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Mobile Applications as a Medium for Communicating Sustainability Initiatives

Addressing User Values and CSR

Henrik Tördal

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Abstract

Mobile Applications as a Medium for Communicating Sustainability Initiatives

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As the globalization process in our society grows the awareness about social responsibility of an organization increases. As the 21st century proceeds, the profit creation and an organizations work with sustainability will become increasingly inseparable leading to an intensified influence of Corporate Social Responsibility on stakeholder perception and social legitimacy affecting the economic outcome. The increased influence on stakeholders highlights the importance of communication. Since CSR is a relative question of what constitutes good business practice in the eye of the emerging societal demands that shapes tomorrow's expectations new ways of communication need to be investigated. The mobility and the novel form of interaction make mobiles and mobile applications suitable for a wide range of different contexts and its suitability for communicating a company's sustainability initiatives is investigated in this thesis.

The empirical findings, based upon a case study on the telecommunication sector, a user survey, mobile technologies, and present sustainability solutions show that mobile applications can be an alternative to existing communication channels used today. However, there are some limitations that come with this medium. The limitations are the usage area of application, the low interest and awareness of CSR communication, the susceptibility among commonalty and what responsibility areas that are suitable to communicate through applications.

However, with the limitations of mobile applications as a means to communicate are a few identified solutions and recommendations. The most prominent ones are related to application usage and the ways to adapt sustainability measures to the chosen technology. More specific gamification, visualization, manipulation are identified as vital aspects as well as a focus on application functionalities and providing sustainability as a value add-on.

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Populärvetenskaplig sammanfattning

Corporate Social Responsibility, CSR, beskriver ett företags eller organisations sociala ansvarstagande utöver de skyldigheter företaget har enligt lagen. CSR kan ses som ett verktyg för företag att arbeta mot hållbar utveckling och innefattar i stora drag aspekter som miljö, samhälle, ekonomi, hur intressenter involveras, samt en frivillighet. Allteftersom 2000-talet fortskrider och vårt samhälle globaliseras läggs mer fokus på ett företags eller organisationers ansvarstagande vilket har lett till att det blivit en allt större del av deras verksamheter. Kopplingen till verksamheten har också lett till att linjen mellan hållbarhetsarbete och vinstskapande blir allt mer utsuddad. Den mer diffusa linjen har i sin tur ökat intressenters inflytande vilket också påverkar betydelsen av att kommunicera det arbete som utförs. Eftersom CSR, i ögonen på samhället, till viss del är en relativ fråga om vad som nu och i framtiden konstituerar en god verksamhet måste nya sätt att kommunicera undersökas och anammas. Mobiliteten och den moderna formen av interaktion gör mobiler och mobilapplikationer lämplig för en bred variation av olika applikationsområden. Lämpligheten för att kommunicera just ett företags hållbarhetsinitiativ är det område som uppsatsen ämnar undersöka. Syftet har således blivit att undersöka hur, och på vilket sätt mobilapplikationer kan användas och utformas för att främja ett företags kommunikation av sina hållbarhetsinitiativ.

Uppsatsens huvudfokus ligger i att se till hur syftet går att anpassa till en specifik bransch, nämligen telekommunikationsbranschen. Det empiriska materialet är till viss del baserat på ett företag inom nämnd bransch men även på resultatet från en användarundersökning, studerade mobilteknologier och ett antal hållbarhetslösningar som idag finns på marknaden. En sammanvägning och analys av materialet utifrån ett teoretiskt perspektiv visar på att mobilapplikationer kan vara ett alternativ till dagens existerande kommunikationskanaler. Identifierat i samband med resultatet är också ett antal begränsningar som i grund och botten ligger i att IT inte ses som en bärare av hållbarhet. Mer ingående är begränsningarna användarkontexten av mobilapplikationer, ett lågt intresse och medvetenhet av CSR-kommunikation, mottagligheten av användare samt olika hållbarhetsinitiativs passform till mobilapplikationer.

Baserat på resultatet från analysen av det empiriska materialet har dock flera lösningar och rekommendationer till uppmärksammade begränsningar identifierats. De mest framstående faktorerna är kopplade till hur mobilapplikationer används och möjligheterna att anpassa hållbarhetsinitiativen till vald teknologi och användares intresse och kravbild. Mer specifikt är aspekter som att inkludera spelformer eller tävlingar, visualisering, möjligheter till att manipulera resultat och att identifiera sig själv viktiga i överbryggningen av identifierade begränsningar. Utöver ovan nämnda faktorer är även betydelsen av att fokusera på applikationsspecifika funktionaliteter och inkludering av hållbarhet som ett mervärde framträdande.

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I INTRODUCTION

This section will provide the reader with an introduction to the areas investigated in this thesis, namely mobile applications as a medium for communicating sustainability initiatives. Moreover a background to CSR will equip the reader with the necessary definitions and concepts. This is followed by the purpose of the thesis and a demarcation framing the areas investigated. Lastly the scope of the thesis is presented to give an overall picture.

As the globalization process in our society grows the awareness about social responsibility of organizations increases. The ability to communicate instantly, to know about organizations decisions and activities has increased the opportunity to approach problems and activities in different beneficial ways. The many new opportunities and the role of organizations as corporate citizens doesn't come alone, it goes hand in hand with a more intense scrutiny by groups and individuals representing themselves or stakeholders of different kinds. (International Organization for Standardization, 2010) Organizations are these days expected to take more responsibility in the problems that the society and the world face. As the economic growth of organizations at unsustainable conditions in some sense are a contributor to the state that we are in today, the organizations are expected to take part in solving the problem it helped create. (Ellis, 2010) Therefore it is more important than ever for an organization to engage in social and environmental causes in order to build themselves a reputation of being socially responsible (Morsing, et al., 2008).

This engagement, sometimes referred to as corporate social responsibility (CSR), has evolved as a global trend incorporating all types of organizations, from business corporations and government to smaller civil society groups (Sahlin-Andersson, 2006). The trend of CSR has evolved with the process of globalization and has taken a broader meaning incorporating many different aspects of an organizations responsibility. The definition adopted by Carroll and Buchholtz (2012, p. 34) states:

“The social responsibility of business encompasses the economic, legal, ethical, and discretionary (philanthropic) expectations that society has of organizations at a given point in time”

An organization that uses a sustainable strategy can create a good relationship with the surrounding world and stakeholders and thereby an advantage when it comes to harness opportunities and the market's potential for sustainable products and services and at the same time avoiding threats and risks. (Steinholtz, 2011) The performance of the organizations social responsibility not only influences the competitive advantage but it also influences for example its reputation, the brands appeal (Werther & Chandler, 2005), ability to attract and retain workers, customers, clients and users, the maintenance of employee morale and productivity, the view of investors and donors, and its relationship with other companies, organizations, the media and customers. (International Organization for Standardization, 2010) As the 21st century proceeds, organizations profit creation and its work with CSR will become increasingly inseparable leading to an increased influence of CSR on stakeholder perception and social legitimacy affecting the economic outcome (Werther & Chandler,

2005). This, in turn, puts the spotlight on the importance of communicating CSR since the value of the work will be limited if not communicated properly to stakeholders. (Schmeltz, 2012) With regard to its importance, communication is a debated topic as it is defined as a missing link in the CSR practice (Moreno & Capriotti, 2009). Still the capacity of an organization to communicate, and respond to the demands of stakeholders is one of the key aspects to gain legitimacy and win the public opinion. (Moreno & Capriotti, 2009)

1.1 Problematization

The shifting face of the societal expectations, which in some sense came with the globalization process and an increased awareness, is partly nurtured by the accelerated advancements in information technology. The advancements and the always-online communications address the social consciousness thereby visualizing the importance of CSR concerns among the stakeholder, organizations, and governmental leaders. (Werther & Chandler, 2005) The internet has been one of the medium mostly used by organizations to communicate their CSR practices, both because it is seen as a strategic medium with a great potential for conveying their message and because it provides for a dialogue between an organization and their stakeholders. (Moreno & Capriotti, 2009) But as Moreno and Capriotti (2009) concludes, the internet and use of corporate web sites as a medium to convey CSR practices are limited in the sense of information presentation and the ability to create an interactive dialogue. The interactivity and the need for a two-way communication actively involving the stakeholders suggest that in the future different media should be considered and applied (Schmeltz, 2012).

The advancements in information technology and the constant evolvement of new products, artifacts or services have created a world of new ways for organizations to reach their stakeholders. One relatively new technology that have grown in recent years is mobile applications (Perez, 2010) that allows user to for example interact socially via social media, navigate through mapping applications, read the newspaper, stream video and music (Play.google.com, 2012). The mobility and the novel form of interaction makes the mobile and its application suitable for a wide range of different contexts (Benyon, 2010). Mobile applications might therefore offer new ways of communicating organizations CSR practices since it allow them to reach a larger number of stakeholders and also increase the awareness among their stakeholders which can be seen as a problem with communicating CSR (Bhattacharya & Sen, 2004).

CSR is also a highly subjective matter with heterogeneity across consumers and stakeholders in their reactions to organizations different initiatives. What one consumer might find to be a good initiative might not at all affect another. (Bhattacharya & Sen, 2004) The subjectivity is expressed in people's individual and moral values but also in self-centered values such as comfort, pleasure and happiness (Schmeltz, 2012). Since CSR or sustainability is subjective and closely linked to personal relevance an organization need to consider how to address these values. As Schmeltz (2012) concludes, organizations need to change the way and the media in which they communicate CSR, at the same time as they need to address the values and expectations of the society, if they want to engage the consumers of the future.

1.2 Background on CSR

The term CSR started to be used widely first in the 1970s and was then primarily focused on just business. The awareness has since then become grater, mostly due to the globalization and a world that is becoming more and more mobile, increasing the accessibility of information. The early notions of CSR involved activities that were focused on philanthropic, such as charity work and giving. Over the years other subject, such as human rights, environmental issues and consumer protection have been added. (International Organization for Standardization, 2010) In the recent years, in Sweden, it has happen a lot when it comes to organizations and companies noticing CSR. These days almost every organization has acknowledge the fact that there is a thing called CSR, but the extent of actually working with it differs. (Bogle, 2012) The subjects that CSR nowadays includes can be seen as the current view of what good organization or company practices consists of.

CSR is a concept that is widely used nowadays but the definition of what it really is means is not yet agreed on (Carroll, 1991). Carroll (1991) defines the area of CSR as a pyramid to cover the entire business responsibility of an organization. Further on he suggests that the total CSR concept consists of economics, legal, ethical, and philanthropic responsibilities. Despite the absence of a global agreed upon definition there seems to be a somewhat consistent agreement on what dimension that should be included. The dimensions that are referred to in most definitions are the environment, the social aspects, the economic aspects, the stakeholders, and the voluntariness. This consistency makes the lack of a universally accepted definition less problematic. (Dahlsrud, 2008) These dimensions are also referred to in the definition of social responsibility made by the International organization for standardization in their publication *guidance on social responsibility* that is directed to organizations of all kind (International Organization for Standardization, 2010, p. 8).

Responsibility of an organization for the impacts of its decisions and activities on society and the environment, through transparent and ethical behavior that

- *Contributes to sustainable development, including health and the welfare of society*
- *Takes into account the expectations of stakeholders*
- *Is in compliance with applicable law and consistent with international norms of behavior*
- *Is integrated throughout the organization and practiced in its relationships*

The definition might not literally include the words economic and voluntary, but as the document should be seen as a guidance for organizations and the fact that it's not intended nor appropriate for certification purposes makes it highly voluntary. Incorporated in the guidance is also the hypothesis that the work with responsibility should create value for the organization adapting to it and the organization's needs to focus on the economic dimension of sustainability. (Steinholtz, 2011) CSR therefore implies the willingness of organizations and companies to incorporate social and environmental considerations in its decision making process. It also implies that they are accountable for their impact on the society and environment which means transparent and ethical behavior that leads to sustainable

development. (International Organization for Standardization, 2010) In order to not cause confusion the term sustainability or sustainable development is defined as development that meets the needs of the present without compromising the ability of future generations to meet their own needs and includes economic, social and environmental dimensions. Therefore the term is treated as a way of expressing the broader expectations of the society as a whole, which means working with CSR implies working towards sustainable development. (International Organization for Standardization, 2010) As a remark Steinholtz (2011) draws a conservative conclusion that when speaking of social responsibility related to organizations and corporations one might just as well use the term responsibility. CSR is also used interchangeably (as is the case in this thesis) with among other notions; Corporate Responsibility (CR), social responsibility and sustainability but mutually it should be seen as a tool for companies to improve their work on sustainable development in a way of adapting to stricter regulations and the societal demands (Bogle, 2012).

According to the international organization for standardization publication on social responsibility (read CSR) there are seven core subjects that companies and organizations can address. The core subjects can be seen in figure 1 below and they all include further sub categories of issues that are relevant to revise (a full review of the core subject and issues can be found in appendix I).



Figure 1. CSR seven core subjects (ISO.org, 2011)

An organization needs to be careful when choosing the right subjects to address, as not all are of relevance (Steinholtz, 2011), because the match with the organizations path is of vital importance. As Bogle (2012) mentions there are still companies that donate money to causes that cannot be traced back to the organizations core business which might reduce credibility.

Before reviewing the fit of the individual core subjects to the organizations business there are two fundamental practices that need to be considered. First the organization need to recognize what its social responsibility is within its sphere of influence and identifying and involving their stakeholders. (International Organization for Standardization, 2010) This is considered important since it is within the interface between the organization and the internal and external interests that value is created (Steinholtz, 2011). The second part of working with CSR is to integrate the chosen direction and subjects throughout the entire organization. This can be done by communication, reviewing and improving the actions and practices, enhancing credibility, voluntary initiatives, improve understanding on the subjects, and matching the relationship of the organization to its responsibilities. (International Organization for Standardization, 2010)

Providing the fundamentals of working with CSR above there are differences among companies and organization when it comes to how they actually work with these issues. The kind of work that an organization does is highly subjective and connected to among other things the type of business their active in. For production companies it might involve audit their suppliers to see that they follow the regulations regarding human rights, the environment, or corruption. For companies in the retail business it might involve the same thing as well as supplementary work towards customers. There are also tasks that involve more short term commitment, for example to look over the energy consumption, becoming more energy and cost efficient. In summary, a company's work with CSR is about organizing and having control over their economic, social and environmental commitment. For organizations that have this under control it's about producing innovative products and services that faces the challenges that the future holds. (Bogle, 2012)

Concluding this section of what CSR is and how it is defined (Dahlsrud, 2008) points out that the definitions of CSR are not enough as it fail to address the challenges for business to understand how CSR is socially constructed in specific contexts and how to incorporate this into an organizations business strategy. CSR is therefore not an absolute question of right or wrong, rather it is a relative question of what constitutes good business practice in the eye of the emerging societal demands that shapes tomorrows expectations (Werther & Chandler, 2005).

1.3 Purpose

This thesis has been conducted on, and for Logica Sweden AB. Logica is a large international IT service company that offers their customers different services within a wide variety of businesses. Logica is considered, according to Dow Jones sustainability index, to be one of the leading companies on sustainable technologies and has recently started a division named sustainability. Another division within Logica, for whom this thesis was written for, is the telecommunication group. As the thesis was written for this division it was aligned with their

market which incorporates among other things mobile communication. These alignments lead to a thesis profile that combined the strategies and ambitions of the sustainability group with the offerings of the telecommunication market.

The overall purpose of this thesis, which sprung out of the profile, is to investigate how, and in what way mobile applications can be used to improve communication of an organization's CSR and sustainability initiatives. More specific the design aspects of the applications will be investigated in order to see what factors that is important for the communication through this type of media to reach its full potential. The investigation will partly take a user-centered approach in order to accumulate all vital input from both the users and the providers of the applications. In conclusion the thesis investigates how mobile applications can be used and designed so that communication of CSR and sustainability initiatives becomes an integrated part of a company's overall business at the same time as they meet the demands and values of the users.

I.4 Research Questions

From the purpose above the following research questions were chosen:

RQ1: Is mobile applications a suitable medium for communicating CSR and sustainability initiatives? What limitations, if any, are present?

RQ2: What are the most vital elements when designing for CSR and sustainable products or services and how can these be incorporated in the design of mobile applications?

RQ3: In what ways can user values be accommodated for when designing mobile applications intended to convey a sustainable message?

RQ4: In what way can mobile applications augment the communication of an organizations CSR and sustainability initiatives?

RQ5: How can Logica address the potential opportunities and limitations based on the capabilities they possess?

I.5 Scope of the Thesis

The areas of CSR and mobile applications are wide making an overall investigation hard. The task is, as concluded in the purpose to investigate mobile applications as a possible medium for companies and organizations to communicate sustainability initiatives. The investigation will therefore take on a more user-centered approach in order to elicit user values coupled to application usage and sustainability. The study will also investigate general CSR practices as well as more specific practices coupled to the telecommunication sector. With this orientation the result will not include any specific suggestions on actual implementation as it will be presented as factors important to consider when communicating sustainability initiatives through mobile applications.

The research approach adopted in the thesis will be of a case study investigating the telecommunication sector and more specific TeliaSonera and Telia. The TeliaSonera

corporate group has a wide variety of stakeholders and offers solutions to both private and corporate clients. In this study the main focus has been on consumer applications with some references to mobile applications directed for corporate clients. However the result will in some sense be generalizable to both types of clients as some factors are of importance without exceptions.

Throughout the thesis CSR and sustainability is discussed somewhat interchangeably which calls for a clarification highlighting the actual distinction. CSR is the companies or organizations responsibility and a tool for working towards sustainability. A key aspect of taking a social responsibility is communication which in this thesis is embraced as an activity capable of being expressed in many different forms. So communicating an organizations sustainability initiatives means communicating their CSR work as a way of addressing the stakeholder and societal demands directed on the company.

