Conveying value in new corporate ventures: The case of Telia Company CDN unit

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Conveying value in new corporate ventures: The case of Telia Company CDN unit

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Abstract

The transition of businesses to the digital marketplace has presented many opportunities and challenges for e-commerce and ICT services providers. This research was carried out during the ongoing diffusion of a technological innovation, at Telia Company's Content Delivery Network (CDN) unit, in a bid to understand the technology adoption process. The researchers' approach was to get insights from different stakeholders in the Swedish e-commerce industry and to compare the qualitative research findings with theoretical secondary data and definitions. Six interviews were performed, constituting the empirical data. After the analysis and discussion of the results and frameworks, the researchers propose a merged theoretical framework that could be used for designing compelling value propositions, and as such improve the conveying of the value of an offering. The thesis concludes with recommendations to further validate the proposed framework through further research.

Key-words: Value Proposition, Technology Adoption, B2B, Web Performance, E-Commerce
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Terminology

B2B - Business to business. Commercial transactions in which goods and services are purchased because they are used as capital, material, or service inputs into the production of other products and services.¹

Conversion - Online transactions. Equated to commercial gain through online sales.²

CDN - Content Delivery Network, is made up of distributed servers “to overcome the limitations of the internet. User requests are redirected to the most suitable location based on network-related criteria such as traffic volume, quality, and proximity, as well as service-oriented criteria such as server load, response time, and availability.”³

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**E-commerce** - Electronic commerce. It is "the use of the Internet to facilitate, execute, and process business transactions."\(^4\)

**Latency** - Refers to the time delay in the retrieval or access of information by the recipient of content over the internet. Because the internet is a 'best-effort' service, at times users may experience extreme latency.\(^5\)

**Media delivery** - The network delivery of applications such as streaming media, video or other information sensitive to arrival time and packet loss.\(^6\) A streaming service ensures that video accessed by the viewer over the internet through a CDN is quick, clear and plays smoothly.\(^7\)

**Omni-channel** - This is the merging of e-commerce and bricks-and-mortar stores to "enable customers to gain more opportunities to buy what, where, how and why they want."\(^8\)

**SEO (Search engine optimization)** - SEO is an important part of inbound marketing, which is focused on businesses being found by customers.\(^9\) It is a methodology of strategies, techniques and tactics used to increase the amount of visitors to a website by obtaining a high-ranking placement in the search results page of a search engine.\(^10\)

**Web security** - is safeguarding against the risks that are inherent to using the internet in the distribution of information or offering services.\(^11\)

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\(^6\) Welch, J. and Clark, J., 2006. A proposed media delivery index (MDI). Internet Engineering Task Force (IETF)

\(^7\) http://cdn.teliasonera.com/services/mediadelivery/


\(^10\) www.webopedia.com/Term/S/SEO.html

1. Introduction

Telia Company was founded in 1853\(^1\) in Sweden. It is a major telecommunications corporation operating in different countries in the Nordics, Baltics and also Eurasian markets. However, the Eurasian market is currently undergoing a divestment process with the ambition to, in the near future, no longer be a part of Telia Company. Telia Company Content Delivery Network (CDN) department was formed in 2013 as an internal corporate venture (ICV) for global business. ICVs are established within a corporate organization (Covin et al., 2015); they are tools for the exploration of new business areas and are created for entrepreneurial undertakings within large organizations. As part of a strategic growth initiative, through its global business line, the CDN unit was established in order to venture into a new category of business.

A Content Delivery Network is a computer networking infrastructure that ensures the quickest access to information from web servers. Speed of access improves with proximity to the hosting server. The portfolio for this department includes two major offerings: media delivery and web performance.

This thesis focuses on web performance technology whose use is becoming more dominant and significant, especially in the areas of media and e-commerce. The value proposition of web performance offered by the CDN department at Telia Company includes solutions to: User Experience (Ux), Search Engine Optimization (SEO) and conversion of sales, and it is poised to appeal to e-commerce clients.

According to representatives of Telia Company CDN unit, the customers in the Nordic market are still not yet knowledgeable when it comes to web performance. One of the most recent Telia Company CDN campaigns in the area of e-commerce had a hit rate for meetings booked with potential customers at close to 100%. However, few customers chose to sign up so far, which raises some questions. Telia Company’s CDN department has experienced a somewhat slow growth rate in the adoption of web performance as a service offering to clients in Sweden.

Within this context, this research is based in the subject of Industrial Management, in the field of technology innovation, looking into the matter of innovation and specifically diffusion and adoption of technology, and the significance of value propositions. The problem statement is about "effectively conveying the value proposition of a technology". By effective conveying, the researchers mean that the communication would result in high adoption rate of the technology.

Research Question:

How do Swedish e-commerce companies understand web performance and user experience as a value proposition?

Aim:

To propose a conceptual approach that can be used to improve the value proposition of web performance service for e-commerce businesses in the Swedish market.
Delimitations of the research

This research examines the understanding of “web performance” and “user experience” in Swedish e-commerce companies in the Stockholm area. In avoiding being blindsided by evidence from only one type of stakeholder, this research compares the understanding of these concepts within a service provider (Telia Company CDN unit), a current client of this service and non-client companies. The data was collected in face to face interviews and compared with the understanding that can be drawn from the literature.

The research is carried out in Stockholm city and with the funding of Telia Company, with a focus on e-commerce which is defined as a virtual place where electronic commercial transactions take place.

Ethics and Sustainability

In considering ethics and sustainability, the researchers looked at how Telia Company, their case, treats this subject within its business. Considering the size of the organization, a considerable treatment was discovered linked to business practice and company policy. The CDN unit, being in a growth area of the business, considers ethical sales in its acquisition and day to day transactions, as well as other aspects directly stemming from Telia Company business sustainability policy.

Telia Company views telecommunications as a pertinent part of societal development and sustainable growth. The company’s sustainability manifesto is represented in Fig. 1 below. Telia Company strives to create business value, and contribute to positive societal and environmental impact (Telia Company, 2016).

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**Fig. 1: Sustainability in Telia Company (Source: Telia Company sustainability webpage).**
1.1 Background

1.1.1 E-commerce in Sweden
Telia Company CDN unit is targeting e-commerce clients with its new web performance offering. According to recent statistics on Swedish e-commerce, there is an upward trend, after a sustained growth trend tracked over the past 12 years. The Swedish Postnord annual report on Swedish e-commerce, has tracked this steadily increasing growth of e-commerce.

PostNord’s latest E-barometern that was done together with Svensk Digital Handel and HUI (Handelns Utredningsinstitut) Research, shows a clear increase in revenues of e-commerce up until 2015 (E-commerce news, February 2016). This was a 19% increase in the last two years. The trend is expected to continue. Fig. 2 illustrates the promise of this business environment.

![Fig. 2 Turnover of total Swedish e-commerce (Source: E-commerce News, 2016)](image)

Web performance as a market offering has the advantages of: driving sales conversion, ensuring good user experience, and search engine optimization. These are relevant for the e-commerce industry. Features of web performance that enable speed, in loading and user response, result in a superior web user experience. Fig. 3 shows the effect of slowness on user experience and behavior.

![Fig. 3: An illustration of web performance: speed matters (Source: Telia Company)](image)
As shown in Fig. 3, as the wait for loading is prolonged, e-commerce website conversion, page views and customer satisfaction are negatively affected. The metrics offered by web performance matter and will continue to be relevant as long as growth and competition drive the e-commerce industry.

1.1.2 The context of innovation in the growth of enterprise: 'survival of the changing'

When strategizing for growth, a large corporation often tends towards focusing on premium products for already established clients. This tendency leads firms to look more and more into gaining further from their already established client base, as opposed to attaining new customers through new offerings. As such, the firm becomes open to disruption by competitors, who can easily offer alternative products at a lower cost. By failing to invest in disruptive innovation, the firm is presented with an “innovator's dilemma” (Christensen, 2013, p. 47): it is easier to continue to grow the core business than to invest in new business, especially when a rhythm of profit and revenue targets are key for the success of established firms.

A remedial way to organize for investment in new business is for established organizations to run their business units in three different horizons: Horizon 1, 2 and 3, making the ‘Three Horizons model’ (McKinsey Consulting: Banghai, Coley and White, 1999) depicted in Fig.4. This framework is significant in planning for opportunities within organizations (Curry and Hodgson, 2008). In the context of Telia Company, the CDN department was established as unit handling opportunities that diverge from the core business of Telia Company. Here, Telia Company’s application of this structure is illustrated. The Horizon 1 defends core business and is characteristically operational. This is the already running part of the business that is responsible for the major chunk of the revenue. Relating to Christensen’s “innovator’s dilemma” (Christensen, 2013, p. 47), it is at Horizon 1 that corporations tend to cling and focus their growth strategies. They make bigger, better, and more expensive products to sell to their existing customers.

Horizon 3 is the explorative research and development arena where experimentation takes place, and this is in most times linked to the already established core business. Horizon 1 and Horizon 3 seem to be a perfect match to getting a growing business, and being successful in any market. The middle level, Horizon 2, is the exploration and diversification section of the business, where the new categories of business are developed (Curry and Hodgson, 2008).
Within the context of the organization, Horizon 2 presents a vehicle of innovation, thus deriving economic value from inventions. Telia Company CDN unit operates in Horizon 2.

1.1.3 Innovation for growth

Innovation enables the emergence of new markets, and articulates user requirements in a new way, and the implementation of innovation requires reorganization of current channels of distribution and service (Abernathy and Clark, 1985).

This research focuses on the development of a new offering by organizing existing technology components in a novel way to come up with different products and services. As a consequence, of interest to this work is “architectural innovation” which relies on the accumulated capabilities of the firm. Architectural innovation is "the reconfiguration of an established system to link together existing components in a new way" (Henderson and Clark, 1990, p.12). A precursor characterization by Abernathy and Clark (1985, p.7) notes that architectural innovation "opens up new linkages to markets and users". Technology innovation is categorized based on the level of change between the technological concepts and component interaction, and the core concepts. This is depicted in Fig. 5.
The researchers of this thesis categorize web performance technology as an architectural innovation built upon the CDN infrastructure, even though it is a customizable service that can be established without full CDN capabilities. New products or services create an offering which is presented to the market; success in the market is determined by the strength of the value proposition.
2. Theoretical Review: Framework and Literature

2.1 Value proposition

The term “value proposition” in the context of innovation, defines a product in terms of what it is, its target market and the usefulness (value) that it offers (Lanning and Michaels, 1988). Subsequent meanings have been drawn from this definition.

The more market-centric schools of thought regard how the different scholars define value proposition in the context of their research. Lindic and Marques (2011), in their work on relating value proposition to innovation, define a value proposition as a way through which a company differentiates its offering compared to its competitors.

In contrast, Ohmae (1988) states that the value proposition focuses on strategizing with the need of the customer in mind, while disregarding what the competition is doing.

Identifying value to the customer is accomplished by: being customer focused, aiming towards avoiding competition and focusing on the client needs. This leads to prioritizing the characteristics of the product or service such as: what it is, what it can do, and presenting these capabilities through appropriate design (Ohmae, 1988).

Anderson et al. (2006) describe the aspects of value proposition from three main perspectives: (1) All the advantages of the offering, (2) The differentiating factors compared to alternatives and competitors, (3) Focusing on customer needs and pain points and in line with their business priorities. The breakdown of these perspectives uniformly defines the requirements across all the three points of view on the horizontal axis, as shown in Fig.6 in terms of what the value proposition consists of, the customer or client demand, what technical and knowledge capabilities each perspective requires, and potential pitfalls of the given perspective.

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**Fig. 6: Classification of value proposition perspectives (Source: Anderson et al., 2006)**
Anderson et al. (2006) identify “resonating focus”, shown in Fig. 6 as the third column, as the best practice perspective that results in a value proposition which is strongly tied to the customer need, focusing on what matters most to the target market. Key to this superiority is conveying a thorough understanding of the customer’s business priorities with a compelling value proposition. Value proposition formulation is a continuous undertaking as the value propositions are reviewed from time to time to reflect the need of the target market (Anderson et al., 2006).

According to research, it is "exceptionally difficult" to find illustrations of "value propositions that resonate with customers" (Anderson et al., 2006, p.2). Customer value research is a prerequisite to establishing an effective “resonating focus” value proposition. The aim is to compare the value proposition of the offering to its next best alternative with regards to: “Points of parity”, “Points of difference” and “Points of contention” (Anderson et al., 2006).

