and building momentum for decision making	Customer should know agreement information - financial statements etc.
-Searching for information on potential solutions	
-Business process analysis and benchmarking	Customer expects to have own processes to be followed
-Design the changes in processes and way of working (design operating model)	
-High level requirement definition	Content should be in place - reports that they really need Customers should find easy KB info
-Assessment and analysis of end user needs (ICT specific)	Customer should know what is the content of service
4 Implementation and roll-out	
-Testing the solution and end-to-end process	
-Preparing maintenance and user instructions, and required training	
-Deployment (incl. training, support)	
5 Usage and maintenance	
-Change and incident management, making new orders and requests	More automatic incident category choice - we should not ask customers to do it by themselves More self-help Orders automation - customer own ADM To have location tracking of orders with status
-Cooperation with supplier's top management (strategic)	How can we assist you? More emphasize
6 Evaluation and continuous improvement	
-Giving feedback	Immediate feedback after chat discussion

Appendix 18 - Guidelines: Phase vs. Theory - comparison

Phase	Theory	Theme
Business objectives and strategy development		
Invest in Knowledge Base to support resolving of customers issues (in Service Desk gesture).	Customer driven innovation Service-Dominant Logic Customer experience IT support service experience	Knowledge about customers, tacit knowledge, "active informers", (Blazevic, Lievens, 2008) Capability to execute S-D logic, (Karpen, Bove & Lukas, 2012) Efficient employees, retention, factors determining customer experience, (Hansemark, Albinsson, 2004) Information placed digitally, capabilities, understand world, content and feature: meaningful, relevant and useful, (Wijnhoven, Kraaijenbrink, 2007)
Set KPI's within customer team (incentivized).	Customer driven innovation Customer experience	"User-entrepreneurs", "utility maximizers", (Bogers, Afuah, & Bastian, 2010) Efficient employees, retention, factors determining customer experience, (Hansemark, Albinsson, 2004)
Follow governance model and decide about frequency of customer contacts.	Customer driven innovation Service-Dominant Logic Customer experience	Involving customers in the process, "lead users" or "innovators", (Matting, Kristensson, Gustafsson & Parasuraman, 2006) Competence application, (Ordanini, Parasuraman, 2011) Multi-sensory aspects of experience, "service landscape (service-scape)", (Walter, Edvardsson, Öström, 2010)
Define advertising campaign with marketing people.	Customer driven innovation Customer experience	Service characteristics defining service innovation, (Sillanpää, Junnonen, 2012) Multi-sensory aspects of experience, "service landscape (service-scape)", (Walter, Edvardsson, Öström, 2010)
Analysis and change initiation		
Set right criteria of choosing customers for onboarding (willingness to participate, amount of tickets created via email, good relationship)	Customer driven innovation Service-Dominant Logic Customer experience	Involving customers in the process, "lead users" or "innovators", (Matting, Kristensson, Gustafsson & Parasuraman, 2006) Collaborative competences (Brodie, Saren, and Pels, 2011) Expertise of customers, (Ojasalo, 2001)

Get more information about customer utilizing SD agents' knowledge from KB, emails, TONE and discuss with customer executives and managers about customer itself.	Customer driven innovation Service-Dominant Logic Customer experience IT support service experience	Knowledge about customers, tacit knowledge, "active informers", (Blazevic, Lievens, 2008) Looking at first on satisfaction of the customers, (Heinonen, Strandvik, and Mickelsson, 2010) Multi-sensory aspects of experience, "service landscape (service-scape)", (Walter, Edvardsson, Oström, 2010) Information placed digitally, capabilities, understand world, content and feature: meaningful, relevant and useful, (Wijnhoven, Kraaijenbrink, 2007)
Find out what are the values that Service Channel will deliver to customer based on gathered information.	Value creation Customer experience IT support service experience	Place were values is created - co-created with customers, personalization aspects, individual characteristics, (Prahalad, Ramaswamy, 2004). Value-in-use is created only by the user and for the user (Customer is value creator), (Grönroos, 2011) Trust components like: confidence, honesty, reliability, credibility and benevolence. Loyalty implication, (Kantsperger, Kunz, 2010) Customer satisfaction in IT support services, (van Velsen, Steehouder, De Jong, 2007)
Find out lead users within customer and start cooperation with them	Customer driven innovation Service-Dominant Logic Customer experience	Involving customers in the process, "lead users" or "innovators", (Matthing, Kristensson, Gustafsson & Parasuraman, 2006) Competence application, (Ordanini, Parasuraman, 2011) Trust components like: confidence, honesty, reliability, credibility and benevolence. Loyalty implication, (Kantsperger, Kunz, 2010)
Program planning and design		
Provide accurate information about onboarding process (what, how and when will happen etc.)	Customer driven innovation Customer experience	Service characteristics defining service innovation, (Sillanpää, Junnonen, 2012) Trust components like: confidence, honesty, reliability, credibility and benevolence. Loyalty implication, (Kantsperger, Kunz, 2010)
Implementation and roll-out		
Provide accurate information about status of onboarding in right fashion	Customer driven innovation Service-Dominant Logic Customer experience	Involving customers in the process, "lead users" or "innovators", (Matthing, Kristensson, Gustafsson & Parasuraman, 2006) Competence application, (Ordanini, Parasuraman, 2011) Trust components like: confidence, honesty, reliability, credibility and benevolence. Loyalty implication, (Kantsperger, Kunz, 2010)