1.6 Thesis Outline

In order to get a good overview of the structure of the report, a short summary of the main chapters is presented below.

Table 1. Summary of the main chapters of the thesis

1 INTRODUCTION	<ul style="list-style-type: none"> • Problematization • Purpose • Background on CSR • Research questions • Scope of the thesis
2 THEORETICAL FRAMEWORK	<ul style="list-style-type: none"> • Corporate Social Responsibility • User experience • Integrating CSR and UX
3 RESEARCH METHODOLOGY	<ul style="list-style-type: none"> • Data collection • Data analysis • Credibility of research findings
4 EMPIRICAL RESULT	<ul style="list-style-type: none"> • CSR • Design and technology considerations • Logical capabilities • Telia sustainability and CR work • Personas
5 ANALYSIS	<ul style="list-style-type: none"> • CSR Activity • Application specific factors • Output
6 CONCLUSION	<ul style="list-style-type: none"> • Answers to research questions
7 FINAL DISCUSSION	<ul style="list-style-type: none"> • Discussion and future investigations

2 THEORETICAL FRAMEWORK

The theoretical framework will provide the reader with two different concepts, namely CSR and user experience based on interaction design. First a value creation model is presented leading on to the importance of communication. Perspectives presented there are then interlaced onto an existing CSR model. Secondly a model that describes user experience is presented which expands the concepts of usability and interaction design. Lastly these two concepts are integrated creating an analyzing framework that tries to match the elements inherent in CSR with the principles of understanding user experience.

2.1 Corporate Social Responsibility

There are as mentioned earlier, according to the ISO 26000 (2010), seven core subjects when it comes to working with CSR and under each core subject there are a number of issues are described. The different core subjects are organizational governance, human rights, labor practices, the environment, fair operating practices, consumer issues, and community involvement and development. (International Organization for Standardization, 2010) The responsibility areas that are the core subjects and issues of CSR are not all applicable to all organization but defined in the standardization document are also principles of social responsibility that all are highly relevant to every organization (Steinholtz, 2011). The principles of social responsibility are accountability, transparency, ethical behavior, respect for stakeholder interests, respect for the rule of law, respect for international norms and behavior, and respect for human rights. These principles and areas of responsibility overlap and an organization need to think about which areas to address. A vital contributor in this decision is stakeholders and the society. This is because both the society and the stakeholders have expectations on the organization. Depending on the expectations of stakeholders and the society an organizations action have might result in impacts that are both welcomed and/or opposed. (International Organization for Standardization, 2010) Therefore a central reasoning is to not only understand the organizations impact on the society but to also understand the expectations and interest from the surrounding world.

Figure 2 below describes the relation between value creation for an organization and its responsibility. The substance of the model is that we all shape the world we live in and organizations are dependent of stakeholders as much as stakeholders are dependent on organizations. For the organization, value creation is about exploring the natural resources present in the environment and the society in a responsible way and this is done best in cooperation with stakeholders and their different interests. In order to maximize the sustainable outcome of an organization there is therefore a need to create an as big as possible common ground between the organization and its stakeholders, i.e. maximize the shared value. (Steinholtz, 2011) The stakeholders and society therefore needs to be consider as important and as their expectations regarding CSR might be regarded as a moving target this calls for a an increased engagement and more sophisticated communication strategies (Morsing & Schultz, 2006).

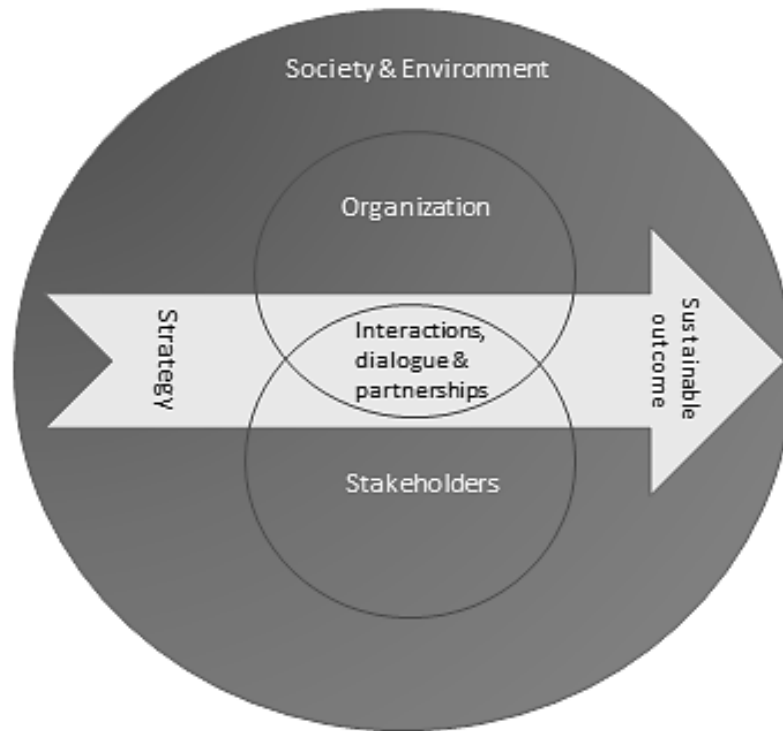


Figure 2. Value creation and responsibility in relation to the stakeholders (Steinholtz, 2011)

2.1.1 CSR Communication

CSR communication is a key element for organizations to create relationships with the public and nurturing the quality of these relationships and also in maintaining long-term relationships (Kim & Rader, 2012; Schmeltz, 2012). The challenging part with CSR communication is what to communicate, where to communicate, and to understand the organization- and stakeholder-specific factors that impact the effectiveness of the communication (Du, et al., 2010). By addressing these challenges an organizations goal is to be perceived as socially responsible in credible way (Morsing, et al., 2008), create a positive reputation, and to gain legitimacy among its stakeholders (Moreno & Capriotti, 2009).

Du et al. (2010) argues that for communication to be effective the content of the CSR communication should consider the organizations commitment and its impacts on the society and environment. With respect to these, long-term commitments are perceived as more genuine at the same time as communication should be factual and avoid the impression of bragging. Moreover the motives and fit of CSR initiatives needs to be taken under consideration as they can reduce consumer skepticism, enhance the credibility, and affect stakeholder CSR attribution. This can be done by being upfront with the fact that the CSR initiatives are beneficial to both the society and the organization. (Du, et al., 2010)

The communication channels that can be used are plenty; web sites, advertising, annual reports, product packing, and social media to name a few (Du, et al., 2010; Morsing & Schultz, 2006; Ziek, 2009). The choice of channel can be important to consider as some are perceived as more credible. Another important and credible channel is consumers and the

word-of-mouth that can spread quickly and far due to the always-online community. (Du, et al., 2010)

The organizational- and stakeholder-specific factors considered by Du et al. (2010) are corporate reputation, CSR positioning, stakeholder types, issue support, and social value orientation. The subjective perspective of the stakeholders values can partly be explained by social identity theory as an individual's view of themselves is influenced by the identification to certain groups or organizations. Individuals always try to enhance their self-image by comparing themselves to other individuals and groups. (Jenkins, 2004) Drawing upon this concept the link between individual and organizational values is closely connected to the individual self-image and, through this, their commitment to an organization (Brammer, et al., 2005).

There are many communication strategies, from one-way communication to symmetric two-way communication (Morsing & Schultz, 2006) but in recent years organizations has engaged more in the later. This is because the inherent elements in CSR call for a dialogue and actively involving and engage stakeholders. This interaction helps create long-term relationships and to balance business and social interests which increases the awareness of stakeholder as well as a greater competence for working strategically with social and environmental issues (Gjølberg, 2009).

2.1.2 Stakeholder Responds to CSR Communication

For organizations and companies that produce and sell products and services consumers are the main stakeholders. It is therefore important to understand how and why consumers respond to CSR initiatives. (Bhattacharya & Sen, 2004) This can further be motivated by the fact that the more a consumer identifies herself with the organization the more positively they asses it (Sen, et al., 2006; Pomeroy & Dolnicar, 2009). As Sen et al. (2006) discuss in their research it is not only consumers that are affected by an organizations CSR initiatives, stakeholders such as employees and investors are also influenced. Although consumers might be a primary target, as the awareness of CSR creates positive attitudes and stronger behavioral intentions toward products other stakeholders might experience the same feelings.

Bhattacharya and Sen (2004) construct a framework, presented in figure 3, that depicts how, when and why CSR works. The framework consists of the input of CSR initiatives, the strategies (multipliers) and the outcomes of these.

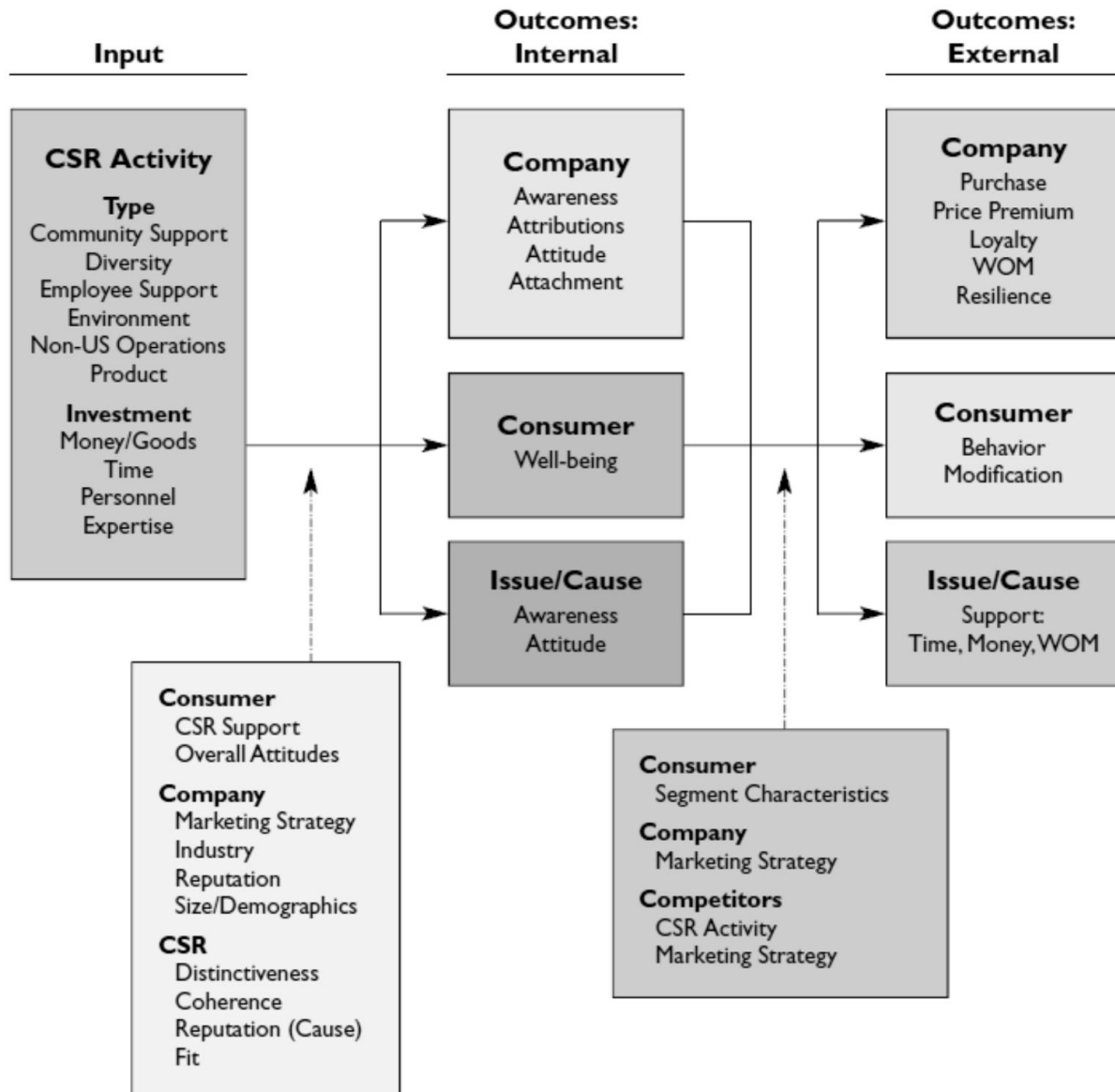


Figure 3. CSR framework describing input and internal and external outcomes (Bhattacharya & Sen, 2004)

The essence of the framework is that an organization engages in CSR activities, denoted input, that based on the strategy, content, channels and organizational- and stakeholder-specific factors (from 2.1.1 CSR communication, in the original model denoted multipliers) generates different outputs. This means that the content of the multipliers and input, from figure 3, can be summed up and explained by upper mentioned four factors. The internal outputs related to the company are consumers' awareness of the CSR initiatives, what consumers attributes with the initiatives, the attitude towards the organization, and the degree of attachment generated (consumer-organization identification). The consumer-specific internal outcome deals with the sense of well-being associated with a CSR initiative. The outcome connected with the issues/cause can create higher awareness and positive attitudes towards the cause that the work is directed at. While internal outcomes are associated with more cognitive and subjective aspects of the CSR initiatives, the external outcomes are more

associated with behavioral and physical aspects. The outcomes are concerned with a possible positive purchase behavior, an increased loyalty towards the organization or company (outcome of the attachment described above), an resilience to negative information about the company, an increased willingness to talk positively about the company, and in some cases a willingness to pay a little extra for products of a social responsible company. External outcomes for consumer might be a resulting behavior modification that leads to an engagement towards behaviors that are more supportive for certain causes or issues. An increased support for the cause might be experienced as an external outcome and is portrayed by for example donations, volunteering, or a positive word-of-mouth.

2.2 User Experience: Enjoyable Products

When people use technologies it is often to undertake activities and these activities are always related to some sort of context. There are four different aspects that come into play when designing interactive systems, and it is the variety of combinations of people, activities, technology and contexts that make it difficult to design systems that are built on interaction. These different elements are closely connected and create a cycle of changing requirements for technologies which in turn offer opportunities that changes the activities. By keeping this cycle in mind it will generate a better understanding of the domain for which a system is being designed for. Benyon (2010) introduces the PACT framework (People, Activity, Context and Technology) in order to get a better understanding of the four elements. For the purpose of this thesis however, the PACT framework is just presented by name and not in depth as a means to emphasizing the importance of the four elements, the interplay between them and the ever changing cycle of requirements.

Traditional human-computer interaction (HCI) design is often focused on task- and work-related issues but as the use of computing technology are evolving it reaches beyond the traditional tools to support other aspects of everyday human life. It becomes more important to provide rewarding social interactions and address the concerns of society as whole as well as adding features such as fun, joy, excitement, pleasure and beauty. Usability-related goals of design for products are sometimes not enough to evoke positive emotions and satisfaction (Nurkka, et al., 2009). This can be exemplified by the definition of satisfaction described in Human-centered design for interactive systems (International Organization for Standardization, 2011) as “*freedom from discomfort and positive attitudes towards the use of the product*”. According to Hassenzahl (2005) this is a relatively wide definition but it fails to address the emotional aspects of design. Usability is clearly essential to almost all web-sites and systems, but the notion of user experience emphasis more on issues of trust, sense of self, loyalty and identity. A key feature is to understand how an individual make sense of the situation and interaction but also to understand what the individual brings to the experience and what the designer put there. (Sengers, 2005)

2.2.1 User Experience Model

The notion of user experience is a relatively new concept to HCI scene but what it tries to embrace is a holistic perspective by enriching the notions of functionality and usability. The novelty of the concept has not yet rendered in a coherent definition and understanding of what user experience really is. The model that Hassenzahl (2005) proposes incorporates the

subjective nature of the experience, the perception of a product, and emotional and behavioral response to products in different contexts.

The model describes the product from the designer's point of view as well as the user's. From the designers perspective the product have a certain features that are intended to convey a specific product character. The product character is a description of the attributes, e.g. useful and interesting. The character also has a function that is to reduce cognitive complexity and trigger strategies for handling the product. When a person uses the product for the first time a process is triggered and based on the perception of the product's features the user creates an individual version of the product character, which in the model that can be found in figure 4 below, is entitled the apparent product character. The model groups the attributes of the apparent product character into either pragmatic or hedonic attributes. The second part of the process leads to consequences, that is, a judgment about the products appeal, emotional consequences such as pleasure and satisfaction, and behavioral consequences. These consequences are sometimes situation specific which means that they are generated by a specific usage situation.