Points of parity are the similarities in perceived value between the new offering and the current alternative. The points of difference are the distinctions between the new offering and its current alternative. This constitutes the compelling case for its advantage. Points of contention represent the divergent standpoints of how the potential client and the supplier view the value of the new offering. The client may view certain attributes of the offering as similar to the best alternative, even though it is perceived as unique by the supplier, and vice versa (Anderson et al., 2006).

Further, it is imperative that the value proposition is communicated effectively enough to highlight the supplier's understanding of the client's profit concern, while focusing on total costs, and not just a low price for an isolated purchase (Anderson et al., 1998).

Skok (2012, 2013) derived from Moore's (2002, p.114) 'elevator pitch', proposes a template for building a value proposition. This follows a breakdown of the purpose statement for the offering's value proposition. The template is:

"For (target customers), Who are dissatisfied with (the current alternative), Our product is a (new product), That provides (key problem-solving capability), Unlike (the product alternative)."

This template is correlated to the market/target audience, the significance to the client, the category of the product, the purpose of the product, and the uniqueness of the product.

Lanning and Michaels (1988) illustrate a three stage customer-oriented process to aid in the delivery of a compelling value proposition. The stages are: choosing the value, providing the value and communicating the value to the customer. The result of communicating compelling value propositions is the adoption of the proposed offering.
2.2 Technology Adoption

Adoption is characterized by the attributes of innovations: (1) Relative advantage (2) Compatibility (3) Complexity (4) Trialability (5) Observability (Rogers, 1983, p.211). Adoption is the result of diffusion. The diffusion process involves an innovation, and its communication that takes time within a social system.

Diffusion is the spread of an innovation, and according to its theory (Rogers, 1983, p.246), there are five categories of adopters of a product or offering. These include uptake by: innovators, early adopters, early majority, late majority and laggards. These groups are determined on the basis of their level of innovativeness. Innovativeness is "the degree to which an individual or other unit of adoption is relatively earlier in adopting new ideas than other members of a system" (Rogers, 1983, p242).

Rogers further differentiates between organizational and individual innovativeness, relating the above adopter categories as specific to individuals, and further tackling the adoption of innovation by organizations separately. For this thesis, the researchers consider the adoption process within organizations for Telia Company B2B offering to the e-commerce market. Roger’s measure of organizational innovativeness is illustrated in Fig. 7 which follows.

![Fig. 7: Independent variables related to organizational innovativeness (Source: Rogers, 1983. p.360)](image)

The Fig. 7 shows the factors that influence an organization's ability to adopt ideas earlier than their counterparts. This tendency to innovate is linked to the organization in terms of individual leader's characteristics, organizational structure, and external characteristics.

Characteristics of organizational structure, such as centralization and formalization, are less favorable towards the decision to adopt an innovation. Complexity, interconnectedness, organizational slack and size are positive influencers on the adoption of innovation (Rogers, 1983, p.370). These characteristics of innovativeness of organizations draw a parallel to identifying the kinds of adopters specific to organizations (as opposed to individuals).

Organizations go through an innovation process which includes two main processes: initiation and implementation (Rogers, 1983, p370). Initiation is comprised of three stages that lead up to
the decision to adopt. These include: information gathering, conceptualizing, and planning for the adoption of an innovation. The implementation process that follows after the decision to adopt, involves the actions that are taken within the organization in order to put the product into use. The resulting five step process is shown in Fig.8.

In agenda-setting, firms identify the problems which they face that would require innovation. This further points to the importance of identifying potential client pain points as part of the innovation process: "if one begins with a solution, there is a good chance that the innovation will match some problem that is facing an organization" (Rogers, 1983, pp. 362-363).

Matching of possible innovations to the presumed organizational need follows. The decision to adopt the identified innovation is made at this point.

A change agent is the individual "who influences clients' innovation decisions in a direction deemed desirable by a change agency (company offering the innovation)" (Rogers, 1983, p. 312). Further, communication is considered as the interaction between a change agent and client (Rogers, 1983, p.313). The communication process is part of value-based selling, where it is the third step after: (1) comprehending the business model of the client, and (2) developing the value proposition towards the client (Terho et al., 2012).

In the context of communication, Rogers (1983, p.319) cautions that change agents must resist the propensity towards being innovation-minded, and focus on customer orientation. Losing this customer oriented focus has been identified as a cause of innovation adoption failure.

Frameworks for the modeling of technology adoption are useful when planning for product offerings. One recognizable model by Moore (2002, p.4) explains a phenomenon: “crossing the
“chasm”. This is experienced by a lot of firms as they introduce a novel offering into the market. The chasm, as shown in Fig. 9 is the lack of inertia needed to onboard the early majority, who are also referred to as the pragmatists.

![Technology Adoption Life Cycle](image)


The pragmatists in the early majority are risk averse and focus on "incremental, measurable, predictable progress." Product quality, system interfaces, support and reliability are what appeal to a pragmatist (Moore, 2002, pp. 31-32).

In order to ‘cross’ to enter the mainstream markets, there needs to be an offensive waged against the competition. Through offering products, and partnering with other companies (described as allies), the aim of forcing the "competitor out of our targeted niche market" can be accomplished (Moore, 2002, pp. 31-32). This means focusing the offering on the pain points as well as the preferences of the pragmatists, who make up the 'Early Majority'.

There seems to be an overlap in Rogers' (1983) organizational adoption theory and Moore’s model through an emphasis on focusing on the pain points as well as recognizing the pragmatists as a “practical lot”. The researchers of this thesis however, view the Technology Acceptance Model (Davis et al., 1989), as better suited to explain organizational adoption process. The researchers further note that the solutions postulated by Moore in ‘Crossing the Chasm’: customer focus and partnering, are relevant to organizational adoption.

Davis et al. (1989) looked into the causality of technology adoption. From Fig. 10 perceived usefulness (U) and a positive attitude(A) result in an intention to use the technology, which is Behavioral Intention (BI). The TAM model was designed to "trace the impact of external factors on internal beliefs, attitudes, and intentions" (Davis et al., 1989, p. 985). These external variables affect perceived usefulness(U) and perceived ease of use (E) (see Fig. 10). Perceived ease of use is an effective abstraction or simplification of the system, while perceived usefulness is the relevance or applicability of the system to one's work purpose (Davis et al., 1989). See Fig. 10.
Perceived ease of use (E) has a positive effect on U and A. Further, Davis et al. (1989, p. 986) talk about the effect of U (perceived usefulness) and BI (Behavioral Intention) in the context of the organization, stating: "The U-BI relationship in equation (BI=A+U) is based on the idea that, within organizational settings, people form intentions toward behaviors they believe will increase their job performance, over and above whatever positive or negative feelings may be evoked toward the behavior per se". The researchers use this as a relevant factor to consider when addressing the value of web performance.

Perceived usefulness has been found "to be more influential than ease of use", in driving adoption of innovation (Davis, 1989, p.334). The external factors include the system's technical design characteristic, user involvement in system development, the type of system development process use, the nature of the implementation process and cognitive style (Davis et al. 1989).
3. Methodology

This chapter presents an in-depth analysis of the systems of methods used to answer the research question, and builds an argument for the pertinence of the selection of the methodology, research design, research approach and paradigm, and the method. This chapter concludes addressing the pitfalls that can be found in the chosen methodology: biases in innovation research and the research ethics.

The research was conducted in the Stockholm City, Sweden and is the case of Telia Company CDN with a focus on Swedish E-commerce companies. There are two types of data sources for this research: primary, collected through interviews with different stakeholders; and secondary, with a literature search for key concepts.

3.1 Choice of the methodology

In selecting a methodology a researcher must consider a wide range of possibilities and approaches, but in the end the criteria for choosing has to be related to the research question to understand if it is a sound way to answer it.

In getting an answer to the research question (“How do Swedish E-Commerce companies understand web performance and user experience as a value proposition?”), a main research strategy must be identified. After reviewing various research methodologies and research designs, the researchers concluded that Robert Yin’s work (2003) on case study research outlines a way of evaluating a research question to identify a research strategy. Table 1 presents Yin’s (2003) table for analyzing research strategies and their related research questions.

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Form of Research Question</th>
<th>Requires Control of Behavioral Events?</th>
<th>Focuses on contemporary Events?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experiment</td>
<td>how, why?</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Survey</td>
<td>who, what, where, how many, how much?</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Archival analysis</td>
<td>who, what, where, how many, how much?</td>
<td>No</td>
<td>Yes/No</td>
</tr>
<tr>
<td>History</td>
<td>how, why?</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Case Study</td>
<td>how, why?</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Table 1. Relevant Situations for different research strategies. (Source: Yin, 2003).

Placing the research question in this table, and identifying it as a “how” question, leaves three research strategies that are pertinent: Experiment, History and Case of Study. Yin (1994) further explains how to make the distinction using the other parameters in the table. This research is based in an ongoing market development, thus is focusing on a contemporary event.
Experiments are characterized for their tight control over the variables that enable them to establish causality, this can typically be achieved in a laboratory environment. This research does not seek to (nor can ethically) control the behavioral events of the units of analysis (people). With a focus on ongoing events, this research is established as a case of study. Yin (1994) underlines that the main difference between a History and a case of study is that the latter uses direct observation and systematic interviews in conjunction with the History strategy tools.

Choudrie and Dwivedi (2005) found in their research on the methods used for the investigation of technology adoption, that two methods prevailed on the literature: surveys and case of study. They concluded that when the unit of analysis was individual users or consumers the survey method was favored and when the unit of analysis was an organization the case of study method was predominant. Being that this research has its unit of analysis as Telia Company, Choudrie and Dwivedi’s (2005) investigation further helped the researchers to select the case of study as the methodology for this thesis.

3.2 Research design

All types of empirical research require a research design (which is explicit or implicit) that is no more than the logical sequence that shows the interaction within the empirical data, research questions and the conclusions (Yin, 1994).

After identifying the main research strategy as a case of study, the researchers may then consider different research designs. Yin (1994) shows four types of designs: single-case with holistic or embedded units of analysis and multi-case with holistic or embedded units of analysis. Baxter and Jack (2008) simplify the case study design in three as: Single case, Single Case with embedded units and Multi-case studies.

In getting evidence of a gap or different (or not) understanding of “web performance and user experience”, the researchers thought that a multi-data source study could offer enhanced reliability and credibility of the data and the analysis (Patton, 1990; Yin, 1994).

A single case with holistic unit of analysis or a single case is suitable for studying a subject in one particular environment. Critical, extreme and revelatory cases are also good opportunities to get insights given their uniqueness (Yin, 1994). This also means that a single case has a narrow and specific data source from which conclusions are drawn.

Multi-case studies are by nature ambitious research designs which often use an array of methodologies and methods to answer research questions. The evidence from this design is thought to be more comprehensive, translating into compelling research. Nonetheless, this research design requires large amounts data and analysis, and this in consequence is an endeavor that needs considerable resources (Yin, 1994).

The focus of this research is E-Commerce companies in Sweden which presents a single case (a multi-case could be, for example, cross-country or cross-industry research). The researchers' approach was to get insights from different actors or subunits of analysis and consider the different points of view which allows a richer analysis of the larger case (Baxter and Jack 2008). Yin (1994) emphasizes the risk of an over focus of the analysis on the subunits and failing to engage the larger case as a pitfall to be aware of.
The research design is then identified as single case with embedded units of analysis or Type 2 case study design. In this type of case, a phenomenon can be investigated in different environments. This ability to look into subunits of interest allows the researcher to analyze the case by sub-grouping, separating or making an analysis across the subunits. This further strengthen the arguments in the analysis (Baxter and Jack, 2008).

### 3.3 Quantitative vs. Qualitative research and research Paradigm

Once the research strategy and design have been selected, the researchers must identify and develop the tools from which the empirical evidence will be collected. There is a close relationship between the research paradigm and tools (method).

A paradigm can be defined as “basic belief system or worldview that guides the investigation” (Guba and Lincoln, 1994, p. 105). Dobson (2002, Transitive/intransitive Divide section, para. 2) sheds lights on what should be selected first: “the researcher’s theoretical lens is also suggested as playing an important role in the choice of methods because the underlying belief system of the researcher (ontological assumptions) largely defines the choice of method (methodology)”. Krauss (2005) further explains that the qualitative versus quantitative “debate” is in its core a philosophical question rather than methodological one. Thus, before selecting the method it is pertinent for the researchers to think about their beliefs and worldview from which they will analyze and draw conclusions.

The researchers believe and propose that there is a divergent understanding of what “web performance” and “user experience” are, and that this understanding depends on the environment and background of the person. In this way, the researchers also believe that units of analysis cannot be separated from their context.

Contrasting the researchers’ own perspective with the literature on research paradigms points out that this view can be categorized as a constructivist, interpretivist or naturalist paradigm.