Provide proactive trainings about Service Channel (What problems it solves for customers, functionality supporting it, ways of working, additional features)	Customer driven innovation Customer experience IT support service experience	Involving customers in the process, "lead users" or "innovators", (Matthing, Kristensson, Gustafsson & Parasuraman, 2006) Experience level in building relationship, (Dagger, O'Brien, 2010) Customer satisfaction in IT support services, (van Velsen, Steehouder, De Jong, 2007)
Usage and maintenance		
Provide fast and accurate answers to problems raised or feedback	Customer driven innovation Service-Dominant Logic Customer experience IT support service experience	Involving customers in the process, "lead users" or "innovators", (Matthing, Kristensson, Gustafsson & Parasuraman, 2006) Competence application, (Ordanini, Parasuraman, 2011) Trust affect relationship between parties in service relationship, (Ojasalo, Puhakainen, 2003) Customer satisfaction in IT support services, (van Velsen, Steehouder, De Jong, 2007)
Evaluation and continuous improvement		
Be truthful: accurate, critical, and precise and inform transparently customers about issues found and its progress.	Customer driven innovation Customer experience	Involving customers in the process, "lead users" or "innovators", (Matthing, Kristensson, Gustafsson & Parasuraman, 2006) Trust components like: confidence, honesty, reliability, credibility and benevolence. Loyalty implication, (Kantsperger, Kunz, 2010)
Analysis and change initiation		
Customer should get information related to agreement of SC usage	Customer driven innovation Customer experience	Involving customers in the process, "lead users" or "innovators", (Matthing, Kristensson, Gustafsson & Parasuraman, 2006) Trust components like: confidence, honesty, reliability, credibility and benevolence. Loyalty implication, (Kantsperger, Kunz, 2010)
Customer should get information how SC will help in fulfilling his needs from process point of view	Customer driven innovation Value creation Customer experience	Involving customers in the process, "lead users" or "innovators", (Matthing, Kristensson, Gustafsson & Parasuraman, 2006) Value-in-use is created only by the user and for the user (Customer is value creator), (Grönroos, 2011) Trust components like: confidence, honesty, reliability, credibility and benevolence. Loyalty implication, (Kantsperger, Kunz, 2010)

Customer should know what out-of-the-box features are included and which features (or-der forms, reports) will be delivered as standard.	Customer driven innovation Value creation Customer experience IT support service experience	Involving customers in the process, "lead users" or "innovators", (Mat-thing, Kristensson, Gustafsson & Parasuraman, 2006) Value-in-use is created only by the user and for the user (Customer is value creator), (Grönroos, 2011) Multi-sensory aspects of experience, "service landscape (service-scape)", (Walter, Edvardsson, Öström, 2010) Customer satisfaction in IT support services, (van Velsen, Steehouder, De Jong, 2007)
Implementation and roll-out		
Customer should be informed about onboarding activities in which he/she will need to take part in.	Customer driven innovation Value creation Customer experience	Involving customers in the process, "lead users" or "innovators", (Mat-thing, Kristensson, Gustafsson & Parasuraman, 2006) Value-in-use is created only by the user and for the user (Customer is value creator), (Grönroos, 2011) Multi-sensory aspects of experience, "service landscape (service-scape)", (Walter, Edvardsson, Öström, 2010)
Usage and maintenance		
Customer should be informed about upcoming new features delivered to SC in right fash-ion.	Customer driven innovation Customer experience	Involving customers in the process, "lead users" or "innovators", (Mat-thing, Kristensson, Gustafsson & Parasuraman, 2006) Multi-sensory aspects of experience, "service landscape (service-scape)", (Walter, Edvardsson, Öström, 2010)
Customer should be asked how more Tieto can help in achieving its needs and goals.	Customer driven innovation Value creation Customer experience	Involving customers in the process, "lead users" or "innovators", (Mat-thing, Kristensson, Gustafsson & Parasuraman, 2006) Value-in-use is created only by the user and for the user (Customer is value creator), (Grönroos, 2011) "Extreme trust" requires looking after opportunities (Peppers, Rogers, 2013)
Evaluation and continuous improvement		
Customer should be informed proactively about found issues and information what is ac-tual status of the issue	Customer driven innovation Value creation Customer experience	Involving customers in the process, "lead users" or "innovators", (Mat-thing, Kristensson, Gustafsson & Parasuraman, 2006) Value-in-use is created only by the user and for the user (Customer is value creator), (Grönroos, 2011) Trust components like: confidence, honesty, reliability, credibility and be-nevolence. Loyalty implication, (Kantsperger, Kunz, 2010)