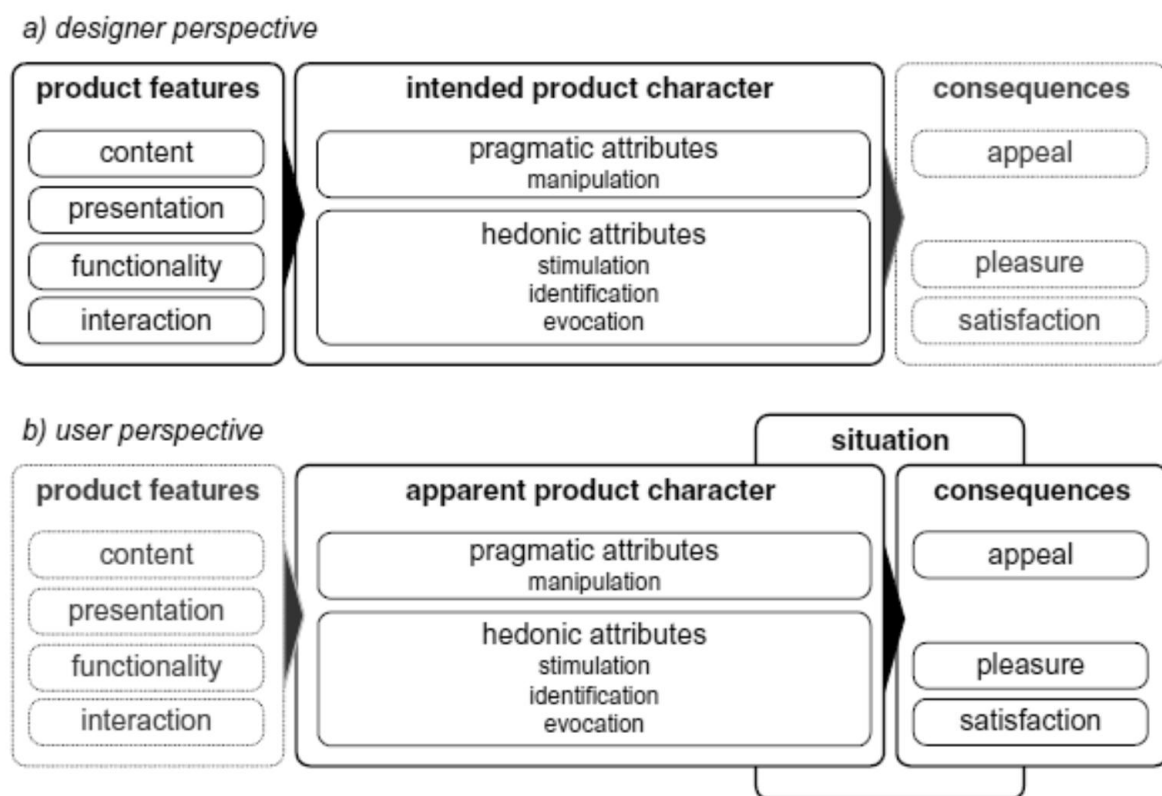


Figure 4. Key elements of the model of user experience (Hassenzahl, 2005)

The Process From Product Character to Consequences

The product character is, as mentioned above, the intended product features chosen by the designer in form of e.g. content and functionality. This intended features are however subjective seen from the users perspective which means that the intended and the apparent product characters aren't always the same.

The apparent product character is created by the users themselves and is based on their own personal standards and expectations. The personal standards are often based on comparison to similar objects which in turn are subjective as well. As the experience possessed by a user changes over time the apparent product character might change as well. This might for example change the perception of a product first considered unusable as easier to handle or change the perception of a product as being less stimulating.

As a second part of the process the product character, in a specific situation, will provoke certain emotional and behavioral consequences. The consequences, described as the value of the product, might be expressed judgments of either appeal or emotions.

Product Attributes: Pragmatic and Hedonic

The apparent product character is a subjective assessment which makes it a cognitive structure. This perceived character is made up from attributes and relations that specify the co-variation of attributes. The attributes classified as pragmatic or hedonic comes from considering the major functions of the products. They enable users to manipulate their environments, to stimulate personal development, to express identity and to evoke memories.

As seen in figure 4 the attribute classified as pragmatic is manipulation and requires functionality and ways to access functionality. Pragmatic attributes related to software are clear, supporting, useful and controllable. A pragmatic product is one used to fulfill behavioral goals of different types.

Hedonic attributes emphasizes the individuals psychological well-being. Related to software products, hedonic attributes typically are outstanding, impressive, exciting and interesting. By dividing the hedonic attribute further a product can provide stimulation, communicating identity, and provoking memories.

Products that are stimulating help people to develop on a personal plan, which is to acquire knowledge and develop their skills. This can be exemplified by a product that has unused functionality and features. These excess functionality and features could be removed since only a few users' uses it, but on the same time this functionality is seen as a way of future development and to achieve future goals. Individual goals might also be stimulated by novel, interesting and exciting functionality, content or presentation. It may also raise attention or compensate for a lack of motivation to fulfill certain goals.

To communicate identity a product must fulfill a number of things. In short people express themselves in a social way which means that they want to be seen by others and/or perceived socially in certain ways. Home pages and for example social media is a way for an individual to deliberately express their self advantageously in front of others.

Past events or experiences that users' values can be important attribute of a product. By provoking these memories the product can represent these events or experiences which will affect the judgment of the products appeal, pleasure and satisfaction.

The description of attributes as being hedonic or pragmatic assumes that they are independent of each other. But it is in combination that they form the actual product character. This

combination of hedonic and pragmatic attributes can be of four different types, each of the two attributes being either strong or weak.

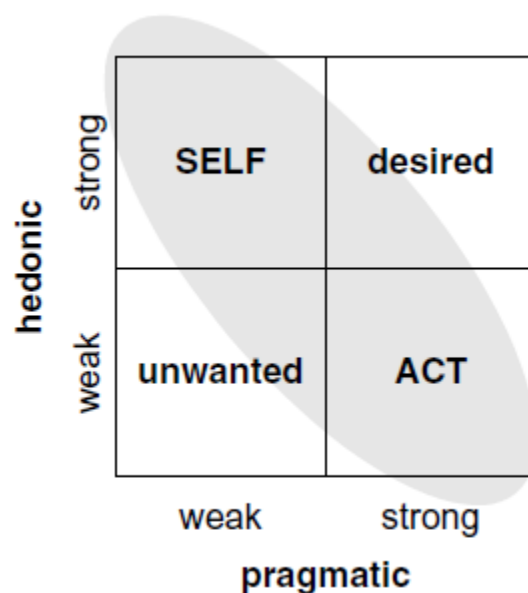


Figure 5. Product characteristics defined as combinations of hedonic and pragmatic attributes (Hassenzahl, 2005)

Considering figure 5 it is obvious that the desired product is one with both strong hedonic and pragmatic attributes. Moreover a product that is primarily pragmatic is considered to be an ACT product and a primarily hedonic product considered to be an SELF product. The ACT product is closely linked to the behavioral goals of the user. These kinds of goals can not only be externally given by others or internally generated by the user they can also vary in importance. It is the status of the goal that decides the appealingness of the product. The SELF product is on the other hand linked to the users' self, i.e. the ideals, memories and relationships. Due to the higher probability that a goal that is behavioral will change than one that is individual, the appreciation of SELF products is more stable than appreciation of ACT products. This means that the importance of hedonic attributes are great and that products that relates to the self are more likely to be appreciated.

Consequences: Satisfaction, Pleasure and Appeal

In the end of the process of experiencing a product the user will generate emotional consequences. These are closely linked to the specific situation and are viewed as outcomes of experience with or through technology. Emotions and specially satisfaction, joy and pleasure is discussed in relationship with the prior expectation of a user. Satisfaction is reached when the expectations are met whereas joy and pleasure requires no expectation. This means that the more desired deviations from the expectation the more pleasant the product. Despite this, satisfaction and joy can be experienced at the same time, as satisfaction is linked to achieving behavioral goals whereas pleasure are more linked to experience desired but unexpected deviation.

Appeal in a product is reached when positive emotional reactions are triggered. Appealingness is a group of product attributes such as good, pleasant, attractive, motivating, desirable and inviting. It is appealingness that takes the overall context into consideration by weighing and integrating perceptions of product attributes. The conclusive description of appealingness is that its evaluative judgment renders from an integrated experience with and feelings towards a product.

ACT products are as already mentioned closely connected with fulfillment of behavioral goals, which means that when expectations are met they will most likely render in satisfaction. If the expectations about the goal achievement are exceeded an ACT product may also generate pleasure. On the contrary SELF products are used to fulfill a user's psychological needs. The connection between goals and expectation are weaker in this case which more likely leads to a feeling of positive well-being, i.e. pleasure. Satisfaction is experienced if hedonic functions are explicitly called for and expected.

Situation: Goal and Action Mode

Situation, or context, is of vital importance for understanding both judgments of appeal and emotional reactions. The context combines the perceived product character with behavioral goals or need for stimulation in a specific case. To be able to predict these emotional reactions or appeal in different context the term usage mode is introduced. This notion is based on the mental state of the user and is divided into either goal mode or action mode which can be found in figure 6. An experience implies usage and usage in turn always consists of behavioral goals and action to fulfill these.

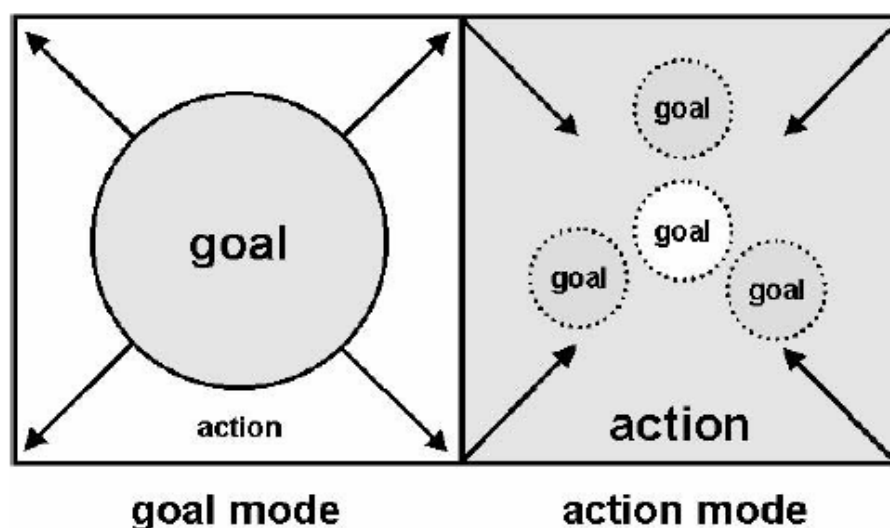


Figure 6. Action and goal mode (Hassenzahl, 2005)

Goal mode is all about fulfilling the primary goal which puts the product in second hand as a means to achieve the goal. This usage mode requires low arousal and high usability in order to achieve the current goal. Action mode is the opposite of goal mode as the action decides the goals. High arousal is preferred and experienced as excitement and when decreased, because of lack of stimulation, it turns into boredom.

The usage mode is triggered by the situation itself and every product can be experienced in both states. Moreover the product attribute (pragmatic or hedonic) will not be influenced by the mode itself. On the contrary appeal and emotions depends on the context and the products momentary fit to it. The conclusion is that the usage mode becomes the moderator between the product character and consequences.

2.3 Integrating CSR and User Experience

The two concepts of CSR/sustainability and user experience have a lot in common regarding the inherent features. The common ground has its starting point in Benyon's (2010) PACT description as the four parts can be found also in CSR communication. The main focus in CSR communication and strategy is stakeholder (People) involvement at the same time as communication needs a medium (Technology) in order to work. The message that an organization wants to communicate will in most cases involve some sort of effort from users or individuals to interact (Activity). As mentioned above there is also a lack of understanding among organizations of how CSR is socially constructed in different situations (Context), i.e. the societal demands that shape tomorrow's expectations.

By integrating and redefining the model described by Bhattacharya and Sen (2004) with the model described by Hassenzahl (2005), a model suitable for the purpose of this thesis can be created. The model, which can be found in figure 7, is a representation of these two models integrated into each other. By analyzing what Bhattacharya and Sen (2004) defines as input and multipliers the design can incorporate the organizations strategy and content based on CSR initiatives, and organizational- and stakeholder-specific factors. Once again the input and multipliers taken from figure 3 is explained by the four main factors in CSR communication namely, content, channels, organizational- and stakeholder-specific factors, and communication strategy which have been described in section 2.1.1 above. Stopping here, the communication could be seen as one-way which Morsing and Schultz (2006) defines as necessary but not enough. To overcome this limitation and to get a two-way communication the modified model reutilizes Hassenzahl's (2005) concept that the consequences are dependent on the apparent product characters. As values does not automatically arise from a product properties, but as a result of interaction between the product and the user in a specific context this is something that must be considered (Kujala & Väänänen-Vainio-Mattila, 2009). The consequences generated by the assessment of the apparent product character in different usage mode will be interpreted as the consequences described by Hassenzahl (2005), i.e. emotional and behavioral. In addition, the output described by Bhattacharya and Sen (2004) will also be assessed as either behavioral or emotional consequences and might arise as a result of appeal, satisfaction or pleasure. By applying a user-centered approach the model approaches the design from two different directions, first by analyzing the organizations strategies and initiatives and secondly by generating a clear picture of stakeholder, user and consumer values. These two perspectives will be supported by additional viewpoints, looking at possibilities with technologies, what's possible with regards to launched solutions, and guidelines in reporting and working with CSR connected to the telecommunication sector.

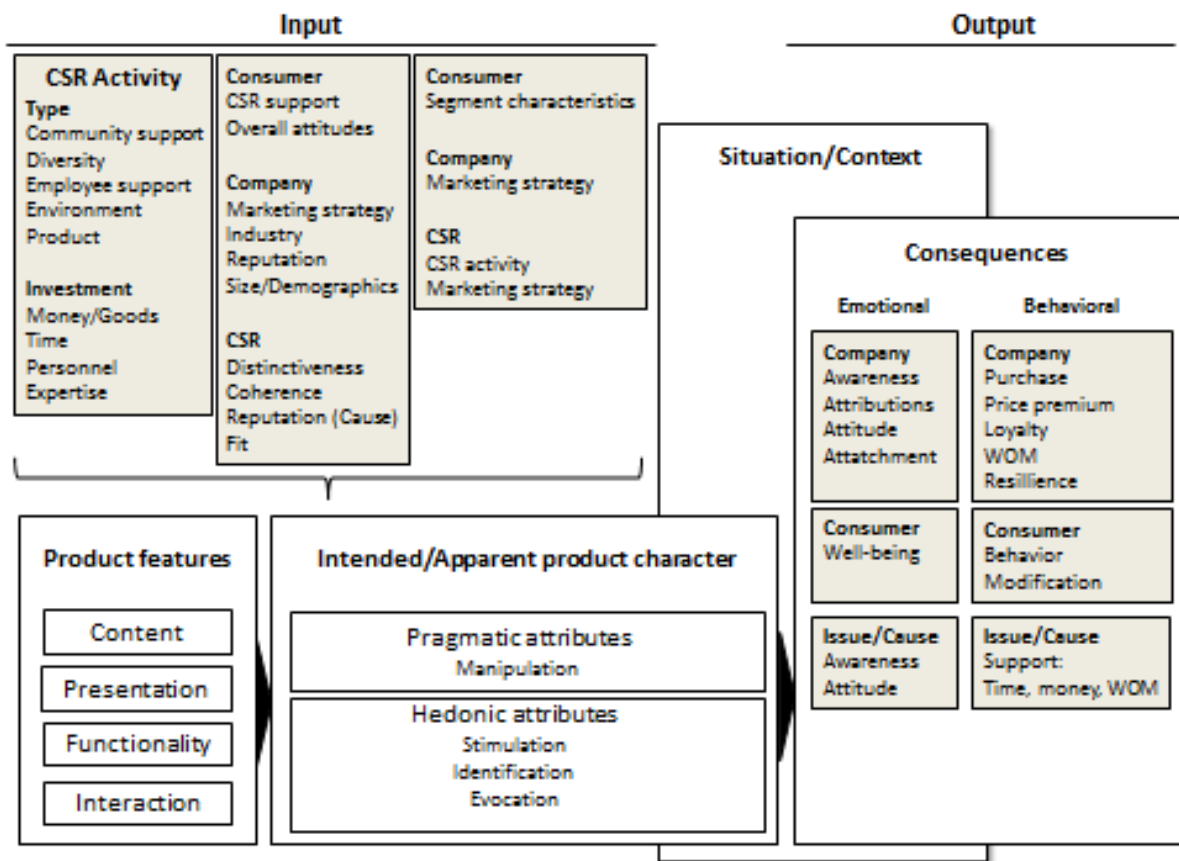


Figure 7. Modified model integrating CSR and UX

3 RESEARCH METHODOLOGY

The goal with the methodology section is to provide the reader with a full understanding and reasoning behind the choice of methods and approaches. More specific this section is divided into three parts starting with how data was collected. This is followed by a description of how the collected data was analyzed and reflected upon. The chapter is then rounded off with an assessment of generalizability, validity and reliability of the composed information.

3.1 Data Collection

As the aim of this research is to examine the possibilities of using mobile applications as a medium for companies and organizations to communicate their CSR and sustainability work a number of different data collection methods needs to be considered. The variety of data sources that has to be considered is also based on the theoretical model as it defines roughly three types of actors. First of all qualitative methods such as interviews has to be considered so that the needs and strategies of the companies can be assessed and incorporated into mobile applications. Secondly, the needs and values of the future user must be addressed, which can be acquired by using a more quantitative user-centered survey approach. Third qualitative studies such as interviews and secondary data have to be conducted in order to retrieve information on possible technologies and solutions. This mixed approach gives the researcher a full complement of data collection methods which needs to be considered. Depending on the chosen research question and research objectives an appropriate combination of these methods must be determined. (Johnson & Christensen, 2008)

The fact that this study takes the form of a case study investigating how a mobile applications would work as a medium for communicating CSR and sustainability work for a specific business area and one specific client strengthens the choice of a mixed methods approach. Conducting a case study calls for usage of multiple sources, data and research methods which is the case with a mixed approach (Denscombe, 2000). The usage of multiple sources of data will, at the same time as these contributes to the confirmation or strengthening of a phenomenon, help making the result more convincing. One mistake that can occur using a mixed approach is that every data source is analyzed individually resulting in conclusions that are compared to each other. The goal is thereby for every data source to converge to fact that later on can be analyzed where upon a conclusion can be drawn. (Yin, 2009)

A mixed approach is as mentioned above a combination of both qualitative and quantitative research methods. These two methods are the predominant types which almost all data collection methods are categorized under. (Johnson & Christensen, 2008) In qualitative research interpretive techniques are used to describe, decode, translate, and find meanings of phenomena's present in the social world (Easterby-Smith, et al., 2002). This approach provides the researcher with a deeper understanding of a limited number of cases at the same time as it is especially responsive to local situations and stakeholders' needs. It can also be used to determine how participants interpret constructs, e.g. self-esteem. (Johnson & Christensen, 2008) As an important part of user experience and CSR communication is to meet the needs and values of stakeholders which are more than just quantitative data the research in this study will highly benefit from qualitative methods.