Yin (1994) and Stake (1995) both present their approach to case of studies in a constructivist paradigm. In general, the qualitative research approach is founded in an interpretivism or constructivism paradigm, using the idea that there is not a one objective reality (Golafshani, 2003; Krauss, 2005).

The positivist or scientific paradigm is generally associated with quantitative methodologies, in which experiments are used and quantified in order to test a hypotheses in the search for a causal correlation. In this approach, the research is considered detached from the events and the reality or “truth” is consider to be independent from the observer (Golafshani, 2003; Krauss, 2005).

In contrast with the quantitative/positivist researchers who seek a causal correlation, prediction and the broad generalization of their findings, the qualitative/interpretivist researchers seek enlightenment, understanding and the possibility of extrapolation of their findings (Hoepfl, 1997).

The approach in this research is then a qualitative methodology in an interpretivist paradigm.
3.4 Method

The methods are the instruments or tools from which the researchers obtain data to perform an analysis. In the qualitative research there is a predominant use of interviews for getting primary data for analysis. Golafshani (2003) states, “This means such methods like interviews and observations are dominant in the naturalist (interpretive) paradigm and supplementary in the positive paradigm, where the use of survey serves in opposite order”. Yin (1994) also connects the case of study with a constructivist paradigm and points out the value of systematic interviews as a valid instrument.

In qualitative research the question of the quality of the research arises. The issue of evaluating the Validity and Reliability of a qualitative research is in essence a more complex one in contrast to the quantitative research that has a clearer use for these concepts. The term usually use to evaluate the quality or value of a qualitative is coined as “trustworthiness”. The trustworthiness is a principle from which the rigor and quality of a qualitative research can be then scrutinize (Golafshani, 2003).

To cover the trustworthiness, the triangulation idea presents an opportunity to drive the quality of the research. Patton (1990, p. 546) defines it as: “capturing and respecting multiple perspectives,” and Creswell and Miller (2002) as: “a validity procedure where researchers search for convergence among multiple and different sources of information to form themes or categories in a study”. Mathison (1988) further states:

“Triangulation has risen an important methodological issue in naturalistic and qualitative approaches to evaluation [in order to] control bias and establishing valid propositions because traditional scientific techniques are incompatible with this alternate epistemology.” (p. 13)

Using triangulation as a way to enhance the trustworthiness of the research, the method used in this research is interviews with different players (provider, clients and non-clients) with a counter weight balance with the literature review.

3.4.1 Developing the Interview tool

Gall et al. (2003) present ways to categorize interviews from less to more structured as:

- Informal conversational interview.
- General interview guide approach.
- Standardized open-ended interview.

To keep the results consistent and to be able to cross-relate the results, the researchers selected standardized open-ended interviews as the basics to guide the interviews. In this format, the wording of the question is consistent throughout the process and they are designed to be open-ended, allowing the researchers to investigate more with follow-up questions.

The downside of the Standardized open-ended interview is that given the amount of data the processing or coding of it can prove to be a daring task (Turner, 2010). Nonetheless, Gall et al. (2003) point out that this approach reduces the researcher’s biases.
The interview questions and protocol for the request for the interviews were elaborated following the principles, ideas and guidelines presented by Turner (2010), Collis and Hussey (2013) and Castillo-Montoya (2016).

Castillo-Montoya (2016) shows a four phase framework as:

- Phase 1: Ensuring interview questions align with research questions.
- Phase 2: Constructing an inquiry-based conversation.
- Phase 3: Receiving feedback on interview protocols.
- Phase 4: Piloting the interview protocol.

Phase 1 and 2 were elaborated following Turner (2010) and Collis and Hussey (2013) guidelines on the wording and best practices for the questions. Turner (2010) further suggests thinking about “Follow-up” questions that allows the researchers to get back to points of interest and indicate on specific subjects, given that the interviews develop in a dynamic and variable way.

The result from Phase 1 and 2 were 10 questions for the internal interviews and 11 for the external interviews. The researchers set to scrutinize with colleagues, supervisors and with the Telia’s CDN unit the relevance and validity of the questions. This allowed the researchers revise in the wording of some questions and change others completely, leaving the number of questions unchanged.

For piloting the interview questions, the researchers made a series of “cold runs” with three members of the Telia CDN units for the final fine-tuning.

The interview questions and the interview request form can be found in the Appendix A. The interview questions are presented in groups of “themes” of interest for the researchers.

3.5 Managing biases in research of innovation

Pro-innovation bias described by Rogers (1983, p. 92), explains the assumed tendency for diffusion research to focus on the success of innovation, through full adoption within a social system, and ignores the objectivity in questioning the legitimacy of the innovation. Whether or not the innovation is better rejected or re-invented is mostly not considered within diffusion research.

This research was done in Telia Company, to study the perception of e-commerce businesses, their target market, about a technology that they offer within their portfolio. The obvious vested interests are pointed out by Rogers (1983, p. 94), who further states that the resulting danger lies in the limitation of intellectual expression. We may end up not knowing "enough about innovation failures" by over focusing research of successful innovations in hindsight. This can have an impact in the “knowing” of the diffusion and adoption dynamics in the market.

To balance this pro-innovation bias, the researchers are investigating the diffusion and adoption of innovation of web performance as a technology as it occurs. This is one of the strategies suggested by Rogers (1983.p 95). As he puts it "it is also possible to investigate the diffusion of an innovation while the diffusion process is still underway. In fact, a particularly
A robust kind of diffusion inquiry would be one in which data were gathered at two or more points during the diffusion process (rather than just after diffusion is completed).

A way for minimizing the pro-innovation bias is through considering diffusion of both successful as well as less successful cases and investigating during the actual diffusion (Rogers, 1983, p. 96). Working in a systematic manner in all the phases of the research also provides safeguards against biases.

3.6 Ethics in carrying out research

This work also has some ethical implications. Exposure to businesses within e-commerce ecosystem in Stockholm, meant that the privacy of the primary data collected during the interview process had to be maintained, and safeguarded against unwarranted use by the sponsoring company.

In the interviews the researchers had a systematic approach with an intent to avoid biases and manipulation of the participants. All participants were notified before the interviews with a written request stating the full name and profile of the researchers, the interview questions, why they were targeted and the researchers' affiliations (KTH and Telia Company).

The researchers are presenting the collected data under the agreement established with the participants with the utmost integrity allowed by the agreement.
4. Results and Findings

This chapter presents the empirical findings from the interviews (primary data) and a literature review (secondary data).

The researchers carried out a series of interviews of different stakeholders to get an array of points of views to enhance the validity and reliability of the investigation and to utilize the concept of triangulation. The interviews can be cataloged in the three groups as Figure 11 that shows the data sources utilized for the research.

![Fig. 11: Data sources for the research(Castillo and Owino, 2016)](image)

4.1 Internal Interviews

Three internal interviews were performed with the Telia Company CDN unit, as Table 2:

<table>
<thead>
<tr>
<th>Internal interview participants</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Name</strong></td>
</tr>
<tr>
<td>Daniel</td>
</tr>
<tr>
<td>John</td>
</tr>
<tr>
<td>Jonas</td>
</tr>
</tbody>
</table>

Table 2. Names and job titles of internal interviewees (Castillo and Owino, 2016)

These interviews followed the interviews protocol of “Internal interviews questions” (Appendix A) and their transcripts are internal interviews I, II and III (Appendix B). The transcripts further present the interviewee’s names, time, location and date of the interviews.
4.2 External interviews

Two Non-clients (Bostad Direkt and Happy Plugs) and one client (Halebop) external interviews were performed. Table 3 presents the name of the interviewees, company and current position held:

<table>
<thead>
<tr>
<th>Name</th>
<th>Company</th>
<th>Job Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Victor</td>
<td>Bostad Direkt</td>
<td>CEO</td>
</tr>
<tr>
<td>Therese</td>
<td>Happy Plugs</td>
<td>E-commerce Manager</td>
</tr>
<tr>
<td>Daniel</td>
<td>Halebop</td>
<td>Online Sales Manager</td>
</tr>
</tbody>
</table>

Table 3. Names, companies and job titles of external interviewees (Castillo and Owino, 2016).

These interviews followed the “External: client and non-client interview questions” and the “Interview request” protocol (Appendix A). The transcripts of the interviews are external non-client interviews I and II, and external client interview I (Appendix B). The transcript present the interviewee’s name, company, time, location and date of the interview.

4.3 Secondary Data

For the secondary data the researchers focus on the top cited papers and the surrounding papers (articles citing the relevant ones) in the search for definitions for “web performance” and “user experience”. The google scholar\textsuperscript{12} database was favored for the research for its openness and ease of use. Something to note is that “web performance” and “user experience” are terms generally used in the realm of information technologies. Nonetheless, the researchers aim was to develop an own definition based on literature that can be related to the interviews and to practical definitions of “web performance” and “user experience”.

Web performance refers to the measurement of the performance of a web site or application. The literature tends to focus on strategies to improve the performance of websites. Souders (2008, 2009) is a prominent writer on the strategies and guidelines to enhance the performance of web sites, proposing fourteen rules to improve performance as:

- Rule 1 - Make Fewer HTTP Requests
- Rule 2 - Use a Content Delivery Network
- Rule 3 - Add an Expires Header
- Rule 4 - Gzip Components
- Rule 5 - Put Style sheets at the Top
- Rule 6 - Put Scripts at the Bottom

\textsuperscript{12} Database used for research: https://scholar.google.com/
Kohavi et al. (2014) propose seven rules of thumb for running web sites experiments in which rule number 4 is “speed matters a lot”. They illustrate the rule with a server slowdown experiment example (Kohavi et al., 2014. p. 1862):

“A slowdown experiment at Bing [11] slowed 10% of users by 100 msec (milliseconds) and another 10% by 250 msec for two weeks. The results of this controlled experiment showed that every 100 msec speedup improves revenue by 0.6%”

In the journals experiments, recommendations to run them, coding best practices and server configurations are well discussed. These are some of the technical factors that affect the web performance. The researchers take on web performance is from the user perspective. In this sense, Manhas states (2013. p. 32):

“Web performance from the client point of view is measured as the page load time. This is the lapsed time between the moment a user requests a new page and the moment the page is fully rendered by the browser.”

Further, Killelea (2002. Preface) says:

“The web performance I care about is from the user's point of view: how quickly the Web satisfies the user's request. .... this book focuses mainly on the user perception of speed”

This gives the notion that from the user perspective web performance can be measured in load times. Ravi et al. (2009) define “responsiveness” as user perceived latency. After this review, the researchers understand web performance as:

The technical reasons that explain the load time and responsiveness of a web site.

For defining user experience, the literature presents divergent ways to coin the concept. A debate to come about an unified definition is discussed by Law et al. (2008; 2009). Many factors come into play when defining user experience such as: background, industry, emotional factors, hedonic and aesthetics variables (Law et al., 2009).

The international organization for standardization (ISO) is a widely accepted body that in its ergonomics of human system interaction standard define user experience as (ISO DIS 9241-210:2008):
A person's perceptions and responses that result from the use or anticipated use of a product, system or service.

The researchers used this definition for the analysis and discussion in this investigation.
5. Analysis

In this chapter the researchers perform an analysis of the outcomes of the interviews (primary data) and the concepts as presented in the literature (secondary data or theoretical knowledge).

Interpreting the raw data from the interviews requires a process where the data transforms into information, also called codes or themes (Creswell, 2003). The themes or codes are commonly recurring phrases, expressions or ideas that can be identified across the research participants (Turner, 2010).