Appendix 19 - Tieto customer team and customer team approach

Tieto customer team	
Governance phase	Ideation outcome
1. Business objectives and strategy development	
- Functional (ICT) strategy planning and budgeting	
- Aligning business and IT strategy	To scan existing governance model and find similarities Set KPI's for customer teams To decide how often we should meet customer Tieto should more advertise SC KB in gesture of SD Buying readymade KB
2. Analysis and change initiation	
- Business process analysis and benchmarking	We have to carefully choose right customer to pilot To start with those who are most willing to participate
- Design the changes in processes and way of working (design operating model)	
- High level requirement definition	
- Assessment and analysis of end user needs (ICT specific)	To ask SD agents for more information about customers - KB Find out what is exact situation with customer To look at customer business and how it is used there We should focus on benefits from customers (value) To find out from which customers we received most tickets create by email Look at the emails and find out the reason for issues (values) Approaching customer should be tailored
- Plan and initiate the change program	
- Defining the sourcing strategy and shortlisting suppliers	
- Defining implications to ICT portfolio	
3. Program planning and design	
- Planning program management and financing, set-up of program steering	
- Contacting suppliers and supplier evaluation	
- Negotiations (including requirement refining, risk understanding, technical solution/architecture draft)	
- Starting program management and steering	Better information about onboarding process
4. Implementation and roll-out	
- Adapting service management process and defining way of working with all suppliers	

- Steering	
- Communication of change to all stakeholders	Customer must always be oriented around problem We should approach customers with mindset of shops
- Preparing deployment and implementing pilot	
- Testing the solution and end-to-end process	
- Preparing maintenance and user instructions, and required training	
- Release planning	
- Approval for production usage	
- Deployment (incl. training, support)	Proactive training for customer teams and customers
- Transitioning to production usage	
- Closing the project	
- People transfers (in outsourcing cases only)	
5, Usage and maintenance	
- Using the application or service	
- Change and incident management, making new orders and requests	
- Major Incident Management (MIM)	
- Co-operation with supplier's delivery organization (operative)	
- Co-operation with supplier's management (tactical)	
- Agreement follow-up and paying for the service	
- Managing conflicts and sanctions	
6. Evaluation and continuous improvement	
- Giving feedback	
- Improving cooperation with supplier	
- Evaluation & analysis of ICT solution / service performance	Be more trustful
- Planning improvement of existing solutions	

Customers	
Governance phase	Ideation outcome
2 Analysis and change initiation	
-Detailed analysis of business development initiatives and definition of business case (incl. scope of change and budget)	
-Creating investment proposal and building momentum for decision making	Customer should know agreement information - financial statements etc.
-Searching for information on potential solutions	
-Business process analysis and benchmarking	Customer expects to have own processes to be followed

-Design the changes in processes and way of working (design operating model)	
-High level requirement definition	Content should be in place - reports that they really need Customers should find easy KB info
-Assessment and analysis of end user needs (ICT specific)	Customer should know what is the content of service
4 Implementation and roll-out	
-Testing the solution and end-to-end process	
-Preparing maintenance and user instructions, and required training	
-Deployment (incl. training, support)	
5 Usage and maintenance	
-Change and incident management, making new orders and requests	More automatic incident category choice - we should not ask customers to do it by themselves More self-help Orders automation - customer own ADM To have location tracking of orders with status
-Cooperation with supplier's top management (strategic)	How can we assist you? More emphasize
6 Evaluation and continuous improvement	
-Giving feedback	Immediate feedback after chat discussion