There are a number of strengths with qualitative methods but at the same time the methods has a few weaknesses that quantitative methods can accommodate. The distinction between these two methods can sometimes be unclear as for example both interviews and questionnaires can be used to collect qualitative and quantitative data (Easterby-Smith, et al., 2002; Schutt, 1996). Some strengths with quantitative methods is that it is less time consuming, can provide precise numerical data, it is useful when studying a larger number of people (Johnson & Christensen, 2008). As stakeholders of a company and user of a mobile application often consists of a larger population the usage of quantitative method approaches are suitable.

This research has its foundation in the process of interaction design where different types of data collection methods are needed. As a big part of the focus is on user experience, the main characteristic of the data needed is qualitative. With this as a starting point a number of interviews have been conducted and as a complement to this a questionnaire was distributed to possible stakeholders and users, both are dealt with next.

3.1.1 Interviews

The interviews that have been conducted in this research have been both personal meetings and telephone meetings. Overall eight interviews have been conducted and information about them can be found in table 2. The interviews have been of varying length stretching from 40 to 90 minutes where the basis has been a number of predefined questions used as a framework. The framework was a part of the strategy for the interviews as it was used to define the structure. Due to this the character of the interviews became semi-structured which lead to an openness to explore interesting answers more deeply. The goal of having this structure is to not be tied up to the framework but to use it as a checklist to ensure all important questions are dealt with. (Easterby-Smith, et al., 2002; Johnson & Christensen, 2008) In order to get even more information out of the interviews and upon requests, prior to some interviews, a selection of some questions were sent to the respondent for him/her to be able to prepare and gather more knowledge about the topic.

Using interviews as a research method an understanding of the respondent's "world" can be developed (Easterby-Smith, et al., 2002) which was the case for many of the interviews conducted in this research. In the beginning of the research a couple of interviews were conducted both internally within Logica and externally with organizations appropriate for the topic. The purpose of these interviews were to build understanding of the nature of the concepts CSR and sustainability, but also to get a better and deeper understanding of what user experience is and how it is applied outside theory books. It was also a way of deepening the understanding of mobile applications, technology used, and their potential. As the thesis focus is on the telecommunication sector two interviews have been conducted with appropriate candidates within TeliaSonera. The interviews have, upon permission of the respondent been recorded in order to make the information processing and analysis more convenient. When the interviews were not recorded, notes were carefully taken.

Table 2. Compilation of conducted interviews

Company/Organization	Name	Title	Type	Date
Logica Sweden AB	Lindfors, Patrick	Senior Interaction Designer	Personal meeting	2012-02-29
Logica Sweden AB	Svensson, Conny	Senior Architect and Strategist Mobility	Telephone interview	2012-03-01
Logica Sweden AB	Bergquist, Pella	Senior UX Architect	Personal meeting	2012-03-08
Logica Sweden AB	Högenberg, Martin	Practice Leader Sustainability	Telephone interview	2012-03-12
Logica Sweden AB	Pfannenstill, Cecilia	Quality and Environmental Director Logica Sweden	Telephone interview	2012-03-14
CSR Sweden	Bogle, Marianne	Practice Leader	Personal meeting	2012-03-13
TeliaSonera AB	Johansson, Lars-Åke	Communication Manager Corporate Communication	Personal meeting	2012-04-04
TeliaSonera AB	Lundén, Dag	Environmental Manager	Personal meeting	2012-04-27

3.1.2 Secondary Data

To complement the data gathered from the interviews and the questionnaire secondary data sources were used. Secondary or existing data are data collected by someone else and often for entirely different purposes than for the one of the research at hand (Johnson & Christensen, 2008). The data can be of different types; newspapers, journals, governments and research agencies, and the internet are all examples that can provide vast amounts of facts (Webb, 2002). The existing materials used in this research have been mostly electronic sources and journals, but other materials have been analyzed and used as well. Data have been used to build a foundation within the topic of the thesis prior to the interviews. It has also been used to strengthen and confirm information gathered from interviews and the questionnaire. This data has been a vital part of the thesis because, as Webb (2002) states, without a context, facts, opinions and trends cannot be evaluated properly at the same time as it might become increasingly difficult to relate what may become a meaningless pile of data to the project in hand. Some secondary data that have been used consisted of internal documents produced for and used by Logica. Since this information is both used and produced by Logica sometimes for sales or other external purposes the data might be considered subjective. The utilization of these documents has on the other hand not been in line with its intended purpose which makes the subjectivity less questionable. The documents have been used to present and exemplify solutions that Logica offers within the business area of sustainability and mobility.

3.1.3 Questionnaire

As mentioned above the data collection approach in this research is a mixed approach. Besides using more qualitative methods such as interviews and secondary data sources a questionnaire has been distributed. The choice of using a questionnaire was based on the fact that it is an easy way of reaching a larger number people and collecting information and data in a relatively short period of time. (Lazar, et al., 2010) The questionnaire that was distributed used both qualitative and quantitative measures to collect data. In order to collect quantitative data closed-end questions were used which provides a few predefined answers or response categories for the user to choose from. To collect more qualitative data open-end questions were used which allows the user to write their own answers on a blank line. (Schutt, 1996)

The questionnaire was designed to provide information on how people uses mobile application, what kind of values they associate with applications, and what their thoughts and values are related to CSR work of companies and organizations, telecommunication companies to be more specific. The first questions were closed-end with an unordered single selection response which are a good choice for questions with choices that don't have a logical order. These questions were used to collect quantitative information about the users, their usage of mobile application and thoughts on social responsibility. The second part of the questionnaire consisted of open-end questions in order to get a better and deeper understanding of usage context of applications and the values that the user holds. (Lazar, et al., 2010) The open-end questions were based on a specific method called sentence completion which is described below.

Before distributing the questionnaire, a pilot version was distributed to a couple of respondents. This was done in order to find faults and vague formulations before it was too late. According to Webb (2002) the need for pretesting a questionnaire is important as it is a way of ensuring that the questions will gather the information that it is intended to gather. The respondents of the pilot study were encouraged to critically examine the questionnaire and come with feedback. Based on the answers and the feedback some closed-end questions were added and a number of open-end questions were removed or reformulated. The full questionnaire can be found in appendix II.

Sentence Completion

In order to design products that are more representative of user's values and expectations the designer must understand the underlying influential factors of user experience. These factors go beyond the mere functional needs and are important in order for the design to evoke positive emotions and satisfaction. These factors are often intangible and pose a challenge for designers as they need to understand what values a user hold regarding a specific product or services. This calls for tools or methods that will help overcome the challenges. (Nurkka, et al., 2009) Kujala and Väänänen-Vainio-Mattila (2009) summaries a number of frameworks developed for dealing with different types of user values. They explain that these frameworks can be used in developing methods for identifying user motivations and how to use this in the design process. Building on this they present a summary of a few activities and related methods for eliciting and designing for values. Some of these methods and activities are also covered by Nurkka et al. (2009) in their research of how to capture users' perception of

valuable experience and meaning in products. Nurkka et al. (2009) treats a number of methods in their pursuit of a tool that are most suitable for dealing with the challenges mentioned above. They conclude that a *sentence completion tool* could fulfill the requirements; that the tool should identify unconscious values of the user that are not general, but possible to attach to a certain context, that the data should be simple to analyze, and that it should be relatively fast to collect.

The shortcomings of existing methods such as interviews, surveys, and projective methods when it comes to eliciting user values were for example that they do not help designers identify necessary details in order to design for interaction and experience of using a product in a specific context. Moreover values may be hard to articulate and sometimes too personal to talk about which are limitations to interviewing and laddering techniques (Moven & Minor, 2001) and projective techniques are subject to a lot of interpretation and demanding analyses based on ambiguous data. (Nurkka, et al., 2009)

The choice of using the sentence completion tool in a survey form in the thesis is based on the promising effects of elicitation of user values in connection to a specific context, and the relatively easy interpretation and analysis of the collected data. Although the tool will be used in the research part of the thesis other qualitative and quantitative methods will be used as well in order to complement and evaluate the collected data.

The sentence completion tool builds on developing general sentences for probing an individual's general way of reacting to life and the topic in focus. In order to analyze and interpret what type of values users associates with the sentences a category framework developed by Kujala and Väänänen-Vainio-Mattila (2009), found in table 3 below, was used. The sentences need to be open enough in order to not lead respondents to answer according to expectations although more focused sentences are needed in order to probe which of the value categories that is important to the user (Kujala & Väänänen-Vainio-Mattila, 2009; Webb, 2002). The sentences also need to be valid for everyone to answer at the same time as leading questions should be avoided. (Nurkka, et al., 2009) As a complement to these guidelines Holaday, Smith and Sherry (2000) states that a sentence completion tool should be tailored to provide appropriate and accurate information about clients' personalities, be based on the theoretical orientation of the examiner, reflect the needs and expectations of clients' cultural and religious backgrounds, and be appropriate for clients' academic and mental developmental levels. These are factors that have been considered when developing the sentences.

Table 3. A category framework of user values (Kujala & Väänänen-Vainio-Mattila, 2009)

Category of values	Description	Product benefit examples
Social values (Alderfer 1972; Maslow 1970; Sheth et al. 1991)	Relatedness, social, and external esteem, status, power, control and dominance, achievement, conformity, equality, helpfulness, honesty and loyalty	Increase in social associations between family or other social groups, increase in respect, influence, power, social achievement and conformity, e.g. in communication or task management
Emotional/hedonistic values (Holbrook 2005; Schwartz 1992; sheth et al. 1991)	Aroused feelings or affective states, pleasure, fun, sensory enjoyment	Features arousing positive feelings, pleasure and enjoyment, increase in emotional experiences, support in handling experienced and emotions and saving emotional occasions; e.g. mobile TV
Stimulation and epistemic values (Schwartz 1992; sheth et al. 1991)	Excitement, experienced curiosity, novelty and gained knowledge	Increase in excitement; e.g. in adventure gaming
Growth and self- actualization values (Alderfer 1972; Maslow 1970; Rokeach 1973; Schwartz 1992)	Self-actualization, creating, independent thought and action	Support in creating new things and achieving internal esteem; e.g. a multimedia authoring systems; personal web site creation
Traditional values (Schwartz 1992)	Respect, commitment, and acceptance of the customs and ideas that traditional culture or religion impose on it self	Support in users' tasks in maintaining their customs and ideas; e.g. traditional industrial design of product appearance; religious content
Safety values (Maslow 1970; Schwartz 1992)	Security, social order, healthy, comfort, freedom from fear	Protection and alarms, ease of use, familiarity of functions and appearance; e.g. mobile communication or surveillance
Universal values (Schwartz 1992)	Understanding, appreciation, tolerance, and protection for the welfare of all people and for nature	Ecological soundness, improving equality; e.g. recyclability of products; flea market web sites; donation web sites

Sampling

The questionnaire was web-based and as mentioned above, draws upon previous studies using similar techniques. The choice of online distribution was based on the benefits that come with it. Web-based questionnaires have a tendency to collect data faster, it's cheaper than a paper

form, and there is the ability to save the responses in spreadsheets eliminating the need for time-consuming data entry and data-entry errors. (Lazar, et al., 2010) According to Lazar et al. (2010), the use of internet surveys will provide the same information as in paper form. In addition there is evidence that people are more honest delivering bad news in online communication. There are also evidence that people will be will be more honest when answering questions that they care about. At the same time, making the questionnaire anonymous might lead to an increase level in self-disclosure.

Based on the positive aspects of a web-based approach and the overall purpose of the survey together with the large selection of possible users the survey was administered as self-selected. This is, according to Lazar et al. (2010) also one of the most natural ways of collecting data for investigating new user populations or new phenomenon of usage. Self-selected questionnaires is a type of non-probabilistic sampling method that are suited when the population isn't clear or well-defined. This type of method is often used in HCI research as the population estimates often aren't the goal. (Lazar, et al., 2010)

3.2 Data Analysis

Interpretation of data is an evolving, active process and created when gathered and used (Webb, 2002). Both qualitative and quantitative data have to be analyzed but the processes are somewhat different. Analyzing quantitative data, related to HCI-research, usually follows three stages where the first part consists of gathering information on a specific topic, in this case usage and values related to mobile applications, CSR and sustainability. Then the collected data are analyzed which hopefully leads to major components or features being identified. In the second part a deeper analysis of the main components are conducted and the relationship between them investigated. In the last stage the knowledge gain from the stage two are used create a better understanding of the original substance. (Lazar, et al., 2010) The quantitative information gathered from the questionnaire is however not used in a statistical manner although connections and links between components might be of interest. It is instead mostly used as a references ground for the creation of personas that were used to present archetypes of individuals making the interpretation of user values easier. The qualitative data gathered from the questionnaire was analyzed according to the category framework defined by Kujala and Väänänen-Vainio-Mattila (2009) sorting the answers by the different categories of values. The answers were then grouped together forming fewer complete sentences which were used as a part of elicitation of user values. The entire categorization of the open-end questions can be found in appendix IV. The number of responds to the questionnaire that were distributed summed up to 33 which according to Lazar et al. (2010) is more than required for empirical studies in order to not miss potentially interesting results. As a part in analyzing the open-ended questions from the questionnaire and in order to portray the user values in a more understandable way four personas were created as mentioned above.

The development of personas deals with the people that are to use the system and the activities that will be carried out and in what context. They can also include the envisionment of how the technology could function in order to achieve the purpose of the system. This, once again, states the importance of the four elements of the PACT framework. Personas and in some cases scenarios, are developed and based on the understanding process and the

requirements that emerge and are often used prior to or after the design itself (Carroll, 2000) but could be useful in all stages of design. (Benyon, 2010) As Wright and McCarthy (2005) states scenarios are used a lot but sometimes the importance of personas are over looked;

“If the designer-reader cannot engage with the characters and cannot understand their background, personality, intentions and motives, how can they explore how that person might respond to new situations and new technologies?” (Wright & McCarthy, 2005, p. 17)

What personas try to do is to capture the personality and nature of users and their activities as a story which can be used to envision possible design innovations. It also provides a mechanism for including real-life opinions and behavior into the design (Farmer & Gruba, 2007). Personas are composite archetypes of real life persons that are based on behavioral patterns that are encountered during the course of the research (Cooper, et al., 2007). As a system is likely to have a wide variety of users, there is a need to consider these and develop several personas, although as Saffer (2007) states, not more than about seven as it then becomes difficult to distinguish them from one another. When developing personas they should be given names, some demographic data, goals and aspirations. (Saffer, 2007)

Analyzing qualitative data is as mentioned above an evolving and active process that start from the moment when the first contact is made with respondents or any type of qualitative information (Webb, 2002). The problem with analyzing this type of complex and context-bound information is to put it into a format that tells some sort of story that are convincing to the reader. It requires explanation of how the analysis was done and the conclusions that were drawn so that the reader might be able to follow the same path and make their own conclusions. (Easterby-Smith, et al., 2002) The qualitative data gathered in this research has been subjected to what many researchers call content analysis. This type of analysis is used to, in a systematic way, compress larger amount of information into fewer categories based on some rules of coding. The goal of the analysis is to search for theoretical interpretations that might generate some sort of new knowledge. (Lazar, et al., 2010) Interviews conducted have been transcribed in order to get a better view of the content and the ability to sort the information according to what's important to the study.

All the information gathered using the different methods have after analysis and sorting been included into the analyzing process. The information gathered was analyzed according to the theoretical model developed in chapter 2.3. By mapping the information onto the different parts of the model a more structured analysis was achieved rendering in the conclusions to the research questions specified in the beginning of the process.

3.3 Credibility of Research Findings

3.3.1 Generalizability

Generalizability is concerned with if concepts and constructs derived from a study might have any relevance in other settings (Easterby-Smith, et al., 2002). Performing a case study somewhat based on a non-probabilistic sampling method there is uncertainty saying if the results can be generalized on a bigger part of the population or on a different context or

business (Lazar, et al., 2010). According to Yin (2011) the rational for wanting to generalize the result from one single case is the fact that any given study can only gather a limited amount of information from a limited number of information units. Although this thesis is concerned with investigating the ability of communicating CSR and sustainability through mobile application for a telecommunication company some generalized conclusions might be drawn based on the more general theoretical framework.

3.3.2 Validity

Validity refers to the extent to which a scale of measurement actually measures what it is intended to (Webb, 2002). Validity might not be a priority when the research methods are aimed to understand user requirements. This is because when dealing with user requirements the findings of the research will probably be presented to the users whom might respond with feedback. (Lazar, et al., 2010) Validity is mostly discussed when it comes to quantitative studies and as this is a part of the research approach it applies to this thesis as well. In order to increase the validity of the questionnaire measures was taken to ensure that the guidelines on the open-end questions described by Nurkka et al. (2009) and Holaday et al. (2000) were followed. To the closed-end questions with predefined answers an extra alternative were added in order to provide the ability to make an answer that was not predefined. Moreover the questions were given in Swedish in order to not constrain the ability to answer in certain ways due to limited knowledge in English. Generally this might not be a problem for the majority of the Swedish people but as the questions call for users to express values, which might be hard for some to express in a foreign language, the choice of using Swedish seemed preferable. A subjective opinion is also that a choice of English as language might have reduced the respondent rate.

3.3.3 Reliability

Reliability refers to the consistency when it comes to reach the same result when conducting the measurements multiple times (Easterby-Smith, et al., 2002). Dealing with qualitative measures the nature of content make it more vulnerable to biases and inconsistencies which means ensuring reliable measurement is vital. To ensure this it is important to follow specific procedures during the coding process. (Lazar, et al., 2010) For the questionnaire, more specific the open-end questions, reliability measures were taken by adopting the already predefined and tested category framework for defining user values. For the interviews reliability was considered implicit as the interviews were conducted with people that are professionals and experts within their areas of competence.