The following is an are lists of interview questions:

<table>
<thead>
<tr>
<th>List of internal interview questions:</th>
<th>List of external interview questions:</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. What is web performance?</td>
<td>2. How important is e-commerce for your business strategy?</td>
</tr>
<tr>
<td>3. What is customer experience?</td>
<td>3. Which are the biggest industry trends in e-commerce?</td>
</tr>
<tr>
<td>4. What is Telia Company CDN value proposition?</td>
<td>4. As an e-commerce company, which are biggest challenges that you face?</td>
</tr>
<tr>
<td>6. How has the &quot;ClientX&quot; case developed so far? (Challenges &amp; lessons learned?)</td>
<td>6. Describe a happy customer for your business.</td>
</tr>
<tr>
<td>7. What are some of the support issues with &quot;ClientX&quot;?</td>
<td>7. Could you describe the business or decision process that leads to the adoption (use) of a new technological service.</td>
</tr>
<tr>
<td>8. In your opinion what is the client perspective of the web performance? And data analytics?</td>
<td>8. Are you using data insights from your e-commerce websites?</td>
</tr>
<tr>
<td>9. Which you think are the main challenges for clients for the implementation?</td>
<td>9. What do you value in a partnership involving your core business systems?</td>
</tr>
<tr>
<td>10. Do you think that Web performance is a hard sale? (Why?)</td>
<td>10. Which Nordic companies do you consider to be the most successful in the e-commerce industry?</td>
</tr>
<tr>
<td></td>
<td>11. What do you think is the future of e-commerce?</td>
</tr>
</tbody>
</table>
5.1 Internal Interviews Analysis

From the internal interviews, the understanding of ‘web performance’ and ‘user experience’ is derived. Using participants responses from the interview questions: “What is web performance?” and “What is user experience?”, the responses of the participants were merged into key aspects. The results yielded:

*Web performance:*
1. Speed
2. System availability
3. End user behavior

*User Experience:*
1. End user expectations

*Themes identified from internal interviews:*

After transcribing and processing the results, the researchers identify some dominant themes from the participant responses. The transcripts of these internal interviews are in appendix B. The responses from all the internal interview participants were put into a sub-group and themes within their responses were identified. The themes were found in specific responses of the questions and the overall assessment of each interview by the researchers. These themes were then correlated with their closeness to either the theoretical concept of value proposition or to diffusion of innovation framework. The results are presented in the following table 4:

<table>
<thead>
<tr>
<th>Themes identified from the internal interviews</th>
<th>Theoretical concept/framework</th>
</tr>
</thead>
<tbody>
<tr>
<td>Web performance</td>
<td>Value proposition</td>
</tr>
<tr>
<td>User Experience</td>
<td></td>
</tr>
<tr>
<td>Offering</td>
<td></td>
</tr>
<tr>
<td>Data Analytics</td>
<td></td>
</tr>
<tr>
<td>Implementation</td>
<td>Diffusion of Innovation and TAM</td>
</tr>
<tr>
<td>Initiation</td>
<td></td>
</tr>
<tr>
<td>Trust</td>
<td></td>
</tr>
<tr>
<td>Market State</td>
<td></td>
</tr>
</tbody>
</table>

Table 4: Themes identified from the Internal interviews (Castillo and Owino, 2016).
The analysis further shows the way these themes are related to the transcripts presenting why and how the researchers place them on either concept or framework. Value proposition and diffusion of innovation are placed into category 1 and category 2 respectively.

**Category 1: Value Proposition**

The following Table 5 shows the themes related to the value proposition concept, category 1, shown with an overall interpretation by the researchers.

### Analysis of internal interview data: Category 1

<table>
<thead>
<tr>
<th>Category 1: Value proposition</th>
<th>Web performance</th>
<th>User Experience</th>
<th>Data Analytics</th>
<th>Offering</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology Lead:</td>
<td>Issues of Latency and Bandwidth</td>
<td>Aesthetics and speed for an enhanced web experience</td>
<td>Quantifies the evidence of what Web performance does; Benchmark for presales; Drives customer decisions</td>
<td>Conversion (revenue) and customizable product</td>
</tr>
<tr>
<td>Head of Unit:</td>
<td>Technical reason for user behavior</td>
<td>Works and fits user behavior</td>
<td>Gives insights used to ground decisions and drive profits</td>
<td>Conversion, scalability, security, customizable product</td>
</tr>
<tr>
<td>Sales Lead:</td>
<td>Speed and availability</td>
<td>Expectations of the customer</td>
<td>Proof that web performance works. Drive business decisions</td>
<td>Ux, conversion, SEO, reduced bounce rate, keeping up with trends</td>
</tr>
<tr>
<td><strong>The researchers interpretation of the three interviewees responses above</strong></td>
<td>Speed, availability, that helps to explain the user behavior. Based on system efficiency.</td>
<td>Design and ‘feel’ that is user centric; and translates into user satisfaction.</td>
<td>Data driven business decisions for improvement (profit and growth). Presents empirical evidence of the system state and how it performs.</td>
<td>Improve conversion, reduce bounce rate, give scalability with security in a customizable package.</td>
</tr>
</tbody>
</table>

Table 5: Analysis of value proposition of web performance and data insights (Castillo and Owino, 2016).
**Category 2: Diffusion of Innovation and Technology Adoption.**

Table 6 presents the themes identified in the realm of diffusion framework and TAM. This is explored in the themes of: Implementation, Initiation, Trust and the current status of the market.

### Analysis of internal interview data: Category 2

<table>
<thead>
<tr>
<th>Category 2: Diffusion and Adoption of Technology</th>
<th>Initiation</th>
<th>Implementation</th>
<th>Trust</th>
<th>Current Market Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical Lead:</td>
<td>Cost allocation problems, low technical awareness, bottleneck in internal IT departments</td>
<td>Necessary to provide professional services i.e. expertise</td>
<td>Brand leverage for credibility and trust</td>
<td>They think that it is interesting and important but it is not for them. Not the center of their business.</td>
</tr>
<tr>
<td>Head of Unit:</td>
<td>Clients recognize what web performance is, yet no decision to adopt. IT department hurdle</td>
<td>Lack of client expertise (most times is first cloud implementation)</td>
<td>Urgent need to build trust with IT people</td>
<td>They know about web performance, but it is not urgent for them</td>
</tr>
<tr>
<td>Sales Lead:</td>
<td>Lack of knowledge, need to educate clients</td>
<td>Lack of expertise</td>
<td>Need to foster client relationship</td>
<td>Novelty is clear, but perceive that &quot;It does not apply to them&quot;. Insist on ROI proof.</td>
</tr>
</tbody>
</table>

**The researchers interpretation of the three interviewees responses above**

- **There is no decision to adopt web performance by clients.**
- **There is a gap in technical expertise at the client side. Requires professional services to overcome this for implementation.**
- **Importance of trust, need to build upon brand, and forge relationships.**
- **Recognized as a novel technology, but then its implementation is not seen as urgent.**

Table 6: Analysis of diffusion and adoption of web performance and data insights (Castillo and Owino, 2016).
5.2 External Interviews Analysis

By placing the interview responses in the context of the research question, an examination of the understanding of ‘web performance’ and ‘user experience’ is considered from the sample of e-commerce clients (of Telia CDN) and non-clients.

[NC1 is Non-Client 1, NC2 is Non-Client 2, CC1 is Current Client 1]

*Web performance:*

In defining ‘web performance’, the three participants identified:

1. speed as an important:
   - NC1 - "If the system takes so long, and you get bored, then you don't get any matches"
   - NC2 - "...should be simple, it should be fast"
   - CC1 - "Speed, linked to performance of the actual website."

2. Conversion is important:
   - NC1 - “...lead to conversion”
   - NC2 - “...to buy a product or service, with just a few clicks”
   - CC1 - “...correlation to site speed to conversion”

3. Assist in daily work:
   - NC2 - “Make life easier everyday”

   In summary: Web performance is an aspect of the online experience that includes speed. It leads to conversion and assists in daily work.

*User Experience*

In defining ‘User Experience’, the three participants identified:

1. The concept of a good online (virtual) experience from start to end, and the real world interaction with the service or product.

   - NC1 - “A happy customer is paradoxically one that doesn't call us! People who use our website ... and they have no reason to contact us.”
   - NC2 - “Find the products that they want - and make the decision that they want to buy 'now'.
   - CC1 - “…experience and usage with the actual product and service offering determines how happy the customer is…”

   In summary: User experience is the concept of a good online experience from start to finish and the interaction with the real world service or product.
**Themes identified from external interviews**

The researchers, in their search of a common code in the answers, organized their findings in two major themes relating to the proposed theoretical frameworks. In this sense, it is possible to place these findings in categories derived from the theory. This is illustrated in the Table 7.

<table>
<thead>
<tr>
<th>Theme</th>
<th>Theoretical concept/framework</th>
</tr>
</thead>
<tbody>
<tr>
<td>Web performance and Data insights</td>
<td>Value proposition</td>
</tr>
<tr>
<td>User Experience</td>
<td></td>
</tr>
<tr>
<td>Business challenges and pain points</td>
<td></td>
</tr>
<tr>
<td>Trends</td>
<td></td>
</tr>
<tr>
<td>Aspirations</td>
<td></td>
</tr>
<tr>
<td>Technology Adoption</td>
<td>Diffusion of Innovation and TAM</td>
</tr>
</tbody>
</table>

Table 7: Themes identified from external interviews (Castillo and Owino, 2016).

The researchers set out to answer the understanding of “web performance” and “user experience” in the context of a value proposition. The idea was to derive the client perspective of the value of this technology that could be analyzed with the value proposition as proposed by Anderson (1998, 2006), the diffusion of innovation by Rogers (1983) and the TAM by Davis et al. (1989). This enables the researchers to attain the aim of this investigation by obtaining a conceptual approach of a value proposition for the offering side perspective.

**Category 1:** The first of these categories is related to value proposition theory. The themes include: ‘Web performance and data insights’, ‘user experience’, ‘business challenges and pain points’, ‘trends’ and ‘aspirations’. Table 8 follows.
### Analysis of external interview data

<table>
<thead>
<tr>
<th>Category 1: Value proposition</th>
<th>Web performance and Data insights</th>
<th>Challenges or business pain points</th>
<th>Customer Business priorities</th>
<th>Aspirations</th>
<th>Industry Trends</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Current Client 1</strong>&lt;br&gt;<strong>CC1:</strong> Web performance drives sales. The data insights are a complement that allows to further drive sales.</td>
<td><strong>CC1:</strong> Differentiating products and services online</td>
<td><strong>CC1:</strong> Quality web experience for all interactions that translate in return visit to their web platform.</td>
<td><strong>CC1:</strong> Quality web experience for all interactions that translate in return visit to their web platform.</td>
<td><strong>CC1:</strong> Personalization</td>
<td><strong>CC1:</strong> Personalization through big data, rapid deliveries via Omni-channel, shop in shop.</td>
</tr>
<tr>
<td><strong>Non-client 1</strong>&lt;br&gt;<strong>NC1:</strong> Web performance facilitates conversion. The data insights work as business intelligence tools for enhancing this conversion</td>
<td><strong>NC1:</strong> Seamless online payment processing</td>
<td><strong>NC1:</strong> Complete online transactions (linked to conversion) by website visitors.</td>
<td><strong>NC1:</strong> Complete online transactions (linked to conversion) by website visitors.</td>
<td><strong>NC1:</strong> Growth</td>
<td><strong>NC1:</strong> Bigger players will dominate the market</td>
</tr>
<tr>
<td><strong>Non-client 2</strong>&lt;br&gt;<strong>NC2:</strong> Web performance is about consistency in virtual experience across devices and platforms. The data insights assists in managing business operations.</td>
<td><strong>NC2:</strong> Combining design and functionality online, so that consistency prevails</td>
<td><strong>NC2:</strong> Seamless transitions between virtual and real interactions as perceived by their end user.</td>
<td><strong>NC2:</strong> Seamless transitions between virtual and real interactions as perceived by their end user.</td>
<td><strong>NC2:</strong> Integrated user experience with business</td>
<td><strong>NC2:</strong> Omni-channel</td>
</tr>
<tr>
<td><strong>Researchers' Interpretation of external interviewee responses above</strong>&lt;br&gt;<em>Web performance drives sales, facilitates conversion online and enables a consistent experience</em>&lt;br&gt;<em>Data insights to increase sales, to increase conversion, manage business operations</em></td>
<td><em>Pain points include: Online differentiation, payment processing, functionality over design</em>&lt;br&gt;<em>Return visits, conversion, seamless virtual to physical world transaction</em></td>
<td><em>Optimized user experience, to meet business goals</em></td>
<td><em>Optimized user experience, to meet business goals</em></td>
<td><em>Big players, big data, omni-channels and customized experience</em></td>
<td></td>
</tr>
</tbody>
</table>

Table 8: Analysis of value proposition of web performance and data insights (Castillo and Owino, 2016).
**Category 2:** The second category is based on the interaction between two theoretical frameworks. The first based on diffusion describes the process of organizational innovation adoption which comprises of initiation and implementation. Between the initiation and implementation, is the decision to adopt that can be explained with the Technology Acceptance Model (TAM) framework.

<table>
<thead>
<tr>
<th>Current Client 1</th>
<th>Diffusion of Innovation: Initiation</th>
<th>TAM</th>
<th>Diffusion of Innovation: Implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC1: What leads to initiating is the desired impact on such innovations on the Key Performance Indicators (KPIs).</td>
<td>CC1: The decision of adoption is driven by the usefulness of the innovation</td>
<td>CC1: Value that will grow our business. Simplicity in line with our organizational value.</td>
<td></td>
</tr>
</tbody>
</table>

| Non-Client 1 | NC1: The initiation is through a consequence analysis of innovations that enable the improvement of business critical functionality. | NC1: If proven strongly beneficial, the innovation is adopted based on its usefulness. | NC1: Flexibility, good communication, understand our core business. Apply your system to our business. |

| Non-Client 2 | NC2: The initiator is the evidence of proven implementations, in combination with the apparent reliability, and support channels. | NC2: The perceived convenience and ease of use of the innovation leads the decision of adoption. | NC2: Support, good communication, understand our business, collaboration, and connection with suppliers. |

**Interpretation of the researchers for the external interviewee responses above**
- **First consider:** Business need and impact on the business targets. Proven use cases (technology follower).
- **Companies are driven in different ways. Usefulness and ease of use are considered as a measurement for the relevance of a technology.**
- **In line with business targets, and organizational values. Flexibility, good communication, collaboration and connection.**

Table 9: Analysis of technology adoption for web performance (Castillo and Owino, 2016).
6. Discussion

Telia Company has developed the CDN unit to offer B2B services as part of the OTT strategy of the company. The CDN unit has signed up some customers, such as Halebop (CC1); however it is looking into ways to further tailor its offering of web performance with a focus on e-commerce companies.

From the internal interviews, there is a recurring idea that even though potential clients understand the novelty and significance of web performance, there is inaction in transforming this awareness into a catalyst for adoption of this technology. The researchers, given this scenario, framed their investigation in a way that would prove or disprove this notion as presented by the CDN unit. With this in mind, the research question was designed to answer: How do e-commerce companies understand ‘web performance’ and ‘user experience’? This was explored from the point of view of business value proposition.

After searching in the literature, three relevant theoretical frameworks that could be applied were found. This research investigates the adoption of an early stage, diffusing technological innovation. Since this innovation is a business-to-business (B2B) offering, the adoption theories selected were those most suitable for this scenario. The concept of value proposition (Anderson et al., 2006), the theory of Diffusion of Innovation (Rogers, 1983) and Technology Acceptance Model (Davis et al., 1989) were specifically selected to deconstruct different parts of the phenomenon. The value proposition concept is brought out in the research question and is used to anchor the analysis. This allowed the researchers to keep the discussion constrained within the realm of value proposition. The figure 12, is a visualization of this anchoring.

![Fig. 12: Anchoring the research on value proposition (Castillo and Owino, 2016)](image)

When trying to convey value the proposition one can focus on various considerations: all the advantages of the offering, differentiating factors or focus on customer needs (Anderson et al., 2006). Further, when considering e-commerce as a target market, the researchers approach is
driven by the recommended resonating focus of client needs, thus getting these perspectives through interviews was vital for the aim of this thesis.

Using diffusion theory for the innovation process in organizations, in the context of value proposition, this research looks at the initiation process and the adoption frontier between the initiation and the implementation. The way the researchers use the TAM is by positioning it in this adoption frontier. This is visualized in figure 13.

![Fig. 13: Combination of Stages of Innovation with TAM (Castillo and Owino, 2016)](image)

The merging of these frameworks allows the researchers to understand the way the adoption decision is made. This gives clues of the influence of behavioral factors on the adoption of technology and its eventual implementation. To be able to make the transition from initiation to implementation, the decision to adopt has to take place. After the process is initiated, the recognition of the “perceived usefulness” and the “perceived ease of use” are prime factors to take into account.

6.1 Understanding web performance and user experience

The understanding of web performance from both internal and external analyzed results showed some similarities and differences when compared to the generally accepted academic definition deduced from secondary data.

The analyzed internal CDN interview data resulted in a consensus that web performance concerns speed and web site availability, and that helps to explain the user behavior. Further, this web performance is based on system efficiency.

Looking at the secondary data on web performance and user experience, the researchers deduce that the way the CDN unit defines this term is similar to the theoretical one: both focus on the intrinsic capabilities of web performance to improve web page load time.
In the external interviews analysis “speed” was a recurrent notion throughout the interviews. In web performance, that “speed” is related to the web page load times. This shows that, from all data sources, the actual performance of the web site measured in load times is a consistent way to define web performance. The difference identified is that the companies see web performance not only by what it is but also by what it does (for them), meaning that they all mention the way it leads them to reach their business goals:

- NC1 - “...lead to conversion”
- NC2 - “… to buy a product or service, with just a few clicks”
- CC1 - “…correlation of site speed to conversion”

This is a significant difference in the way e-commerce companies understand web performance.

User experience (Ux) was also treated in a similar way to web performance, in order to deduce how e-commerce companies understand it.

The literature defines user experience as an individual endeavor that results from the interaction with a system, service or product. The researchers note that this theoretical explanation of Ux expresses that it exists every time an individual has an interaction with a system. The definition of Ux thus considers all instances of interaction. Such a broad definition takes into account all possible outcomes: good or bad. Ux is a subjective notion that is defined by its context.

The CDN unit internal interviews showed that the participants related user experience to the design and ‘feel’ of a web site that is user-centric, which translates into user satisfaction.

The external interviews led to a perspective of user experience based on quality leading to: return visits, complete transactions for conversion, and seamless virtual to physical world transition.

6.2 Perspectives on value proposition

The researchers note that the variety in the answers from the findings is consistent with the theoretical theme of subjectively defining Ux. Further, this supports the ongoing general theoretical debate that the Ux changes with a subjective and context driven understanding.

The value proposition of the offering was investigated further by considering different aspects and uses that stem from web performance and user experience. Therefore, the use of data analytics among the participants as well as its proposed value by the CDN unit were analyzed.

The researchers inquired about the perceived advantages of data analytics from the perspective of the CDN unit. The general responses draw upon the usefulness of data analytics to provide data-driven business decisions for improvement (profit and growth). Further in terms of system performance, data analytics present empirical evidence of the system state and how it performs. Responses from the external participants about data analytics showed an understanding of the resulting data insights to be useful to: increase sales, increase conversion, and manage business operations.
Both perspectives recognize data analytics is a tool to improve e-commerce business through data insights.

The researchers also asked the participants in the CDN unit a direct question about what they thought the value proposition of their offering entailed. The CDN unit’s perspectives included the benefits of using their offering as: improved conversion, reduced bounce rate, and giving scalability with security in a customizable package.

To further understand the client requirements and their business, the researchers sought to discover the pain points and views about e-commerce trends. Knowing the pain points is a core requirement to be able to develop a compelling value proposition. So, to develop a theme surrounding the client pain points, the researchers asked the external interview participants about the challenges they face in their e-commerce business. The answers revealed their current challenges: online differentiation, reliable payment processing, and functionality over design.

The researchers also asked the external participants about what trends they see within e-commerce. Their answers revealed the beliefs about value and recognizing where the industry is going. These ideas together showed the clients’ perspectives of business opportunities and threats. In summary, the trends included: big data, omni-channels and customized experience. The potential threat that bigger players will dominate the e-commerce market was also mentioned. Further, the assessment of each entire external interview identified aspirations relating to the trends, opportunities and threats. These aspirations were: optimized user experience to meet business goals, personalization, growth and seamless customer interactions.

6.3 Initiation, decision to adopt and implementation

The researchers’ take on the ‘combination of the stages of adoption and TAM’ maps to the client’s initiation, adoption decision and implementation of innovation within their business processes.

The researchers first consider the ‘combination of the stages of innovation adoption with TAM’ from the perspective of the internal CDN unit. Within the initiation stage, the internal CDN ‘first-contact’ meetings are considered as ‘agenda-setting’. Further, matching the offering to the client business need is conveyed during such interactions. When the decision to adopt is considered by the stakeholders that are responsible for carrying out the implementation and maintaining the system, the client’s tendency has been either to postpone or decide not to adopt. Even with this, the approached clients do recognize the novelty of web performance as a business offering, yet it is generally not considered urgent.

In the TAM, this interaction between the behavioral intention to use (BI) and attitude towards using (A) is influenced by perceived usefulness (U) and ease of use (E) of the technology. This relationship and the hierarchy for influence of the decision to adopt are critical points for understanding the diffusion of innovation.
During the external interviews, the researchers asked about the process to adopt and implement a technology. After analyzing the responses, they identified three major outcomes about client behavioral attitude in the innovation diffusion and adoption process.

i) According to all respondents, the agenda-setting in the initiation is driven by the impact on business targets.

ii) Proven uses cases further favor the attitude towards the technology.

iii) The interviewees had a way to evaluate a technology by its perceived usefulness or perceived ease of use. Usefulness and ease of use are considered measurements of the relevance of a technology.

An interesting outcome from the external interviews was the idea that if a technology or innovation was somehow able to demonstrate its immediate impact on the business targets, a prioritization of its implementation could take place. Further, if the value derived from the usage of such a technology managed to deliver a tangible solution, this urgency would drive its adoption.

The researchers further considered the implementation process. The challenge of implementation of web performance by clients of the Telia Company CDN unit was described in part as a problem of technical expertise gap among the system stakeholders.

The researchers investigated the expectations of B2B relationships from the perspective of both the external and internal stakeholders, in the context of implementation of technology as part of the stages of innovation diffusion and technology adoption by clients.

Members of the Telia Company CDN unit indicated that trust is important for a viable supplier-to-business partnership. They further perceive this through building upon the ‘Telia’ brand and focusing on forging relationships. When the researchers set out find out what the clients value in a partnership that is vital to their e-commerce business, it led to the discovery of key attributes that were important when looking to work with a supplier. They pointed out that the suppliers should:

➔ understand and align with their business and organizational values,
➔ be flexible,
➔ communicate well,
➔ collaborate with them, and
➔ maintain a connection with them.

These points represent some of the aspects that can lead to building a trusting business relationship.
6.4 Designing a compelling value proposition

Taking into consideration the way the themes identified in the interviews relate with the theoretical framework and concepts, and using this as a basis, the researchers were able to present guidelines and considerations for the improvement of a value proposition.

The researchers noticed throughout the interviews that there are different behavioral attitudes towards technology. These attitudes were clearly expressed during the face-to-face interviews. Further, the recordings served to reinforce the initial impression that the researchers verified. From the findings, the two behavioral tendencies of appreciating usefulness of technology, and appreciating the ease of use were demonstrated. Two of the external participants favored usefulness of technology, and one of the respondents favored ease of use.

The eventual goal was to devise a value proposition that is in line with the best practice from Anderson et al. (2006), of resonating focus. Davis et al. (1989) talk about the effects of perceived usefulness specific to an organizational setting, in which individuals favor technology that would improve their work performance. The way work performance is measured throughout organizations can differ greatly, for example from business KPIs to systems performance KPIs. As such, a “useful” technology will lead to a positive answer at the point of making the decision to adopt.

Ease of use can lead to influencing perceived usefulness, or it could lead to an attitude towards a technology. In designing a best practice value proposition, the supplier should therefore discover what matters most to their target client, in terms of either usefulness or ease of use.

The researchers’ analysis showed that there was a difference between the client understanding of web performance and the one derived from the secondary data, as well as the one derived from the internal interviews. The difference was that the client understanding also took into consideration the benefits specific to their respective businesses. Further, when expressing the value proposition of the CDN offering in the internal interviews, the researchers could categorize it as an “all benefits” value proposition (Anderson et al., 2006).

In this situation in which the understanding of the client has a targeted focus while the value of the technology as viewed by the supplier covers all the benefits, leads to a mismatch of interests and perception. In this sense, the following figures (Fig. 14 to Fig. 19) show the researchers’ take of this scenario in an illustrative way. It is important to note that although the figures are graphical, they are presented to illustrate and to build the researchers’ arguments. The investigation as a whole remains qualitative as justified in the methodology for this research work.
The above system features of web performance were considered and weighed with a score of 1 for either Telia CDN Unit, or for the external clients, based on the communicated: value, understanding or need. The researchers base this on what was communicated to them purely to demonstrate the perceived importance of technical features to both parties, and not necessarily the lack of interest from either. Fig. 15 show this scoring for the system features.

Further, a tallying of these shows the mismatch in terms of how the Telia Company CDN unit “all benefit’s” value proposition stands against the external clients understanding and requirements when it comes to the system features. Telia Company offers more system features than the clients understand, or say they need as shown in Fig. 16. The researchers see
this as an advantage for the Telia CDN unit offering in terms of meeting the technical needs of the client.

![System features chart]

**Fig. 16:** Summarized tally of system features for Telia Company CDN Unit and external participant views (Castillo and Owino, 2016).

The business needs that are met by the Telia Company CDN unit in their “all benefits” value proposition were also mapped in the same way. The resulting map is shown in Fig. 17.