As discussed above the questionnaire was pilot-tested on five subjects where upon some questions was revised or reformulated which is a way of ensuring reliability. A last measure to ensure reliability was to provide anonymity of the respondents in order to collect more truthful answers. (Schutt, 1996)

4 EMPIRICAL RESULT

This section of the thesis will provide the reader with the findings of the empirical study. The result will be presented in five sections with the first one depicting the subject of CSR. Going on, the second part provides a qualitative and compact compilation on mobile application technology. The third part will be devoted on Logica and their advanced work in sustainability and mobility providing a picture of what's possible related to these areas combined. Further on, the fourth section presents TeliaSonera's work on CR and mobility in order to offer a viewpoint that is more customer-related and to investigate further possibilities within the telecommunication area. The fifth and last section provides a qualitative compilation of the results from the questionnaire extracting user values related to CSR and mobile applications as well as user archetypes.

4.1 CSR

In its early days CSR could be seen as a trend in itself and it still is in some sense as more and more companies and organizations adapts the guidelines and ways of working. In recent years the environment has been on the agenda as one important core subject that organizations works with. (Bogle, 2012) This might be explained by the ease, for organizations and other individuals, of embracing it at the same time as it easier to measure the actual impact of operation and interventions (Pfannenstill, 2012).

Although CSR has become a more or less priority and mandatory part for organizations and companies the trend among people shows that the notion of CSR is not that advanced. The lack of awareness was also something that was concluded in this sustainable brands annual survey aiming to determine Sweden's most sustainable brands 2012 (Sustainablebrands.idg.se, 2012a). The result from the survey also concluded that although the awareness is low people expect a bigger responsibility from companies. It was also determined that the awareness of companies' social responsibility had become higher, almost as high as the environmental responsibility. Further on they concluded that the willingness to pay extra for products and services that are more social and environmental friendly is still low. In addition Bogle (2012) mentions that nowadays environmental and society friendly products are often more expensive than their equivalent non-environmental and social products. Among the business areas that improved from last year's survey there is a common ground in their obvious negative impact on the society and environment. The improvement in awareness for these businesses lies in the easiness to deliver solutions for problems that has a more obvious negative impact. In summary the 2012 sustainable brands survey concluded first and foremost that the exterior of the company is important as it is this part that is the consumers' reality and secondly that companies and organizations need to improve their communication.

Communication is something that is vital when it comes to topics regarding CSR. At the same time the ways of communicating has not evolved at the same pace as the increasing adoption of CSR. The most common way of communicating CSR is trough CR and sustainability reports and other web based publications (Bogle, 2012). The drawback with sustainability reports is that they are written in a corporate way and hence not read by people other than

investors and those who are genuinely interested and obliged to. There is therefore a need for organizations, in order to maximize the profit, to channel the key aspects of the information in an appropriate way to those that doesn't read the reports. (CSRIpraktiken.se, 2011) Seeking new ways of communicating an important thing to remember is to convey a message that is easy and understandable for the receivers (Hedén, 2012). As Bogle (2012) states, new ways of communication are on the rise, somewhat due to the technological advancements in combination with the understanding of how people uses technology (Högenberg, 2012). One example that she mentions is the increasing interest for communication through movies and other multimedia distributed through among other places corporate webpages and social media sites. The competition for space within social media is however harsh putting emphasis on authentically and transparency when it comes to the content. (CSRIpraktiken.se, 2011) Social media sites are also places where sustainability trends and movements can start and change as a result of the vast number of users and the fast dissemination of information (Bogle, 2012).

Another way of communicating CSR and sustainability is by packaging it as a product or service (Högenberg, 2012; Pfannenstill, 2012), although it is consider a more implicit way of communication (Bogle, 2012). Products or services often include the usage of technology which can be seen as a contributor to sustainable development. Technology in itself might not be contributing but in combination with the right knowledge and using it in a cost efficient way its potential grows. By using new technology and the new application areas that comes with it, sustainable products or services can be created. A new trend connected to this is the ability to visualize environmental and social impacts. Gathering available data on the impacts of products or services has become more important in a way to visualize it. Another trend is to create a commitment among clients and consumers through gamification¹. This offers a smart way of packaging otherwise boring environmental issues making them more fun and engaging. (Högenberg, 2012) Some product can also be seen as a way of communicating identity and belonging, for example pink and red ribbons worn to signal a contribution to research on breast cancer or aids. A somewhat subjective translation of this matter into information technology is the ability to post values, text etc. on social media conveying a specific standpoint or identity. (Bogle, 2012)

4.1.1 CR Reports and Global Reporting Guidelines

As mentioned above a common way for organizations and companies to present and communicate CSR initiatives are through sustainability and CR reports. This way of communicating CSR is a traditional way of reporting and might be a response to the umbrage of greenwashing and with that the ability to communicate through regular commercials. (Bogle, 2012) Greenwashing is when organizations promotes or claims to be environmental friendly but does very little, or no work actually implementing "green" initiatives (Greenwashingindex.com, 2012). A widely used framework for enabling organizations to measure and report their economic, environmental, social and governance performance is the

¹ Gamification is the application of game design techniques in nongame environments in order to make the application more fun, engaging and to encourage desired consumer behavior (Gamification.org, 2012; Danforth, 2011)

GRI's² sustainability reporting framework (Globalreporting.org, 2012). This framework that many organizations have adapted is a response to the new choices and opportunities that comes with new knowledge and innovations in technology. New technology and knowledge challenges organizations to make these new choices in the way their operations, products, services and activities affects the society and environment. The framework of concepts, consistence language and metrics, is acquired to support the expectations of stakeholders, and to clearly communicate an organizations contribution to sustainability. In complement to required practicalities of the framework the overall purpose is to benchmark sustainability performance, demonstrate how the organization works with sustainability, and comparing performance with other organizations. (Global Reporting Initiative, 2000-2011)

In complement to the guidelines mentioned above, GRI has also published sector specific supplements in order to capture unique and crucial aspects of sustainability performance that are not generic to all industries (Global Reporting Initiative, 2003). The specific supplement studied in this thesis is the telecommunications supplement which is a pilot version that provides guidance on economic, environmental and social performance for the telecommunications sector. The supplement is divided into three categories:

- *Internal operations* that provides indicators for managing the organizations facilities and infrastructure.
- *Providing access* that provides guidelines for approaches in order to ensure equitable access to telecommunication products and services.
- *Technology applications* which provides indicators over the impacts of telecommunication products and services.

It is the two later categories that provide interesting indicators related to the products and services and with that technology and knowledge. Providing access revolves around the potential of telecommunication and its attached technology to enable change in ways of living and addressing the digital dived. Technology applications might result in rapid changes in consumption patterns and lifestyles which mean that it is vital to understand the products and services impacts on sustainability. (Global Reporting Initiative, 2003) Interesting parts of this supplement are summarized in table 4 below.

² GRI stands for Global Reporting Initiative and is a non-profitable organization that provides sustainability reporting guidelines so that organizations can work towards a sustainable global economy (Globalreporting.org, 2012).

Table 4. Summation of a selection of the GRI telecommunication sector supplement indicators (Global Reporting Initiative, 2003)

Category: Commentary on GRI indicators
Governance structure and management systems
<p>(3.16) The rapid development of telecommunications products and services adds importance to initiatives that address: design, future take-back, reuse, recycling, and compatibility. Particular relevance would be in the area of:</p> <ul style="list-style-type: none"> • Decoupling the introduction of new products and services from the need for more hardware. • Use of common interfaces for accessories.
Indirect economic impacts
<p>(EC13) The telecommunications sector brings significant indirect economic effects. For example, prices, bandwidth and processing power can all have considerable impacts on the productivity of individual enterprises, industrial sectors and the wider economy.</p> <p>It has also been asserted that the application of communications technology and computing can affect innovation and competitiveness. Other economic issues of particular importance to the communications sector are globalization, the development of the “knowledge economy”, and the impact of access to telecommunications products and services in a development context.</p>
Environmental performance indicators
<p>(EN8) Where possible, also report in a manner that links carbon emissions with products and services.</p>
Social performance indicators: product responsibility
<p>(PR1) Examples of procedure/programmes to address customer health and safety during the use of telecommunication products and services. This includes:</p> <ul style="list-style-type: none"> • Risk associated with the use of mobile telephones while driving. • Information and assistance to prevent and report on theft off consumer products. • Possible adverse health effects from exposure to EMF. <p>(PR3) In a telecommunications context, this (respects for privacy) includes policies and programmes for data protection. Examples are the encryption and deletion of personal data, the production of telecommunications directories, and the delivery of other data management products and services.</p>
Category: Providing access
Access to telecommunication products and services: bridging the digital divide
<p>(PA2) Policies and practices to overcome barriers for access and use of telecommunication products and services including: language, culture, illiteracy, and lack of education, income, disabilities, and age.</p>

Access to content
(PA7) Policies and practices to manage human rights issues relating to access and use of telecommunication products and services. For example: <ul style="list-style-type: none"> • Legislation in different markets on registration, censorship, limiting access. • Interaction with national and local authorities and own initiatives to restrict criminal or potentially unethical content. • Protecting vulnerable groups such as children.
Customer relations
(PA11) Initiatives to inform customers about product features and applications that will promote responsible, efficient, cost effective, and environmentally preferable use.
Category: Technology applications
Resource efficiency
(TA1) Provide examples of the resource efficiency of telecommunication products and services delivered.
(TA2) Provide examples of telecommunication products, services and applications that have the potential to replace physical objects (e.g. a telephone book by a database on the web or travel by videoconferencing)
(TA3) Disclose any measure of transport and/or resource changes of customer use of the telecommunication products and services listed above. Provide indication of scale, market size, or potential savings.
(TA4) Disclose any estimates of the rebound effect (indirect consequences) of customer use of the products and services listed above, and lessons learned for future development. This may include social consequences as well as environmental.

4.2 Design and Technology Considerations

The reason for using mobile applications besides the fact that everything seems to become mobile, with 440 million mobile devices sold worldwide just in the third quarter of 2011 where smartphones accounted for 115 million of these (Gartner.com, 2011), is the easy access to functionality and data. Mobile applications is also something that is convenient and focused on a few things making it fast and efficient to use at the same time as the cost for users remains relatively low. For organizations and companies mobile applications offer ways of making things more efficient, shorten lead times to decisions and making retrieval of business critical data faster. They might also increase the flexibility in working hours at the same time as they increases communication and the social strength within a company. (Svensson, 2012a)

The potential inherent in mobile devices and applications are vast but reaching this full potential requires usage which in its turn means catching the users' interests (Svensson, 2012a). An idea for an application might be good but if it doesn't provide user experience the success might be absent. This leads on to the importance of providing user experience and using technologies that might accommodate for the purpose of the application.

4.2.1 User Experience

User experience (UX) is, as already discussed in previous chapters, more than addressing usability related goals. Human computer interaction and usability can be considered as the foundation and the background which has evolved into user experience. Putting the traditional system oriented approaches where the focus is on the system, against UX, the latter is more about investigating what value the system provides for the user and how to design so that people can use the system in the best possible way. (Bergquist, 2012) UX can therefore be seen as a more comprehensive approach addressing interaction, user values and the entertainment factor among others (Lindfors, 2012).

Designing for user experience, this comprehensive picture must be addressed investigating features such as usage associated values and situations, user values, entertainment factors, and system dependencies (Bergquist, 2012; Lindfors, 2012). A central concept in UX is to listen to user which can provide deeper understanding of how they experience certain system. These stories can thereafter be address by using different technologies that accommodate for the possible dissatisfactions and inadequacies. The key aspect is that technology should conform to user need, not the other way around. (Bergquist, 2012) But as the technology evolves it has become easier to provide user experience despite the smaller visualization area on the device (Lindfors, 2012). Building on the central focus on users, their different needs, thoughts and values might be as many as the number of users of a certain application. At the same time as organizations provides graphical profiles for visual identity an application might provide ways for user to express certain identities and values. Relating to the reasoning made in the theoretical section about social identity theory, Bergquist (2012) mentions similar theories that lie outside the scope of IT with relations more obvious to the anthropology area. These theories bring up reasoning's about need for self-identification as inherent in humans. Talking about identity in relations to technology the device and the application offers different ways of fulfilling this. The physical design in itself and the values that it conveys can become an attribute of the user herself. This lies in the hardware which in its turn offers the ability for users to express themselves using applications. It might be as simple as what kind of application the user physically has on her phone which signals certain values or identity. It can also be an inherent feature in the application that allows the user to express values through for example social media. Sustainability is also an area that attracts a lot of interest which means that application might be design in certain color scales and provide a way for user to express communicative messages signaling a sustainable attitude. Moreover the emphasis on identity is different depending on culture and society. In our society today people are much more individual than before and it lies in the present to fight for oneself and show the surrounding world an individual standpoint. (Bergquist, 2012)

4.2.2 Technology

When discussing mobile technology there are plenty of aspects that can be considered such as operating systems (OS), device technology and support, application technology, languages, browser support and relating costs. Different technologies have both positive and negative sides and the extent to which it accommodates for the designers' and users' needs differs.

By considering the different OS, figure 8 shows that there are approximately six larger actors present on the market but only two (Android and iOS) showing positive growth (disregarding Bada) in numbers of sales to end users. The graph also considers worldwide sale number and national and regional differences might therefore be present. Discussing the differences between these two OS, it is the language that is the major disparity as iOS uses Objective-C and Android uses Java (Apple.com, 2012; Android.com, 2012). The differences among the mobile platforms can on the other hand partly be bridged by using software development kits (SDK) such as Titanium (Appcelerator.com, 2012) that provides a single application programming interface (API) that works across multiple mobile platforms. These kinds of SDKs also provide ways of reusing code intended for native mobile applications in developing mobile web applications.

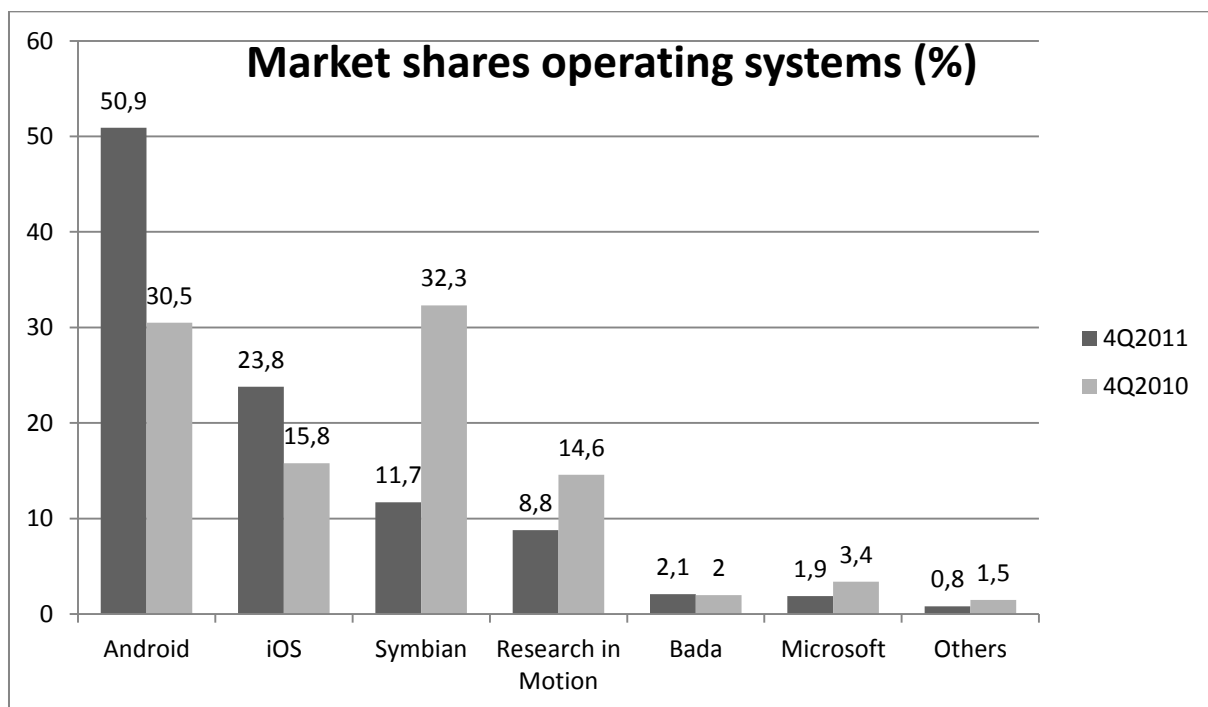


Figure 8. Market shares, 4Q11 and 4Q10, for operating systems worldwide (Gartner.com, 2012)

As can be seen in figure 9 there are many different types of applications that can be considered when discussing mobility. Reviewing the purpose of the thesis the type of applications that can provide relevant substance to the discussion are mobile web applications and native applications.

	Device Support	Complexity	User Experience	Language	Offline Support	Device Support	Initial Cost	Long Term Cost
SMS	All	Simple	Limited	N/A	No	None	Low	High
Mobile Websites	All	Simple	Limited	HTML	No	None	Low	Low
Mobile Web Widgets	Some	Medium	Great	HTML	Limited	Limited	Low	Low
Mobile Web Application	Some	Medium	Great	HTML, CSS, JS	Limited	Limited	Mid	Low
Native Application	All	Complex	Excellent	Various	Yes	Yes	High	Mid
Games	All	Complex	Excellent	Various	Yes	Yes	Very High	High

Figure 9. Medium matrix describing types of applications and their support (Fling, 2009)

Native Applications

A native mobile application is an application specifically designed to run on a single mobile platform (a device's operating system) and machine hardware and as mentioned above it typically need to be adapted for the different devices present on the market (Global Intelligence Alliance, 2010). By running on device machine hardware a native application have access to the native features such as GPS, camera, calendar and accelerometer which web applications in lesser extent have access to (MobiThinking.com, 2012). In a survey conducted by Global Intelligence Alliance (2010) the differences of native and web application were investigated. Among the respondents, 87 companies providing customers with some sort of mobile applications, 44% used native applications only and primarily for pay-per-download applications in comparison with 22% only offering web applications. The result from the survey showed, as can be seen in figure 10 (the higher number the more important features), that the key reasons (among the top reasons) for choosing native applications were the ability to build superior interfaces and the ability to access native capabilities of the device. The survey performed by GIA (2010) also showed that the average session length, which they denotes user engagement, is longer for native application in comparison to web applications.