![Business needs mapping diagram]

**Fig. 17:** The mapping of the mismatch of understanding concerning business benefits of Telia Company CDN offering and external e-commerce understanding and requirements (Castillo and Owino, 2016).
The business benefits were each given a score of one, graphed in Fig. 18. For the partially matched features, the external participant needs were scored at 1.5, while for the unmet needs, Telia was scored at 0.5 for those viewed by the researchers as needs that can be easily addressed by the CDN unit. Further, Telia was scored at 0 for the unmet business benefits that according the investigation assessment, the CDN unit is not in a position to meet currently.

A tallying of the above points shows the mismatch in terms of how the Telia CDN unit “all benefits” value proposition stands against the external participants’ understanding and requirements when it comes to the business benefits of web performance and their aspirations. Telia CDN unit offers a majority of the business benefits, though the customer needs and aspirations are ahead of Telia Company’s offering. The researchers consider this a gap in the unaddressed requirements in the value proposition. Fig. 19 illustrates this situation.
The researchers further take the viewpoint that, as illustrated so far, there is a created gap in communication of the value proposition due to misalignment. The message by Telia CDN is not complete in expressing the desired business needs of the external clients. This is not necessarily due to Telia CDN’s lack of ability to present this value. In many of the internal interviews the respondents expressed that the approached clients do recognize the novelty of web performance as a business offering, yet they generally do not consider it urgent.

This ‘lack’ of urgency could be explained by the researchers’ argument about ‘mismatch in interests and perception’ in terms of emphasis and importance placed on technology features, and ‘mismatch in understanding’ of presented business benefits. This leads to a communication gap.

As a consequence, the researchers consider that a way to design a compelling value proposition is to tell a story that is business-centric and that resonates with the client’s:

- Pain points and business targets,
- Varied extent of appreciation of technology’s ease of use and its usefulness,
- Urgency which translates into prioritization for adoption.

The researchers propose building a value proposition that should entail applying these theories and concepts. This would comprise, as listed in Fig. 20 above, the recommendation from Anderson et al. (2006), together with the considerations from the TAM (Davis et al., 1989), and results from this research. The researchers emphasize these considerations should be from the perspective of the client.
Taking the key points from Skok’s (2013) value proposition statement template, the researchers extracted: [target customers], [the current alternative], [new product], [key problem-solving capability], and [the product alternative].

The ‘problem-solving capabilities’ is then isolated, and equated to the usefulness, purpose or value derived from the offering by the client (or potential client).

\[
\text{Problem-solving capability} = \text{usefulness} = \text{purpose} = \text{value}
\]

Based on the Anderson et al. (2006) concept of what to include in a compelling value proposition that has resonating focus with the customer needs, the researchers fit the process of identifying: ‘points of parity’ and ‘points of differentiation’ for the ‘problem-solving capability’. The points of parity are the similarities in perceived value between the new offering and the current alternative. The points of difference show the differentiation points between the product and the alternative or competing solution (Anderson et al., 2006).

For a resonating focus value proposition, Anderson et al. (2006) recommend including: “one or two points of difference (and perhaps one point of parity) which will deliver the greatest value to the customer for the foreseeable future. The selected points must be the ones that are seen as most worthwhile” (p. 4).

In order to fulfill this “most worthwhile” demand, the researchers consider that their previous list of business centric considerations (Fig. 20) could be used to determine what to include in the value proposition.

The researchers illustrate their proposed combined framework in Fig. 21 below:
Fig. 21: The key components of the value proposition statement template (Skok, 2013) with points of parity and difference available to the target client (Anderson et al. 2006). Resonating factors include TAM considerations and researchers’ findings (Castillo and Owino, 2016).

This is a combined framework of different theories and frameworks for value proposition and diffusion of technology, with the knowledge gained through empirical findings. The researchers believe that using this framework could lead to a more compelling message in the value proposition that resonates with the client.

For example a value proposition for Telia web performance offering could be written as:

“The web performance offering provides increased speed and conversion rate to your website while delivering real-time performance metrics to drive business decisions to optimize, customize and manage the user experience. Telia’s CDN technology helps businesses keep their edge in an ever crowded e-marketplace.”
7. Conclusion

The researchers in their investigation were able to obtain empirical data to answer the question about how Swedish e-commerce companies understand web performance and user experience. The e-commerce clients’ understanding of web performance is closely related to the theoretical definition. They understand it as speed (especially for load times) that influences their business goals.

E-commerce companies understand user experience in their respective contexts. This is consistent with the theoretical view of the subjectivity in defining Ux.

The researchers were able to merge the concept of value proposition, the diffusion of technology and the Technology Acceptance Model in a B2B context to make sense of a technology that is in the early stages of diffusion. Further, this merger from this usage of Anderson et al. (2006) and Skok (2013) statement template were fused in a framework to illustrate how to generate value propositions that are aligned and resonate with customer needs and expectations.

After analyzing the empirical data from the external interviews and comparing with the theoretical concepts, there is evidence that supports the notion of a difference in terminology, which in consequence becomes different ways to perceive value. This is something important to consider when trying to elaborate a value proposition that is customer-driven, because this much it creates barriers to effectively communicating and delivering a strong and relevant message to clients that could benefit from the adoption of a technology that actually matches some of their expectations.

The researchers were able to devise a conceptual framework and approach, through merging theories and knowledge from empirical data, for developing a value proposition for a technological offering.

The researchers were able to use and merge the theoretical concepts and frameworks to analyze the case of a technology that is in the early stages of diffusion, and followed Rogers’ recommendation to avoid pro-innovation bias. The researchers believe that this could help in the ‘knowing’ of the diffusion of technology process. This research contributes to knowledge about diffusion that is about studying early technology adoption, unlike common diffusion research about successful and widely adopted technologies.

The B2B adoption process goes against the preconceptions of what could be “common knowledge” or “common sense”. It is relevant in the TAM, which considers ease of use and usefulness as influencers in the general adoption process. These two concepts are part of the themes that the researchers identified in the external interviews carried out during fieldwork for this thesis.

The resonating focus on customer needs is a way to recognize the usefulness and the influencing factors behind the client’s attitude towards the proposed technology.
Limitations

The case of study methodology has generated concerns over three main topics: lack of academic rigor, provides little basis for generalization, and that it takes too long to complete (sometimes resulting in massive and unreadable documents) (Yin, 1994).

The researchers try to present a rigorous work with a deep systematic approach and with the idea of triangulation to enhance the trustworthiness of the qualitative analysis. The interpretivist paradigm in qualitative research has the risk to avoid the seeking of objective conclusions, something that can happen by over focusing on behaviors that could lead to the disregard of causal correlations (Gage, 1989). This thesis does not seek to justify (or defend) points of view, it seeks to understand a phenomenon in its context and to empirically find its existence (or not) to proactively correlate theoretical frameworks.

For the second concern Yin (1994) explains that, like experiments, cases are able to be generalized to theoretical propositions that can then be further proved or disproved. Even with the self contained validity, the researchers are aware that the extrapolation of a case of study can enhance its trustworthiness. The extrapolation of a case is done typically in hindsight and the researchers can only focus on investigate following the design in the hopes that the findings might be extrapolated.

For the last concern, Yin (1994) states that the length of a Case of Study is normally related to the method used. For example, ethnographies or participant-observation typically render extensive cases. In this thesis a triangulation approach is taken to analyze the primary data from interviews in conjunction with secondary data from the theories; the researchers approach is to synthesize and to keep the narrative relevant.

Interview is a method that is widely used in qualitative research, nonetheless like all methods, it also has drawbacks. In participant observations (where the research is carried out through direct participation of the researcher), like in interviews, the social interaction between the researcher and subject can have an effect over the results of the investigation (Viten, 1994). Biases from both sides can be enhanced and deviate the answers from the reality. By being a part of the process of collecting the empirical data the biases are something to consider. The researchers present a standardized open-ended approach for the interviews where they develop open-ended questions avoiding leading questions and use follow-up questions. The researchers recognized that, even after taking in consideration the common biases and using strategies to avoid them, not all variables can be controlled in interviews and that the researchers might have biases that they are not aware of.

Resources such as time and availability of information are limited for this thesis. These limitations impact in the scope (delimitations) of the work that can be performed. Qualitative research is a time consuming task in the collection, codification and analysis of the data, as pointed out by Yin (1994), thus resulting in a small sample of the E-Commerce companies for this work.
Finally, this research is carried out with the sponsorship of Telia Company and for this reason, the insights gained of a “web performance service providers” are limited to the ones that can be obtained in this organization.

**Recommendations for further research**

In order to evaluate the validity of the proposed framework, the researchers recommend that it should be applied in other industries and other case studies (with different technologies). The researchers propose that there should be further exploration in terms of:

- Telia Company applying the framework for their departments
- Use of surveys to study a larger sample of Swedish e-commerce companies.
- Investigation of these phenomena in other countries
- Investigation of these phenomena in other industries
- Further research to determine if this framework could become an actual theoretical framework supported by the standards of the research community

The researchers recommend that the framework is applied in this Telia CDN case, and that researchers revisit this case to measure the outcomes of the framework. With this in mind, the resulting value proposition for e-commerce clients can be used by Telia Company CDN unit to take into account the customer’s perspective and come up with a resonating focus for their target market.
References


49. Fig. 4 *Crossing the Chasm diagram*
# Appendix A: Interview questions and interview request

## Internal interview questions

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<th>Understanding the value proposition to clients</th>
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<tbody>
<tr>
<td>4. What is Telia Company CDN value proposition?</td>
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<td>10. Do you think that Web performance is a hard sale? (Why?)</td>
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## External: Client and Non-client interview questions

### Introduction and context of the E-commerce business

1. What do you do at your Company? Describe your role.
2. How important is E-commerce for your business strategy?
3. Which are the biggest industry trends in E-commerce?

### Understanding the technical focus as well as what web performance means to the company

4. As an E-commerce company, which are biggest challenges that you face?
5. How would you define web performance?
6. Describe a happy customer for your business.

### The internal processes of the E-commerce company

7. Could you describe the business or decision process that leads to the adoption (use) of a new technological service.
8. Are you using data insights from your E-commerce websites?
9. What do you value in a partnership involving your core business systems?

### Summary: Perception of E-commerce environment and prospects

10. Which Nordic companies do you consider to be the most successful in the e-commerce industry?
11. What do you think is the future of E-commerce?
Interview request:

Dear Sir/Madam,

We are writing to ask if you would consider being interviewed in relation to a Thesis Research. We would like to get your insights on the web performance and web user experience at [COMPANY NAME].

Please see the interview request below, as well as the attached Interview Questions. We would be happy to answer any questions you may have in advance.

Bottom line: 30 minute interview in person, and nothing goes into print without your explicit permission.

Thank you for considering this request.

Jason Castillo,
jasonc@kth.se
KTH Masters in Entrepreneurship and Innovation Management

Maryanne Owino
maryanne@kth.se
KTH Masters in Entrepreneurship and Innovation Management

Interview Request

We are writing our Master's Thesis, basing our research on how Swedish E-commerce companies understand and value 'Web performance' and 'Customer experience'.

The interview will be recorded (with your permission) and transcribed. The questions are furnished in advance (see attachment).

Your feedback is highly valued.

Brief Bio of Interviewers:

Jason Castillo
Industrial engineer with a Master in business management. Over four years of experience in research and academics. Passionately curious, I am always trying to learn and understand more in particular about technologies, trends, innovations, physics and economics. Co-Writing the Master's Thesis for MSc. Entrepreneurship and Innovation Management at KTH Royal Institute of Technology in Telia Company.
http://se.linkedin.com/in/jasoncastilloaraujo

*Maryanne Owino*
Telecommunications and IT professional (6 years work experience), and a Tech enthusiast with a keen interest in innovation and value creation. I hold a BSc. Telecommunications and Information Technology, and I am currently co-writing this Master's Thesis for MSc. Entrepreneurship and Innovation Management at KTH Royal Institute of Technology in Telia Company.
http://ke.linkedin.com/in/maryanneowino
Appendix B: Summarized interview transcripts

INTERNAL INTERVIEWS

INTERVIEW I

Place: Telia Company office in Stockholm
Date: 11th April, 2016
Allocated Time: 1000 -1100h

1. What do you do at CDN? Describe your role?

A Fluid role of technical product manager and lead. This involves ‘fire fighting’ (damage control) and hand-holding the customer through technical difficulty. I work on integrating new products of different offerings including: Analytics, monitoring, and security. Also, look into business opportunities.

2. What is web performance?

Web performance addresses the fluctuating nature of the internet: Latency and bandwidth dictate the web performance and depends on whether the source is far or close, the nature of data in terms of size, and also whether many users are accessing the same source simultaneously or not. The idea is to get constant (standard) performance. It (Web performance) is connected with data analytics. Customers say it sounds good but they do not know much about it. Part of the reason is that they do not have KPIs in place to measure performance. They do not have base metrics so they really cannot appreciate web performance improvements right away. For example, e-commerce clients use a lot of A/B testing, and have a poor perception of the benefits of speed.

3. What is customer experience?

The customer experience using the Telia CDN services so far, has involved a basic entry level Freemium model. They appreciate DDos attack prevention. It seems that clients do not get the difference of an improved performance.


Web performance for e-commerce is a better conversion turnaround in a value ‘x’ % that in consequence increases revenue. E-commerce clients need added conversion. For government and public sector there is an expectation from the law to be available 24/7 (thus that is the value proposition). Normally there are small IT units in this sector. Customers perspective of the CDN value proposition suggests that Govt. Institutions highly value Security from DDos attacks and Uptime guarantee. The origin is that with a common backend, we tried sales in different ways to leverage Telia Company’s brand. We have been looking for a package that is easy to sell and buy,
that approaches different customers at the same time. We went from “web defender” product (or service), to the “web performance” offering. Web defender proved to be too much work to go through regular sales channels. The problem with web performance is that some clients say it is not for them. This is the result of ‘narrow’ (scoped) packages with a message and story around it. However, there are various opportunities in terms of upcoming legislation (policy driven in the future) such as to offer HTTP2 compliance. Telia Company is changing to a service focused company. Telia can (also) leverage internal/in-house sales. The (web performance) product is malleable, so can suit the client specific needs. In addition, the team is organized in a flexible way.

5. How does a data analytics tool/feature look like in a service?

Data analytics covers three points: Monitoring: System Hygiene, thus offering proactive support; Presales in measurement of KPIs before the sale in order to benchmark; Web performance, so that the client can have access to KPIs to make business decisions. Trust is key to build between Telia and the client. Clients think it (data analytics) is important when they are told about it. I see a trend towards selling a service around data analytics rather than the tool. Professional Services can build a service/offering upon data.

6. How has the “ClientX” case developed so far? (Challenges? & lessons learned?)

Is a success case, that demonstrates how professional services are important. The challenges we faced during the implementation included the error-prone implementation: we got a lot of ‘new’ technical issues. Performance enhancement is less significant with errors. Especially when related to website design issues such as caching, image rendering, CSS padding, 404 errors, 3rd party scripts, the progressive images debate and so on. For “ClientX” we lowered the bounce rate metric. Looking at the performance ‘histogram’, they were able to see load time improvement for those in the long-tail (the end users who were having extremely long loading time). E-commerce clients understand conversion but they think it is mostly about UX: being “pretty” and not speed. The challenge is to understand who needs professional services. A success story such as “ClientY”, who became our client sometime back, demonstrated that trust is important.

7. What are some of the support issues with “ClientX”?

(Referred us to a different colleague)

8. In your opinion what is the client perspective of the web performance? And data analytics?

(As above answered during question 4)

9. Which you think are the main challenges for clients for the implementation?
Cost and because it is hard to grasp what is happening (in the client side). The proposal goes to IT and they do not see the need to allocate resources such as budget, time, etc for web performance implementation. Knowledge gap factor calls for education selling. The IT staff tend not to know what they need to do on the IT side. Sometimes they actually do not know who would be responsible for the required system configuration on the client side. The client internal processes can therefore be a limitation. Reaching customers with Telia’s brand name is a big help because it gives instant credibility that can transform in trust. A consulting approach is therefore necessary.

10. Do you think that Web performance is a hard sale? (Why?)

(As in question 9 above)
1. What do you do at CDN? Describe your role?

Head of CDN responsible for general management, including portfolio and business management; and Product management.

2. What is web performance?

Web performance is linked with user behavior. Web performance shows the technical reason behind end user behavior. The question is whether it is competitive.

3. What is user experience?

What makes the user behave one way or another, interactive, understandable, relevance, ‘Friction free’: responsive, intuitive and in line with the behavior of the end user as they browse.

4. What is Telia Company CDN value proposition?

Depends on the segment. For media streaming and broadcasters, it is to have a distributed service; To Enterprise: Web performance and security; To e-commerce: Help the client sell, go global (scale) and be secure - depending on their choice. Also, CDN provides ‘capacity on demand’ and to Media clients: IP broadcasting.

5. Why are you looking into on data analytics as a customer offering?

Customers need it to drive profits. They need insights to optimize and deliver value. There are current trends in the market - taking action based on insights; we see this also in AI (Artificial Intelligence) and Machine learning. The sequence of acquiring insights, using them to optimize, and thus deliver value. This is what it means to take insight-driven actions.

6. In your opinion what is the client perspective of the web performance? And data analytics?

In general recognized but not translated into actions. They know about it, but it is not taken into consideration and neither are its consequences. They do not know how it affects their business. They do not know how it applies.

7. How has the “ClientX” case developed so far? (Challenges? & lessons learned?)
8. Which you think are the main challenges for clients for the implementation?

There is trust (with the client marketing departments) until it goes to IT then it is a problem of how to transition from CMO to CTO. The actual implications are that the client CTO focuses on the technical side and not the benefits of the offering.

9. Do you think that Web performance is a hard sale? (Why?)

Yes. Lack of experience, for most clients it is their first cloud implementation. There is a need to establish trust as in most cases the IT dept is tough to breakthrough. Currently it (web performance) is a business need that should be transformed into an IT need. The (client) IT Department is the biggest hurdle, as business needs to be transformed, and education in the technical department is necessary.
1. What do you do at CDN? Describe your role?

I am the Head of sales, which is a Customer centric role. I am responsible for Customer on boarding strategies, to enable them to provide faster and better online experience; I am focused on Business to Business (B2B) sales. In turn clients can ensure good experience for end users. My section’s KPI’s (Key performance indicators) are linked to CDN service selling, and direct sales. My role includes scaling the value proposition to Telia Company customers, looking at go to market plans, sales strategy, customer relationship, focusing the team on customer perspective, outside - in perspective and partnering to fulfill customer demands; and all business development issues.

2. What is web performance?

It is all about making the web faster, systems are quick, always there, not broken which is important but what counts is “Never get slower” as this maintains good user experience: something that is important for consumer loyalty.

3. What is user experience?

This is what the customer wants. It is what people expect. People have expectations: look for other things to fill in; look for needs people do not know they have; how does the future look like?; how to do it better?. This presents the grounds for innovation, stating that “you know what you want, but if you get something better, then you want that.”

4. What is Telia Company CDN value proposition?

Improving user experience, Increased conversion, decreased bounce rate, and Search Engine Optimization ranking. The ‘2 seconds’ rule is not a good message therefore it is necessary to have new KPI’s/metrics that matter to clients. Customers do not really care about the technology, they are looking for an easy solution. Sell the idea, improve awareness, and educate the customer about the benefits of the offering. The current targeted market is lagging behind the US in terms of technology usage, about 2 to 5 years behind.

Observation: Focus on a need to catch up with technology trends

5. Why are you looking into on data analytics as a customer offering?

We (Telia Company CDN) need to prove to the customer that this (web performance) works. “It does something to enhance something”. Also, this is seen as long-term for the customer’s strategy to be able to work with improvements. Enable the client to perform relevant cause and
effect analysis on their platforms. Also (more relevant to their business) be able to tell what their buying - decision cycle looks like. They need to work with data insights for the future.

6. In your opinion what is the client perspective of the web performance? And data analytics?

The more they know about the end user, the better decisions they can make. Clients do not understand it yet. It is novel, and they are not used to these services. So, they would like to be able to prove their return on investment (in web performance service).

7. How has the “ClientX” case developed so far? (Challenges? & lessons learned?)

The marketing head was the lead on this acquisition. This had a modified sales process. “ClientX” asked for a lower bounce rate. We realized that customers did not know about the specific KPI’s that they needed. They had been experiencing severe problems on their site, due to increased page views. We learned what knowledge is important for customers. Customers want to buy: knowledge, expertise, and a business relationship.

8. Which do you think are the main challenges for clients for the implementation?

The client CMO (chief Marketing Officers)/ CDO (Chief Data officers) are concerned about User experience, Search Engine Optimization (SEO) and conversion. The client CTO (Chief Technical Officer) is concerned with implementation and go live of the offering. This is always a lean and mean sales process, where a quick time to solution is important. As such, risk management is a part of the implementation process. So far in hindsight, customers are always happy about our implementation of the offering.

9. Do you think that Web performance is a hard sale? (Why?)

Currently, the sales process within the unit focuses on a compelling first contact. The initial sales meeting involves a benchmark comparison, for the CMO/CDO on the customer CMO budget. It is a pre-emptive meeting and a bridge to the customer CTO. We guarantee satisfaction (upon specific metrics) and offer a ‘pay as you go model’.

10. Could you describe the guideline for ethical sales within Telia CDN department?

In Sweden, this is a no-brainer. It is implied in the culture. In addition, Telia Company does have its own ethical guidelines. The sales mandate is to drive change, and to maintain Telia [company] boundaries.
EXTERNAL NON-CLIENT INTERVIEWS:

INTERVIEW I

Place: Stockholm
Date: 26th April, 2016
Allocated Time: 1400 -1430h
Company: Bostad Direkt
Participant: Victor

1) What do you do at your Company? Describe your role

I am the CEO at the company. We are a sub- leasing company in Stockholm. We rent out apartments. We help other people to rent out apartments too. Both for individuals and companies. We appeal to a diverse group of clients, both foreign and local.

2) How important is e-commerce for your business strategy?

We are not a normal e-merchant, but we do all of our business online. For individual clients, you log into our website and find listings, contracts, and payments online. For corporate clients there is an agent, but they can choose to do it online if they want to. All payments are handled online, so it is getting bigger and bigger. From nothing a few years ago to moving as much as we can into the net because it makes it easier for everyone.

3) Which are the biggest industry trends in e-commerce?

We are mostly following the payments trends. It used to be in Sweden that you pay through mainly cash or bank wire. Bank wire is unreliable as it takes several days, and it compels one to act on 'good faith'. Card payments are well fine, though a lot of people move to Sweden and do not have bank cards, or Swedish bank accounts so end up paying cash. In a bid to eliminate cash transactions, we are particularly interested in developments to do with payments.

4) As an e-commerce company, which are biggest challenges that you face?

Challenge - people are unable to pay. Because we want people to pay online, though they are not necessarily able to use bank cards to facilitate online transactions. E-commerce only works if the payment can be done online. International bank payments do not have systems fully integrated with online payment, meaning we have to wait several days and then manually handle payments. So with real automatization when everything works, e-commerce is fantastic. But we are not yet there. In general we need to find better payment systems than just credit cards. Of course there are mediators like 'PayPal', but then again simplicity is lacking as card linking is still necessary. These challenges are mainly from feedback from clients - we always act based on customer feedback. Our customer service receives three hundred to four hundred calls a day. Most support issue calls are payment related.
At a consumer level, e-commerce is generally simple. However, our older clients of above 70 years old, are finding it tough to use the web platform. So in our business we see a refusal by this age group to adopt the e-commerce platform, and we have kept our offline service with them.

5) How would you define web performance?

We measure several metrics on our website as most businesses do. We see the unique visits, the number of registrations, how many are looking for an apartment, how many are renting out, and the contacts that we get between customers (representing potential clients that would generate income for us). We see a lot of interest that does not necessarily lead to conversion. Though, our business is in matching potential tenants to renters; if the system takes so long, and you get bored, then you don’t get any matches (as our website visitor). With this in mind, the biggest measure of our web performance is this matching capability on our website. We have algorithms working to help individuals find a match as they search on our website. (Considering budget and your behavior)
On the corporate side, our human agents do the matching.
We also look at the geographical access, though we don’t do any targeted efforts. We do however look at data concerning the points where people stop surfing more than others. An example of this was to do with our registration page where we improved by 40% through improving the page.

6) Describe a happy customer for your business.

A happy customer is paradoxically one that doesn’t call us! People who use our website, and once the lease is up, are able to automatically get their refund, and everything is ok, and they have no reason to contact us. So, one who has good lease and they have enjoyed their stay is a happy customer in our books.

7) Which Nordic companies do you consider to be the most successful in the E-commerce industry?

The large retailers online 'mats.se'. 'Webhallen' constantly elected the top 3 retailers of home electronics who have grown (they started small and I recall it from my younger years). They have managed to use profit from online sales to open stores all over Sweden. The large software companies that power the e-commerce businesses as well, like 'Tieto consulting' which create these platforms. We also use the services of a small consulting firm for our web platform. I think these enablers are the unsung heroes of e-commerce. Then the subscription businesses like 'Spotify' and the micro-transaction giant like 'King'.