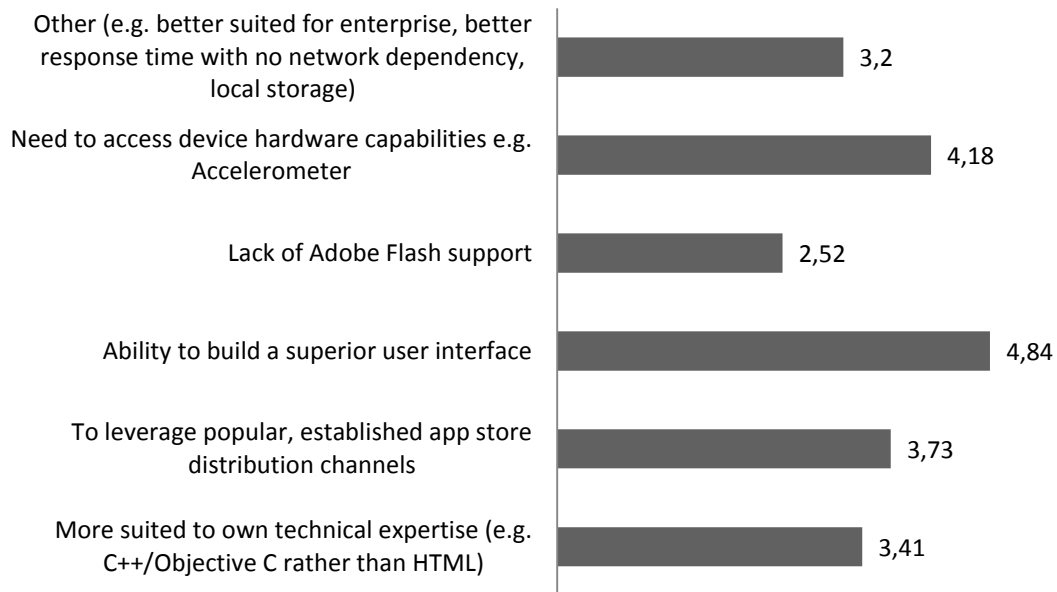


Figure 10. Top reasons for only offering a native application (Global Intelligence Alliance, 2010)

Mobile Web Applications

A mobile web application is an application in which all or some parts of the software are downloaded from the web each time it is run and it can be accessed from almost all web-capable mobile devices (Global Intelligence Alliance, 2010). From figure 11 below, the top reasons for offering only a web application can be seen. The two most prominent reasons are the ease and cost benefits of providing an application that are compatible on multiple platforms making device-specific customization simpler as well as the direct control over the distribution of the application.

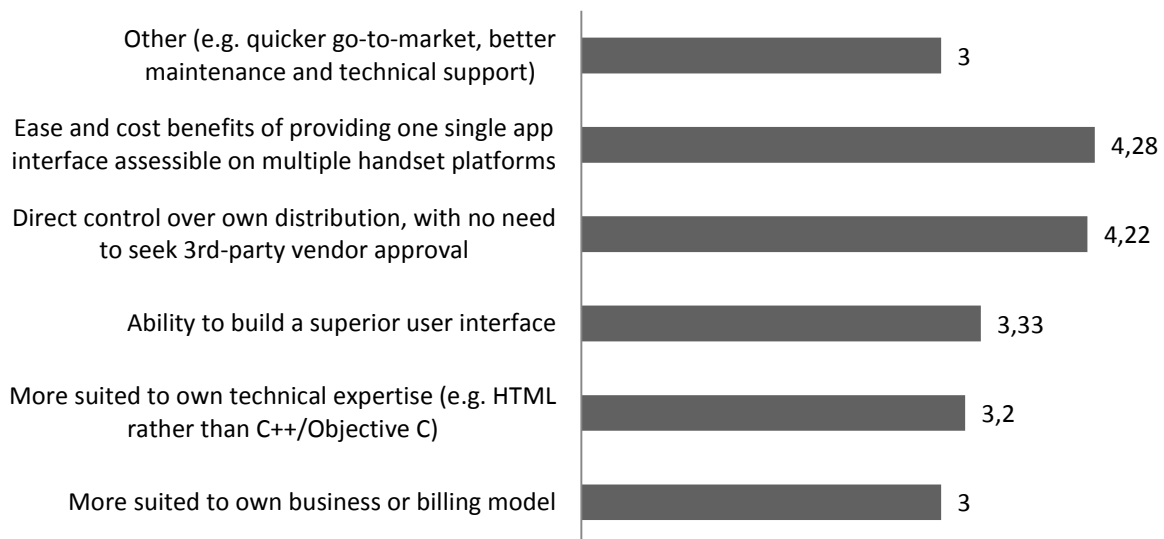


Figure 11. Top reasons for only offering web applications (Global Intelligence Alliance, 2010)

The GIA survey provides two benefits with web applications besides the top reasons listed in figure 11. These benefits are lower cost, both development and maintenance, and shorter deployment time.

Web applications, as can be seen in figure 9 above, offers weaker user experience in comparison, which can be traced back to the superior native features and offline support that can be used by native applications providing faster services and greater user interfaces. Web applications uses a browser-rendered language such as HTML (HyperText Markup Language) combined with JavaScript and CSS (Cascading Style Sheets) which requires a web-capable mobile device. Overlooking the different code language used in native and web applications respectively, the user experience provided by their interfaces will in the future faint as native applications uses real-time web connectivity and web applications can provide offline support. (MobiThinking.com, 2012) A contributor when it comes to this increasingly blurred line is HTML5 which is a technology provided by World Wide Web Consortium³ together with WHATWG⁴ that still is under development.

HTML5 is considered to be one factor when it comes to future interface choices. This can be found in figure 12, GIA's (2010) question on future choices, together with the future ability of device integration as another top reason.

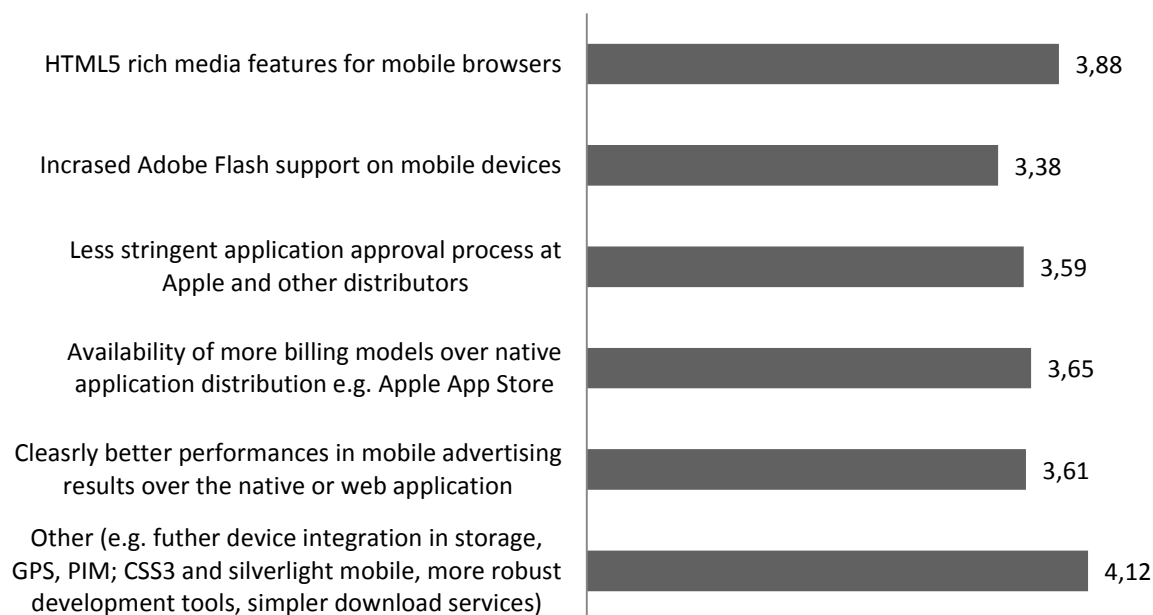


Figure 12. Key factors influencing future interface choice (Global Intelligence Alliance, 2010)

HTML5 is the newest version of HTML that is being developed due to the fundamental changes in the way people uses the web. User nowadays want to be able to access the web from different platforms and devices, more dynamic web pages with behavior that reminds

³ The World Wide Web Consortium is an international community where member organizations, the full-time staff and the public work together to develop web standards (W3.org, 2012)

⁴ The Hypertext Application Technology Working Group (WHATWG) is a community of people that are interesting in evolving the web, focusing on HTML and APIs for web applications. (WHATWG.org, 2012)

them of applications, they want and expect higher quality in audio and video and to be able to access this content from anywhere. The new HTML5 draft addresses these expectations and new usage contexts by replacing multimedia plug-in such as Adobe Flash with open standards, making web application to behave more like native applications, adding native features such as location-based services, separating the content from the presentation making changes easier, and providing better client-side support allowing offline support. (Hoy, 2011)

HTML5 is at first glance a standard that provides solutions to many problems but the language itself is not considered to be free of problems. A problem with HTML5 is according to Hoy (2011) the fact that the language is still under development and won't be a finalized standard until 2022. Due to this, browser developers might abandon some features or extend other creating consistency problems. For a new feature to be accepted as a standard it must be supported by 80% of the present browsers and, Hoy (2011) writes, considering the pace at which user upgrade their browsers it could take a significant amount of time to reach these numbers, at the earliest 2013. As can be seen in figure 13, only the newest browsers are compatible with HTML5 and the new CSS3 standard which in short offers new ways of providing layouts without the need of external image resources (Oehlman & Blanc, 2011).

Class	Markup	CSS	Javascript
Class A	XHTML, XHTML-MP, HTML5	CSS2, CSS3	Great, includes DHTML, Ajax
Class B	XHTML, XHTML-MP	CSS2 (Decent)	Limited, some DHTML
Class C	XHTML, XHTML-MP	CSS2 (Limited)	Limited
Class D	XHTML-MP	CSS2 (Basic)	None
Class F	XHTML-MP, WML	None	None

Figure 13. Device matrix describing the support of different web browsers (Fling, 2009)

Although HTML5 seems to address user expectations as described above, in addition to the weaknesses highlighted by Hoy (2011) there are some more considerations when it comes to HTML5. As mentioned above the line between web and native applications will in the future become more blurred but there are still differences between them. Besides limited access to hardware functionalities and the fact that all browsers doesn't support all HTML5 functionalities rendering in removal of all that is good looking bringing the experience back to HTML4, there are limitations with the ecosystem, development tools and UX. Considering the ecosystem there is no convenient way of distributing the applications as the possibilities of launching them in App stores are limited. This also makes it harder for users to find mobile application as well as harder for the company to charge money for them. Looking at development tools there is a lack of good IDEs (integrated development environments) for the entire development process as well as there are some that are relatively new and immature and might contain viruses. When developing web applications designers produces one user interface for all platforms and there are difficulties to reach the same quality in a more

advanced web application as in a native application. So in the same time as an advanced web application is developed, two native applications might be developed and comparing the development costs in figure 9, they will probably be the same. Although HTML5 will become a working standard in the future as the large developing companies are behind it, users' prefer native applications found in App stores as they are easy to find and use. (Svensson, 2012b)

4.3 Logica Capabilities

Logica is a business and technology service company that operates over all industries and business functions, from high-tech industries, oil and gas to space, telecom and media. Logica employs 41.000 people in 36 countries and offers business consulting, system integration and outsourcing services as their main services. Their business model is to create value for their clients by integrating people, business and technology to create effective, sustainable business ecosystems (Logica.com, 2012a; Logica.com, 2012b).

Within Logica their social responsibility is denoted CR but with a relatively close connection with the term sustainability. The reason for making a distinction between them is that there is a group within Logica that is called sustainability which works externally towards clients. CR is the name for the work that is done internally within Logica. (Pfannenstill, 2012) The CR work is divided into three areas; community, environment and people, which consists of a strategy, goals and pay-off plans. Connected to the environmental goals Logica has a long term goal to reduce their emissions with 50% until 2020. These goals are part of the strategy to meet the expectations of investors, clients and other stakeholders. (Pfannenstill, 2012) When it comes to meet the expectations of the stakeholders' communication is extremely important. Logica is part of a couple of networks where these kinds of questions are discussed, they communicate through the intranet internally, and through their external webpage and magazines externally. A part of the communication also consists of the sustainability solutions that they provide. This is also seen as a way of helping their clients communicate their CR and sustainability standpoints. (Pfannenstill, 2012)

4.3.1 Business Area: Sustainability

As mentioned above there is a division within Logica that solely focus on sustainability and sustainability solutions involving IT. The definition that is used to describe sustainability above (in the theoretical section) might differ from the scope that the sustainability division works with. Their scope is based on what fits Logica's business areas and what is possible to provide on the market. The division today has a larger focus on the environment and in a lesser extent a focus on the social aspects. (Högenberg, 2012)

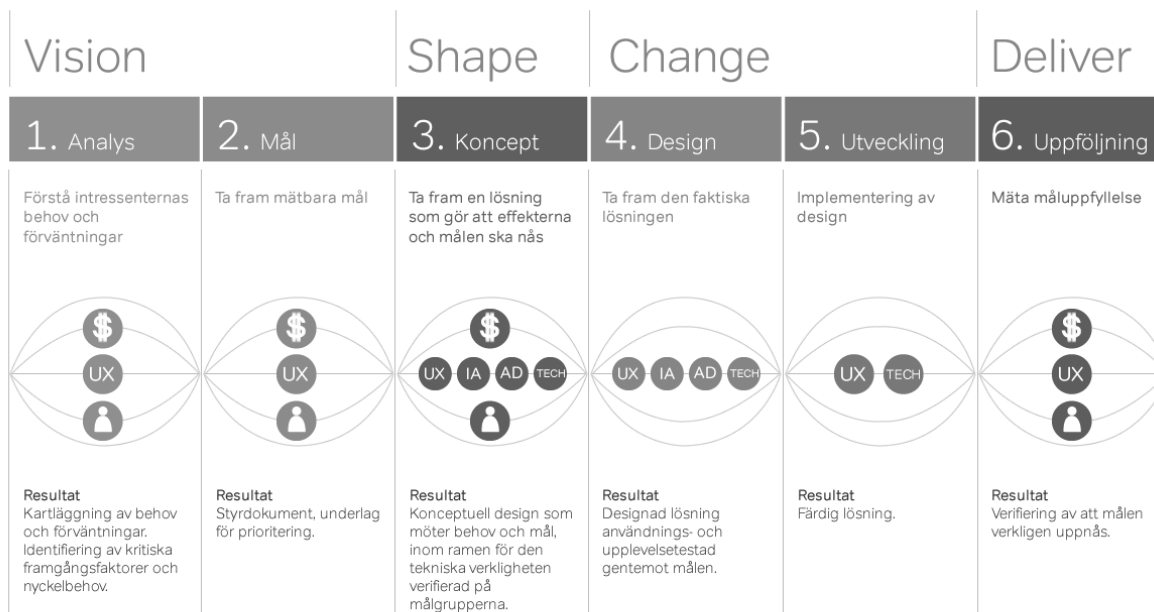
The reason for the sustainability divisions' existence is the demand from the market requesting their type of solutions. Logica has done project within sustainability before but then branding it as something else. The difference from today is that there was a distinct focus on cost whereas nowadays there exists an understanding of how theses project impacts the environment. This understanding or consciousness is something that is present on the market which makes it a strength to provide projects, products or services that has positive impacts on the society and environment at the same time as strengths pays off. (Högenberg, 2012)

The solutions that Logica offers stretch across all businesses where they are active. Looking specifically on the telecommunications market there are similarities to other businesses. In many ways it is about providing the customer with means so that they can be aware and able to influence their situation. This can be exemplified with solutions that make consumers aware of their energy consumption. Or, in the same manner as a customer wants to purchase “green” electricity they can be offered to buy “green” telecommunication subscriptions. The potential to provide solutions to the telecommunication business can also be traced back to the infrastructure that consists of a large volume of devices. By rationalizing or optimizing the communication between them the costs and environmental impact might be reduced. (Högenberg, 2012)

The ability of providing sustainable solution lies in understanding the technology and its interaction with the people using it. There is also a considerable difference in providing solutions for companies and consumers. The differences lie in understanding the target group. Although technology is important in the work with sustainability the cost aspects might be seen as a limitation. The key aspect, besides understanding the interaction of technology and people, is to understand how to use the technology in a cost efficient way. Talking about mobile applications in relations to technology with sustainability in mind, the solutions might be built on visualizing impacts and providing data that enables the opportunity to manipulate the result. When designing for applications with sustainability in mind it is vital to provide a sense of control, the ability to manipulate, and fast feedback. (Högenberg, 2012)

Continuing on the aspects of mobile applications Logica has teams that entirely work with mobility solutions. Considerations when it comes to applications are whether the application is meant for a consumer market or a company or an organization. With consumer applications the choice of platform is often decided on beforehand although Logica works with SDKs simplifying the process of creating native applications for several platforms. Most of the company oriented applications are web applications written in HTML5 (nowadays) so that the application can look like a native application and the same on all platforms. (Svensson, 2012a)

When it comes to mobile applications they are often activity based where users perform tasks fast or repetitively. There is also of importance to provide the user with clues as soon as he/she opens it so that it is easy to understand. If the application misses to catch the user interest directly they will probably stop using it. The usefulness doesn't necessarily have to be present right away as long as the user gets a good feeling from the application. (Svensson, 2012a) When designing applications the focus on user experience is therefore vital and it is also an integrated part in Logica's development projects as can be seen in figure 14.



UX
by Logica User Experience

Figure 14. Logica project development process (Logica, 2010)

4.3.2 Applications with Sustainability Themes

Within Logica's sustainability offerings there is, as described above, a focus on the environment and as Högenberg (2012) mentions these offerings are mainly categorized into three areas:

- Carbon – it's about understanding the company's environmental impact and build solutions to addresses it.
- Energy – it's about energy efficiency and how to use energy in a sustainable manner.
- Sustainable mobility – concerns mobility in the shape of transport solutions and how to understand and measure the environmental impact.

Below two examples will be presented as a way of portraying sustainability solutions and what they might comprise of. These examples includes sustainability as a value add-on.

Drive Change with Logica EMO

The Logica EMO is a telematics solution that consists of a device that is self-installed in the car's OBD port (On-Board Diagnostic) which measures the driving behavior in several parameters in real-time. This information is then transmitted wirelessly to a central back-end server where it is analyzed and can thereafter be accessed by the user. The users can from this data see, in real-time, when they need to change their driving style in order to reduce emissions and thereby their fuel consumption. (Logica, 2011a) The ecosystem of the solution can be found in figure 15 below.

The aim of this solution is mainly to encourage a sustainable behavior and raise awareness among individuals and stakeholders about the impact they are making on the environment as well as what economic and social difference they can make. Since the solution provides a

central emission data base there is also possibilities to implement new polices and applications. The solution might also influence or strengthen a company's brand and CSR. (Logica, 2011a)

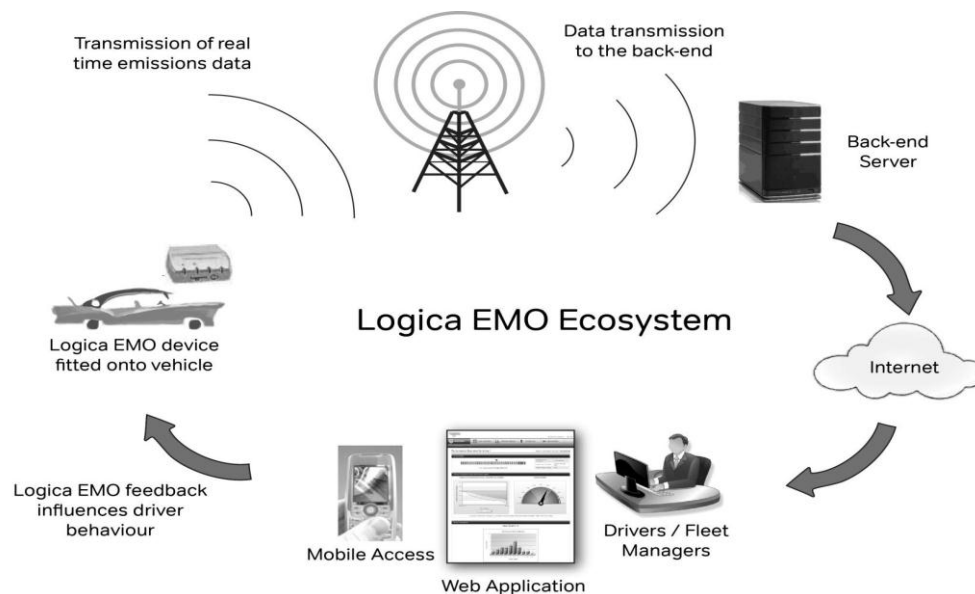


Figure 15. Logica EMO ecosystem (Logica, 2011b)

After the information from the vehicle device has been analyzed in the back-end system it is presented to the user in an accessible and appealing way. The analysis can be presented in a number of ways; on the web, in mobile applications or posted on social media, as portrayed by figure 16 below. The system can also send information directly to the driver's mobile device or provide real-time alarms in order to educate the user of good driving habits. (Logica, 2011b)



Figure 16. Examples of Logica EMO visualization forms (Logica, 2011b)

Energy Monitoring Tool

Energy Monitoring Tool (EMT) is a web based user-friendly solution that enables the customers of energy suppliers to influence their energy consumption. When logging on to the system, home or apartment owners can compare their own energy consumption during self-specified time periods. The front-end system provides the user with an easy-to-comprehend color coded visualization of changes in consumption. Built into the system is also the ability to enter week-long energy reducing competitions with results (feedback) being presented on a daily basis. The result is showed in carbon dioxide emissions as well as in energy savings. (Logica, 2011c)

The *EMT* is a way for energy suppliers to provide smart in-home technology as a part of their business strategy. Although there was problems with getting people to use the system the result have been positive, much thanks to the gamification aspects. (Logica, 2011c) Other reflections with the system are that it cannot provide real-time information of energy consumption. This is however not due to the technology itself but more coupled to the economic aspects of installing new technology in every household. (Högenberg, 2012) A screenshot of the *EMT* (a version named *Energikollen*) can be found in figure 17 below.



Figure 17. Energy Monitoring Tool interface (Logica, 2011c)

4.4 Telia's Sustainability and CR Work

"TeliaSonera provides network access and telecommunication services that help people and companies communicate in an easy, efficient and environmentally friendly way." (TeliaSonera.com, 2012)

Telia are one of Sweden's largest telecommunication operator offering services within mobile communication, land line telephone communication, data communication and broadband technology. Telia has about 10 000 employees in Sweden and is one of TeliaSonera's almost 30 brands on the Nordic, Baltic and Eurasian markets. (Telia.se, 2012) The company was founded in the 1850's and was pioneers within the telecom industry as one of the inventors of mobile communication and founders of GSM (Global system for mobile communications). Now TeliaSonera is the fifth largest telecom operator in Europe with 172 million subscriptions worldwide. (TeliaSonera.com, 2012)

TeliaSonera and Telia has in recent years been included in several annual lists of sustainable corporations (Global100.org, 2012; TheDailyBest.com, 2011; Sustainablebrands.idg.se, 2012b) which provides some indications of the work performed within the area of sustainability. These lists are compiled differently with some being a reflection of the company's social and environmental impact and performance in comparison with the economic outcome and some being a reflection of the general opinion of the population. Telia was for example awarded most sustainable brand in the telecommunication market in Sweden which in some degree is a reflection of the public opinion. However, according to Lundén (2012), who is environmental manager within TeliaSonera, this outcome might not be a direct result of their actual sustainability work as this is not communicated externally in any large extent, besides in the annual Telia sustainability report and the corporate CR report. He believes that it is more a result of Telia being a large company with a long experience and strong position on the market which make them trustworthy.

As Telia is a part of TeliaSonera which has a code of ethics and conduct that applies to the entire corporation which also guides the CR work it applies to Telia as well (TeliaSonera, 2011). Although the brand and guidelines are common to all national markets the different brands might produce different results as a way to adjust to the expectation (Johansson, 2012). When it comes to environmental issues Telia is ahead of the other brands which make communication on the Swedish market more specific (Lundén, 2012). Telia's stakeholders consist of customers (private, corporate and public sector customers), employees, the media, suppliers and business partners, authorities and civil society, and owners and investors. With these stakeholders there is an active and open dialogue but on different levels depending on what questions are dealt with. (TeliaSonera, 2011; Lundén, 2012) When it comes to the communication with customers and other stakeholders there is a big difference, and also when it comes to private customers and corporate customers. Corporate customers might present demands regarding environmental and social factors in a procurement process whereas private customers are more interesting in other factors. Private customers are in a large extent, as Lundén (2012) states, unfortunately not interested in environmental issues as they are more interested in for example the price or coverage of services.

Overall Telia's communication on their sustainability work is not that extensive. This restrictive, external, communication might be a result of an internal concern of bad publicity such as being accused of greenwashing. Also, the awareness of possible environmental risks connected to materials used in the past when building the infrastructure might be a reason for not communicating more. Other, more prominent and factual reasons are that the public aren't interested or susceptible to the information and also the lack of an obvious connection between sustainability issues and mobile services or IT as a whole. (Lundén, 2012) Regarding this connection, Telia possesses specific information on their environmental impact but by visualizing these impacts of products and services Lundén (2012) speculates that Telia will only reach maybe 6-8 % of the user that has an focused interest in sustainability issues. On the other hand, if consumers can get the information as a value add-on that are for free, Lundén (2012) thinks the number of user that might be interested can reach up to 30-40%. This low number of interested user might be a result of them not seeing the connecting between sustainability and IT. Consumers purchase products and services to solve a specific problem and with the wide variety of telecommunication suppliers other factors are more important. (Lundén, 2012)

The communication channels that Telia uses are mostly their website where they publish annual sustainability report (Telia in Sweden) and the corporate CR reports that is published as a part of the annual report. These reports are also seen as a communication channel and follows the GRI guidelines as well as the telecommunication sector supplement (Johansson, 2012; TeliaSonera, 2011) Social media are used in some extent but mostly to interact with consumers and other stakeholders and not as a way of communicating sustainability work (TeliaSonera, 2011; Lundén 2012). As from 2012 some reports are also available on iPhone, iPad and Android devices through an application called *TeliaSonera Publications* (TeliaSonera, 2011).

4.4.1 Corporate Responsibility

TeliaSonera's five main areas dealing with corporate responsibility, which has been concluded in consultation with their stakeholders, are issues dealing with the supply chain, TeliaSonera's own operations, customers and markets, shareholders and investors, and society. Table 5 is a compilation of the operations within these areas.

Table 5. The materiality of TeliaSonera's main corporate responsibility issues (TeliaSonera, 2011)

Supply Chain
<p>Ensuring environmental and social acceptability along our supply chain:</p> <ul style="list-style-type: none"> • Complying with ethical business practices. • Compliance with human rights and labor laws where contracted labor is used. • Good occupational health and safety practices for contracted labor. • Improved eco-efficiency of the equipment and devices we buy. • ICNIRP and CENELEC standards to be followed for purchased handset with maximum allowable SAR values. All base stations must comply with ICNIRP guidelines.

TeliaSonera's own operations
<p>Being a good employer:</p> <ul style="list-style-type: none"> • Respecting core labor rights. • Occupational health and safety performance in relation to field workers and maintenance personnel. • Promoting diversity, performance management and talent management. <p>Minimizing the environmental impact of our operations:</p> <ul style="list-style-type: none"> • Improved energy efficiency and reducing our carbon dioxide emissions. • Organizing the recycling of the equipment we sell and use.
Customers and Markets
<p>Responsibility in the market place:</p> <ul style="list-style-type: none"> • We are committed to enhance our work to protect our customers' privacy. • We need to provide the market with clear pricing models, balanced product information, and sound marketing practices related to net neutrality and content, and when addressing issues related to minors. • We must ensure compliance with high ethical business practices in all the markets where we operate, and in dealing with all of our business partners along our value chain. • TeliaSonera's products and services give our customers opportunities to reduce their carbon footprints.
Shareholders and Investor
<ul style="list-style-type: none"> • TeliaSonera aims to be a preferred investment for mainstream domestic and foreign investors, as well as Socially Responsible Investors (SRI). • The largest shareholders in TeliaSonera are the states of Sweden and Finland. Both states have established robust CR criteria as part of their ownership policies.
Society
<p>Contributing to a world with better opportunities and a more inclusive society:</p> <ul style="list-style-type: none"> • Customer's privacy, in the context of possible governmental surveillance and freedom of expression, represents a growing challenge for the whole telecommunications industry. It is vital for us to further understand the boundaries of responsibility, acceptable conduct, and the meaning of "respect for human rights" within this context. • TeliaSonera's operations have a wide positive effect on socio-economic development. Our business drives growth and economic development by directly and indirectly creating job opportunities and by financing contributing to societies wherever we operate. • Telecommunication services can be used as a vehicle for the sexual abuse of children. Our duty is to protect children in collaboration with the authorities and other stakeholders. • There is an increasing concern about exposure to electromagnetic fields (EMF) around mobile terminals and base stations. TeliaSonera is committed to pro-active and transparent practices, and we support independent research on these issues.

4.4.2 TeliaSonera Publications

As mentioned above, as from 2012 a number of reports will be published in a mobile application called *TeliaSonera Publication* (screenshot presented in figure 18). This application is available in Android, iPhone and iPad platforms. The application is built as a web application with HTML5 which makes the content the same despite the platforms. The reason for creating this application was a respond to the ever increasing number of smartphones and tablets, the trend of a demand on applications at the same time as it was a way of increasing the access of specific information. It was also a way of portraying the corporation as a cutting edge company, technology wise and as a show case of the kind of work that they do. The purpose for the application is to publish reports and publications both for internal and external use. At this point however the published reports are limited to the company presentation, the CR report and the annual report. (Johansson, 2012) As the application is built in HTML5, which makes it easier to include multimedia files, some reports have embedded movies. Moreover the content is the same as in the reports published on the web but with different pagination. The advantage with the application is also to be able to update, remove and add information and publications. (Johansson, 2012)

The users that the application is aimed at first of all are investors but the idea is to broaden the area of usage attracting different users. It is also intended for sales personnel as they can use the company presentation with movies in a more sophisticated and technological manner. Johansson (2012) believes that in the beginning the variety of user will be limited as investors might use the publications on the web as they are more interested in company numbers. A respond to this have been to extract the company presentation from the CR and annual report making this presentation more live with movies and other multimedia material. This concept is also a future thought Johansson (2012) states, as the ability with the technology makes the areas of usage wider.



Figure 18. TeliaSonera Publication screenshot (TeliaSonera Publications, 2012)

4.5 Questionnaire Result

Of the respondents, 51% were men and 49% women. The age distribution can be perceived as somewhat skewed with 82% of the respondents being in the ages 21-30. But coupled to the purpose of this thesis with a subjective standpoint of what the actual age distribution is among smartphone users this is not considered as a flaw. Overall the first four questions aren't of statistical importance as they provide more of a texture to the personas below.

Interesting findings, coupled to the usage of smartphones, withdrawn from the closed-end questions was that 91% of the respondents had a smartphone. Of these, 90% downloaded new applications at least once a month and 94% used the applications on a weekly (23%) or daily basis (71%). What's interesting as well is that almost everyone discovers new applications through recommendations (36%) or through Appstore/Androidmarket (61%). The type of applications mostly used is communication (45%), games (26%), health and fitness (11%), and media and news/magazines (6% each). When it comes to the questions regarding social responsibility and sustainability, 91% of the respondents said that it is important that companies engage in these kinds of questions. What's important to notice was that 79% aren't aware of their network operator's social responsibility. The kind of responsibility that the respondents found most important was human rights (36%) but the other areas defined in the ISO standard are considered almost as important. The entire summation of the questionnaire can be found in appendix III and IV.

4.5.1 Personas

From the questionnaire the following four personas have been extracted based on the categorization framework presented previously in table 3. First a short summary is presented providing demographic, application usage and CSR aspirations. This is followed by a description of their values regarding application and CSR respectively.

Table 6. Demographic and information persona 1

Person 1 "The mainstream Svensson"					
Demographic:		App usage:		CSR Aspirations:	
Gender	Male	Downloads	Weekly	Importance	High
Age	30	Usage	Daily	Awareness	Medium
Occupation	Student	Discovery	Appstore / Androidmarket	Core subject	Human rights
Education	University	Type	Economics	Involvement	Medium

Applications: Person 1 uses mobile applications primarily for making every day chores easier and as secondary information sources. He feels frustration and irritation when they don't work as they are supposed to but feels joy and pleasure when they do work without any bugs, when they are fast, fun and fills his need beyond just entertainment. In order for person 1 to use an application over a longer period of time it must work well without bugs, be updated with the latest functionalities, be fast and simple to use at the same time as it is user friendly in everyday usage. The types of applications he doesn't use are the ones that require him to specify

personal information and the ones that wants him to post everything on social media sites. At the same time he doesn't use applications that don't satisfies his needs, ones with a lot of commercial and where there is a chance that he does something that he didn't intend to do. He also thinks that using mobile application can be understood as anti-social in some situations. He fears that some applications might have security breaches making his personal information available for unauthorized people or that someone will analyze his usage.

CSR: Person 1 thinks that CSR is a quite wide question at the same time as it is an obvious subject in his everyday life. He believes that it implies a long term commitment towards a sustainable society. Knowing that his network operator actively works with questions on sustainability evokes positive feelings and a certain amount of personal satisfaction at the same time as he thinks they are doing a good job. When he searches for information on a specific company's sustainability work he does it because it interesting to know what they do at the same time as he wants to support that way of thinking. This type of information is according to person 1 really important if not necessary. In his opinion, the reason for people to contribute to society and the environment is because it is an important question that concerns everyone. It is also a way for everybody to help their fellow citizens. When contributing to a sustainable society he feels good, helpful, satisfied and proud. He also thinks other people see him as good at the things he does to contribute. What other people thinks of him, regarding his sustainability engagement, is important as he want to portray himself as a responsible person that contributes with what's expected of him.