8) Could you describe the business or decision process that leads to the adoption (use) of a new technological service?

We have consultants for our web platform. When there is something new, I sit down with my team (senior management) to analyze the idea, its benefits to our business, its pros and cons. When we have decided that we want it, we ask our consultants to tell us what it is going to take to implement.
We have a customized system, which means we have a challenge (time and money) on maintenance and on implementing new things. We base the decision on a consequence analysis.
However, if we strongly believe that it is something that is obviously going to benefit us then we streamline the steps required in order to get it going as soon as possible.

9) Are you using data insights from your E-commerce websites?

Yes. We use an analytics tool to scan all traffic on our website. Not only related to sales, but all traffic. We look at redirects of traffic based on advertising campaigns on other websites, to see where traffic comes in [through]. We have several co-operations with bloggers and other housing websites and everything to see how much traffic they generate. We measure whether this traffic resulted in conversion.
We use this data to shape our product. For example if we have a lot of people coming in from a particular site and eventually not registering, we find out how to improve our advertisement. When you 'Google' us, we are at the top.

10) What do you value in a partnership involving your core business systems?

We have various suppliers, for example IT and all. But our major suppliers are the renters. So we want them to be open with things happening. Usually we have problems in this business because of lack of honesty, and openness. It is the same with the individuals who rent through us(in the case of problems, not all the time). So openness and honesty is the most important with us.
With IT providers: flexibility. We have a custom system, with our own developers. In case of issues, we need speedy contact channels; good communication. Chiefly, we need someone who actually understands our core business. Sometimes people have their systems and they try to apply your business on their logic, instead of actually understanding your business logic and applying their system to your business. Shoehorning a business into a system that is not made for it is a very tall order that does not work.

11) What do you think is the future of E-commerce?

Moving more services up online. We all want everything at our fingertips when we want. The main risk with that is that small retailers will probably have harder time. They will not be able to benefit from the advantage of physical proximity. Larger actors will definitely do better.
INTERVIEW II

Place: Stockholm
Date: 13th May, 2016
Allocated Time: 1100 - 1200h
Company: Happy Plugs
Participant: Therese

1) What do you do at your Company? Describe your role.

My role is E-commerce manager. We started in 2011. We specialize in selling mobile phone accessories. My purpose here is to develop the website into an e-commerce sales channel. Today our biggest channel is through retailers. I am more in the marketing management side. I also understand the technical IT side.

2) How important is e-commerce for your business strategy?

It’s quite important, we have quite big goals this year. We need to optimize the workflow to make things better. We started with a generic tool with a basic web shop. Now I own the web shop and I am responsible for coordinating with our distribution and sales team in order to have this web shop as a compliment to our customers. The point is to give the final customer freedom to choose how they would like to purchase, at their convenience. This means that we should consider an 'Omni-channel'.

Online sales are still a small part of our profit share.

3) Which are the biggest industry trends in e-commerce?

To always think about cross platforms. Think about the final customer. The customer doesn’t think about whether he is going to be on the mobile, in a store, or a webpage. He doesn’t care. He just wants to get the item that he wants, or the service that he wants. And the company also needs to think in a holistic way around that. Many companies have divided: retailers, web, sales teams or whatever, but they don't talk to each other. They don't integrate. So I think the biggest trend in this e-commerce development is with the technical accessibility across all platforms. As a result the customers can demand more.

4) As an e-commerce company, which are biggest challenges that you face?

For me, the biggest challenge is to get everybody onboard. A website is just going to work. The load time needs to be fast. Someone visiting the website does not want to make a lot of effort. I always have discussions with the design team to establish a balance between "pretty" and functional sites. And functional isn't always pretty. We really need to be clear about what we want the visitor to do. As such the functional aspect always has to win over the design: still keeping in mind the place for design. There needs to be a strong case for this. There is not always an understanding of this.

Website code optimization is done to facilitate quick loading. We consider: the headers, titles, subtitles to everything in the content; to the sizes of the pictures and so on.
5) How would you define web performance?

Web performance is when I as a customer can choose whatever connection, or sales process I want. If I want to buy a product or service, with just a few clicks, or I could also call. Web performance should be simple, it should be fast. It should not be complicated. It should make life easier every day.

6) Describe a happy customer for your business.

A happy customer for our business. (Describes the process) From where they start they see via some ad, online or offline, it really doesn't matter. They get triggered and think, "Yes, I want that." And then they research and find our website. Find the products that they want - and make the decision that they want to buy 'now'. From the first visit they do their buying. The process goes really easy, just like one or two clicks away as well as for the payments. Then the shipping goes fast and we deliver in time and the product goes to the customer in a really nice package. Then they use our products that work really well, and they want to buy another one.

7) Which Nordic companies do you consider to be the most successful in the E-commerce industry?

My personal favorite, 'bangerhead' for beauty products. Also 'Apotea' with a strong focus on e-commerce. In general I think the successful e-commerce companies have good delivery, good customer service, and good refund process.

8) Could you describe the business or decision process that leads to the adoption (use) of a new technological service.

Generally, our CEO makes all the decisions. For example in terms of extending or improving our product line.

In terms of IT service, I do research to figure out which kind of system we need, and where we need them, in terms of geographical territories. I find a couple, and select based on the technical compatibility to our current system. And also, whether they have the capacity to deliver based on our customers' demands. I further look at the price to compare with what we have today. And make an investment calculation to determine which one makes the most sense in terms of finance and experience. So I own this entire process. After this, I present my findings to the CEO, and defend my choice with reference to the problem we are experiencing that caused me to search for a solution. The point is that we do not want the problem that we experience to remain.

(What do you mean by the supplier's experience?)

Well, we consider support, in terms of the extent of technical support, the reference to see which other brands are using them and in which markets. And I also consider the sales contacts that I have and how fast they respond to my questions and so on.

9) Are you using data insights from your E-commerce websites?
Yes. I couldn’t develop if I didn’t have any data insights. We use web analytics tools. We also use the business system, to compare what we actually deliver from our warehouse. The data is always a basic form for decisions. Though in the digital world, there is normally no right and wrong. So even if some campaign or data, shows some results, then we make decisions based on these results and also based on our past experiences, the actual outcome may be completely different than we expected. Then you ask yourself: "But the data said!?" Before you test the decision you made with data, you can’t really know! The point is that the information or learning we get from the real outcome counts as experience. And that is also information that we can use to make the next decision better.

10) **What do you value in a partnership involving your core business systems?**

I mainly value support. And that we have good communication, and that we have the same goals, and that they understand what we actually want to achieve. For me, good collaboration is really important. To have a support agency more, rather than they should deliver a service and then it’s done. I want to have a connection with our suppliers.

11) **What do you think is the future of E-commerce?**

E-commerce will be more in actual physical stores. If a customer wants to buy a product and it is not available at the time, they shouldn’t direct the user to another store, they should be able to buy it online immediately while they are still in the store. They would then of course select a convenient delivery location. I think that is the future for e-commerce.
EXTERNAL CLIENT INTERVIEWS:

INTERVIEW I

Place: Stockholm
Date: 18th May, 2016
Allocated Time: 1100 -1200h
Company: Halebop
Participant: Daniel

1) What do you do at your Company? Describe your role.

I work for a fighting brand, within a particular market segment geared towards younger people. I am the online sales manager, translatable to e-commerce manager. I manage products and the service and collaborate with vendors (product suppliers). I am responsible for finding products, how we sell, price setting, and driving sales. For popular offers/products, I work with the business development team who are responsible for subscriptions to formulate pricing and business models. Other than those I am solely responsible for pricing and product offerings. I am also involved in discussions to do with online marketing. Another big role is to keep track of the sales and the analytics. I have access to manage the web content. I also carry out tests (AB testing) for optimizations of the web platform. I have full control to test things out which can later be implemented on our web platform.

2) How important is e-commerce for your business strategy?

We have a rich history with online presence. Online has always been part of our DNA. E-commerce, the actual selling online is our most important sales channel. We do sell in physical stores as well, through retail, however we always start with our e-commerce platforms when introducing offerings, and to design and to get the offer right, and then move them onto other channels. It is the only channel in terms of customer support: via chat or email.

3) Which are the biggest industry trends in e-commerce?

Many companies are looking at personalization of services as much as can be, which is hard. It demands systems and it demands thinking and understanding; big data is one of the answers. And another is the merging with social. Channels on social networks are looking to create their own local shop in shops, thus the trend towards designing checkouts on other pages than our own pages. Trend toward rapid (e.g. 1 hour wait time) deliveries of products purchased online. The omni-channel where goods are ordered online, and picked up at stores. Also supporting sustainability through buy-back models for clients, being facilitated on e-commerce platforms.
4) As an e-commerce company, which are biggest challenges that you face?

We are a vendor and we also sell our own service, which is our core business. The challenge is to find a balance between those two. We sell what is slowly becoming a 'utility' to many in our focus market. It is a basic product, but still we want to stand out, and sell suitably to different people. This is a challenge to do online.

5) How would you define web performance?

Web performance depends on what you are doing. We are sales driven. Our main thing is selling online. Our KPI's are pegged on sales. So on a daily basis, data with regard to conversion and volume of sales are key metrics. Also knowing our new customers and our returning customers.

Speed, linked to performance of the actual website. Our web shop is outsourced to another company, and we have demands of the service levels in relation to quality and speed. We know that they are signed up to a CDN service.

I also have dashboards from analytics tools, where I look at the direct correlation to site speed to conversion (sales). It is a high correlation between these two.

6) Describe a happy customer for your business.

A happy customer is a returning customer. With our business however, we have long periods between purchases by our customers. So in this case keeping our customer happy must be done between their purchases. We contact them through other channels. Again, the strongest indicator is a returning customer.

The whole quality of service is important to the customer, not only through the website during purchase. The experience and usage with the actual product and service offering determines how happy the customer is. Good delivery, hassle free buying process also makes a customer happy.

We keep a relationship with our customers (CRM), so we maintain the contact with the customer, meeting the expectations, and try to foresee the movement (cancelling contracts) of the customers.

We also measure customer feedback, which customers can easily give on our website. We measure every contact that the customer has with us in terms of transactions: support or actually buying something. We link the NPS (Net promoter score), to determine if the customer is a promoter or detractor.

7) Which Nordic companies do you consider to be the most successful in the e-commerce industry?

Personally I think there are a lot of companies doing some things right, there really isn’t a perfect e-commerce company but there are a lot of good ones. My personal choice is a mountain biking site called ridestore.se who are good at personalizing the content. These are some of what we try to do as well, in order to be relevant to our main target group. They have a good checkout and pretty seamless experience when you buy from them. There is also dustingroup.com that sells hardware.
It is a matter of experience: what you are expecting to get when you are visiting a website. Essentially you are expecting to buy something. When that expectation is met or overachieved, you will be happy. It is a matter of understanding who you are talking to or selling to - that’s the main goal of analytics.

8) Could you describe the business or decision process that leads to the adoption (use) of a new technological service.

If it involves the web shop, for example 'ProductX' required some configuration before we could start to use it. I would say it always starts with a business case, and someone, and in this case our online specialist who is involved with developments and implementations on site (or in the backend); starts with getting to know what we could do with this device/tool/service and investigates the numbers by calculating whether it would increase sales, and how long it would take to payback the investment. Also, how long it would take to implement. This is a classic business case. We expect a proposal containing this business critical information from the supplier.

The request for proposal is done through improvement demands after searching for ideas, for example in-house, and is sent to our partner service providers, based on the size of the investment. However, development and improvement decisions are taken within the online team. The bigger the investment, the more the need for more high-ranked people to be involved.

9) Are you using data insights from your E-commerce websites?

Yes. We always try to find new insights. Data tells you what happens, but not why. We want to understand why people are choosing what they are choosing. We try to find new tools for these insights all the time.

We get data of the visitors on the sites, and also optimizer tools mainly for testing. I also use other tools to track bounce rate. They are user friendly with useful interactive interfaces. Again, this user interface data is always correlated to sales and other factors if need be. We try to cover all probable events, or causes in order to learn our clients. In addition, feedback about the behavior of users based on AB testing. The tests always result in new and unpredictable insights.

10) What do you value in a partnership involving your core business systems?

Relates to business impact. In some way we could see that the investment they provide will pay off in either the long-run or the short-run. As such our partners must provide us value that will grow our business.

We as an organization value simplicity. Our partners should also support in particular this value of simplicity. We tend to shy away from complex implementations/services.

11) What do you think is the future of E-commerce?

Moving closer to online in physical environments, online store and physical store connection (Omni-channel). Payment processes and security, are hot topics. I think that personalization is a really big one.