Table 7. Demographic and information persona 2

Person 2 "The everyday contributor"					
Demographic:		App usage:		CSR Aspirations:	
Gender	Women	Downloads	Monthly	Importance	Medium
Age	40	Usage	Daily	Awareness	Low/Medium
Occupation	Employed	Discovery	Appstore / Androidmarket	Core subject	Labor practices
Education	University	Type	Communication	Involvement	Low/Medium

Applications: Person 2 uses her mobile applications to help everyday practicalities such as checking her email, communicate and fitness. The situation where she absolutely uses a downloaded app is when she wants to complement herself with secondary information such as news reading, exercising and weather updates. She feels frustrated and irritated when an application doesn't work as it supposed to but as long as the usage meets the price, it is fun to use and it fills her need besides joy she feels satisfied. For her to keep using an application it must be free of charge, have the latest functionalities and be usable in everyday situations. The reason she doesn't use a specific type of applications is because she is afraid of giving out personal information.

CSR: According to person 2 social responsibility is to care, help the society and be a good citizen. The feeling of knowing that her network operator actively works with sustainability is

a feeling of comfort and safety although she doesn't exactly know what they actually does. The reason why she searches for information on CSR and sustainability is to ease her own conscience. With that she thinks it would be good if there were easy access to information concerned with these kinds of questions. She thinks most people contribute to society and the environment for their own sake and what other people thinks of here engagement doesn't matter because she does it for herself. With that said it is important for her that other people see her as a committed person but her engagement is mostly for her own sake.

Table 8. Demographic and information persona 3

Person 3 “The modern sustainability activist”					
Demographic:		App usage:		CSR Aspirations:	
Gender	Women	Downloads	Monthly	Importance	High
Age	25	Usage	Weekly	Awareness	High
Occupation	Student	Discovery	Appstore / Androidmarket	Core subject	All subjects
Education	University	Type	Communication / News	Involvement	Medium / High

Applications: The reason for person 3 to use mobile applications is to have easy access to information that she seeks and the feeling she gets from using an application is a feeling of being easy to reach and up to date. The things that make her feel joy and pleasure with an application is when it is user friendly and easy to navigate. This is also a criterion for her to continue using the application alongside with functionality, usefulness and high quality. The reason for not using an application is that its quality is too bad, the interface and graphic are badly shaped or some other, ethical aspects. She also thinks that bad quality is tightly connected to the lack of innovativeness which might be a contributing factor to the negative side of an application.

CSR: Corporate responsibility for person 3 is a matter of specific questions such as the environment, work conditions, freedom of speech and ethics. She is quiet knowledgeable when it comes to these kind of questions and that's why she gets a positive satisfied feeling when she learns that her network operator is working actively with CSR and sustainability. The CR-work that she associates with her operator is governmental, that they look out for their employees, ethical behavior, a knowledge of what kind of environmental effect their product has. The reason for her to search for information on a company's CR is to see how they fulfill their engagements and in order to get a feeling of what she actually pays for. She also thinks that that it would bring ease to certain choices regarding products or services if she would have easy access to information on CSR. She thinks the key reason for people to contribute to the environment and the society is a genuine interest as well as a way of securing the environment for ourselves and the coming generations. Person 3 is genuinely interested and feels satisfied when contributing to a sustainable society. The way she wants to portray herself in front of other people follows these values as she wants to be seen as an aware and modern person, or in other words, a role model.

Table 9. Demographic and information persona 4

Person 4 “The technical rebellion”					
Demographic:		App usage:		CSR Aspirations:	
Gender	Man	Downloads	Weekly	Importance	Low
Age	25	Usage	Daily	Awareness	Low
Occupation	Employed	Discovery	Recommendation	Core subject	Environment
Education	Occupational training	Type	Games	Involvement	Low / Medium

Applications: Person 4 uses applications mainly for entertainment and in situations where he feels bored and got some time over, for example when travelling or commuting. When using applications he wants to experience positive feeling that makes him feel glad, as well as curiosity and thrill. Tightly coupled to this are the things that makes him feel joy and satisfaction with an application. It has to work fast, be innovative, good looking and fashionable. For him to continue using an application it has to work well without any bugs, have the latest functionalities and it has to be entertaining. Person 4 doesn't use the kind of applications that have got bad reputations or when it contains too much bugs and commercials. The thing that concerns him with mobile applications is the potentiality of getting a virus which will make the mobile crash or the potentiality of creating an addiction.

CSR: CSR is something that person 4 is not so familiar with, he thinks it is an overestimated mean of publicity. Still, although he don't know that much of his network operators' CR and sustainability work, he get a good, but skeptical, feeling knowing that they work actively with these questions. The only time he reads about a company's corporate responsibility is when he happens to come across it. He thinks a good way of getting more knowledgeable is for the company to put this information on products that he uses, although he thinks it's mostly a way getting good publicity. Moreover he thinks people contribute to the society and the environment because we been taught so from when we were young and that it actually doesn't make any difference if we contribute or not. He hasn't got a clue about what other people thinks about his engagement although, he points out, that probably tells more about them. He is only concerned with people seeing him as he is, also when it comes to his contribution to the environment and the society.

5 ANALYSIS

The analysis will draw upon the structure provided by the theoretical model presented previously. The section will be divided into three parts starting with analyzing the CSR activities which in the model is denoted input. This part takes the general opinion of CSR, Logica's capabilities and Telia's sustainability work mapping them onto content, channels, organizational and stakeholder specific factors, and communication strategies. The second part of the analysis provides a more technology specific review depicting how to cater for the input and users values and assessments of mobile application and CSR. The final section is closely connected to the second part as the aim is to analyze what consequences that arise from handling mobile application and sustainability information in specific contexts.

5.1 CSR Activity

Discussed in the beginning thesis is the definition of CSR as well as the terminology that should be used to describe the actual work towards sustainable development. As has been pointed out, the terminology used are of importance as it reflects the work. This however is in contrast, in the eye of the beholders, as the term used might incorporate a wider or thinner spectrum which relates to the company specific operations. Disregarding the discussion on what term that should be used, the practices that CSR consist of can nowadays be seen as good company practice. By identifying the sphere of influence as well as involving stakeholders together with the integration of the recognized responsibility the maximum shared value can be reached. The work done within the sustainability area is subjective and dependent on the business that the company is working in. Regarding Telia their area of responsibility is wide involving both suppliers as well as private customer. Working with sustainability will involve both short and long term cost but at the same time as it has to pay off. The output of the investment can be portrayed in many forms favorable both for the company, the consumers/stakeholders, and the issue/cause being supported.

A key aspect of working with CSR, and towards sustainability, is to communicate. Communication is something that on the other hand can be complicated as it might fuel skepticism. For Telia however with a wide range of products and services that are implicitly connected to sustainability the opportunities are vast as well. The guidelines for their corporate responsibility is dictated by TeliaSonera but with the room for their own communication adapted specifically for their national market.

5.1.1 Content

Regarding the content of CSR communication it should consider the company's impact on society and environment which implies reporting on the areas involved in. In ISO 26000, guidance on social responsibility, there are together seven core subject divided into further issues to consider. With that there are also a number of principles that need to be considered. These are important to consider as they have to match the company business path. According to the theoretical viewpoint the long-term commitments are seen as more genuine which for Telia implies a few areas where one is the environment, an area that Logica also has an advanced position when it comes to providing products and services. The environment is also an area that has the most attention since it has been on organizations agendas for a long time.

This might be explained by the fact that it is easier to measure actual numbers and the higher susceptibility, drawn from the distinct possible negative impact, among recipients. According to the sustainable brand survey (2012a) there is also an increasing demand on companies to enroll and communicate more in sustainability and especially environmental work. The easiness of conveying an environmental friendly standpoint is evident for Telia as they possess the all the vital data on their operations at the same time as they have a wide range of possible channels to choose from. Following the guidelines provided by GRI can contribute to communicating impacts and abilities of new knowledge and technology in a consistent manner which might enhance the credibility and reduce skepticism as it connects the responsibility tighter to the organizations core practice.

Regarding other areas of responsibility, TeliaSonera's work stretches over more than the environment. Although the environment might be the easiest to communicate with the ability to visualize impact making the sustainability more touchable and understandable, the ability to package communication in forms of mobile application has to be kept in mind. According to the GRI guidelines companies are encouraged to inform customers about product or services that promote responsible, efficient, cost efficient and environmentally usage. Another example that can be communicated packaged as a mobile application, that isn't coupled to the environment, is the risks associated with the use of mobile telephones while driving.

Presented as guidelines in the GRI telecommunication supplement (2003) are also clauses stating that companies should provide examples of resource efficient product or services, provide indication of scale, market size or potential savings, and disclose any estimates of indirect consequences. Including these practices into mobile application, an option is to visualize it as a way to increase the susceptibility a conveying a message that is understandable for the receivers. Although Lundén (2012) states that the increased number of users that can be reached by visualization is low, providing it as a value add-on that number can be increased. This complies with what both Bogle (2012) and Hedén (2012) stated about the low interest and willingness in paying extra for sustainable products or services.

5.1.2 Channels

A conclusion in the survey provided by sustainable brands (2012a) is that there is an increasing market demand on companies to engage more in sustainable practices and to communicate more. Another conclusion presented was that it is the exterior of the company that is the reality for the consumers which implies that not only the content of the communication but also the channels needs to be revised. Since the exterior is important for consumers a company needs to choose channels where a larger amount of people can be reached, such as social media, or communication trough product or services packaged as for example mobile applications. Packaging information as products or services can be seen as an implicit way of communicating at the same time as it useful for consumers and customers. Presenting information in CR-reports only is a traditional way of communicating but the reach is not that high which means that the message needs to be conveyed in a different form and through different channels. Within Telia however, they don't see an increasing demand or interest on sustainable products or service which has led to a limited external communication through the website, CR and annual reports only. This choice of channels is, in some extent

based on the internal concern of communicating information that people associates with negative impacts. As a way of increasing the extent of the communication TeliaSonera has now launched a mobile web application where a number of publications are published. This is a good example of using the technology in order to communicate but on the other hand the target group is still the same, namely investors. According to the theory some channels might be perceived as more credible such as the CR-report which implies that the information just has to be presented in a more interesting and understandable way in order to reach a larger target group. Reviewing mobile application in general and technologies in specific, users' (consumers) prefer native applications over web applications making the choice of mobile technology dependent on the target group. As CSR should create values for the stakeholders as well as for the company native applications might be a preferable choice as the distribution channels through application stores also is a preferable choice among customers which increases conspicuity. At the same time web applications aren't that compatible with these kinds of distribution channels strengthening the choice of native applications for consumers.

5.1.3 Organizational and Stakeholder Specific Factors

A result from the questionnaire was that almost all respondents thought it was important for companies to work with sustainability. But at the same time almost everyone was unaware of the actual work that their network operator does. The reason for this might be the lack of communication, and as Lundén (2012) states, Telia's reputation and advanced placing's in sustainability rankings might not be a direct result from communication as it is more a reflection on their well-established position on the market.

Within Telia there is an active dialogue with stakeholders regarding their CR work. The dialogue is however different depending on what questions that are discussed and with which stakeholders. There is for example, as Lundén (2012) mentions, a big different on what private and corporate customers expects and are interested in. This difference can also be found looking at the application *TeliaSonera Publication* as the target group primarily is investors. The issue support that TeliaSonera addresses, that are found in table 5, are elaborated in cooperation with stakeholders which makes the business operation connection stronger as well as it provides transparency and credibility. The variety of the five main areas of responsibility that TeliaSonera addresses are wide and all areas and practices might not be suitable communicated packaged as a mobile application. The area that are most suitable for this is *Customer and Markets* as it can be provided as a value add-on to products or services. This is based on the type of products and service that Logica offers within sustainability and the lack of interest for these kinds of topics among Telia's customers.

5.1.4 Communication Strategies

Communication strategies consist of what type of communication that is undertaken and the degree of which stakeholder are involved in dialogues. This can help create long-term relationships and to balance the business with social interest which can increase the awareness of stakeholders as well as increasing the competence of working strategically with sustainability. There is an increasing awareness and demand on sustainability work and the environment is still a priority according to sustainable brands. According to the result of the questionnaire there is also a general agreement that working with sustainability is important.

This demand and interest is however not that evident for Telia where customers are more interested in other factors, such as prices and coverage of services. As mentioned above, Telia have advanced placing's on some sustainability rankings but as Lundén (2012) states, this might not be because of their sustainability communication. Using this reputation and market position as a trustworthy and reliable company, and the environment as a noticed area together with the factors that attracts customers, a way of communicating sustainability is to present it in a way that are understandable and attractive for customers. This can be in forms of energy or cost savings provided as a value add-on which comport with Bogle (2012) and Hedén's (2012) statements that people are unwilling to pay extra for responsible product or services. Adapting a strategy like this, giving customers ability to lower costs or energy consumption might nourish the relationships as well.

The strategic and justifiable choice of focusing on the environment is in line with the knowledge and technology that Logica possesses. As there are similarities between different markets a lot of knowledge, products or services might be reused creating solutions to address the communication specific factors and the importance of incorporate it tightly with the core business. *Energy Monitoring Tool* is an example of how technology and knowledge are packaged in a smart way integrating it with the core business of the company creating value for both parties.

5.2 Application Specific Factors

Producing innovative products or services is about using new technologies in a cost efficient manner. A key aspect that Bergquist (2012) points out is that technology should conform to the users need, not the other way around. In order to adapt to these factors the right technology need to be found, and an incentivized choice is to use mobile application with 440 million mobile devices being sold worldwide in the last quarter of 2011 where smartphones accounted for 115 million. Reviewing the result from the questionnaire, mobile application also seems as a good choice communicating sustainability as 91% of the respondent had smartphones and 90% of them downloaded application at least once a month. There are often differences when it comes to providing applications directed to consumers or corporate clients. In the empirical investigation two types of applications were compared; native and web application, providing advantages and disadvantages with both. In the GIA survey (2010) it was concluded that the primary choice of native application were based on the advantages of the ability of providing a superior interface and the access to the device hardware capabilities. The choice of web application was based on ease and cost benefits of providing a single application interface accessible on multiple platforms and the advantages of direct control over own distribution. An example of using new technology is *TeliaSonera Publications* where they used HTML5 in order to conform to users need and as a way of displaying an advanced attitude when it comes to technology usage.

5.2.1 Product Features

Product features are used in order to convey a specific product character which is a description of the intended attributes of the product such as novel, interesting, useful or predictable. The challenges with mobile applications, as Svensson (2012a) stated, is to catch the user attention right away which means that the content has to be conformed to the users

need, the presentation needs to be appealing, the application has to have the right functionality in order for users to perform their intended tasks, and the interaction needs to be clear and supporting. Native and web applications can address these issues in different ways making the choice more difficult. Although with the fast development of these technologies the differences will in the future be bridged as native applications uses real-time connectivity and web applications can provide offline support and access to device hardware capabilities.

Content

The content of the product depends on what the designer puts there but in order to catch the attention of users or to make the application useful the content has to be interesting and conformed to the users' needs at the same time as it has to reflect the intended message. A product or service that is intended to communicate a company's sustainability work or a sustainable message have to be package in a way that focus on other factor besides the environment or the society as users are more interesting in factors such as prices. According to the answers from the questionnaire the content is also experienced as negative if it contain commercials and alike. An example of making the content more appealing and interesting for the users can be seen in *TeliaSonera Publications* where they extracted information from the more corporate publications and displayed it as embedded multimedia files, which according to Bogle (2012) is an upcoming trend. Another example of making the content more interesting is seen in *Logica EMO* application where users are able to see their driving style and emissions in real-time which generate opportunities for manipulation.

Looking at specific factors connected to Telia and the telecommunication industries the GRI telecommunication supplement (2003) provides guidelines on what constitutes good practices. As mobile devices are widespread and widely used the ability to reach a large number of people grows which increases the ability to affect which in turn puts focus on the content to convey a sustainable message that is understandable and adapted to the users values. The GRI guidelines advocate good practices to include links between emissions and product and services as well as for example the risks associated with the use of mobiles while driving which might be packaged as mobile applications.

Presentation

Closely connected to the content is the presentation. How the content is presented highly affects the appeal of the product. From a technology standpoint the interface, which is the exterior of the product, is affected of the choice of mobile application technology. Native applications provides better abilities to cater for design in forms of superior interfaces but on the other hand web applications based on HTML5 and CSS3 offers ways of presenting information that reminds of native applications with better usage of multimedia and pagination. *TeliaSonera Publications* uses HTML5 in this way including multimedia and better pagination. Continuing on the discussion of interfaces, the GRI (2003) guidelines states that the rapid development of telecommunication products or services adds importance of usage of common interfaces for accessories, which can be seen as a way of creating understanding and strategies for how to handle products or applications. GRI also suggests disclosing measures by providing indication of scale and potential savings which can be accomplished by using technology to visualize impacts of usage of products or services

increasing understanding and stimulation. As was seen from the result of the *EMT* which adapted color-coded visualization it increased the understanding of the impact. But in order to create an interest and commitment to otherwise uninteresting topics the packaging was of importance and a way to increase this engagement was by gamification.

Functionality

Functionality, concerning mobile applications, is also dependent on technology choices as they can provide different capabilities. As presented in the empirical investigation native applications have better access to the device hardware capabilities providing high functionality and ways to access functionality. On the other hand web applications based on HTML5 provides offline support which increases the speed of the application and an increasing access to device hardware providing some more functionalities. Web applications like these however requires class A browsers which might pose a small problem as the quality might become inferior. The choice of technology caters for user expectations of the latest functionalities as well as fast access and feedback in different degree. By providing the possibilities for user to communicate identity the application might also accommodate some users' need to portray themselves as socially or environmentally active, which is a way of explicitly calling for hedonic functions which according to the responses from the questionnaire renders in user satisfaction.

Interaction

According to the result from the questionnaire the information in an application must be presented in a useful manner making interaction easier and more understandable in everyday situations. The interaction must also be clear so that the user doesn't do something unintentionally at the same time as it conveys a safe impression as the safety aspect is of high importance according to the questionnaire. This is something that Telia can exploit as they are perceived as a trustworthy company with an advanced position on the market. Facing these expectations technology wise, native application offers high functionality which might increase interaction experience. On the other hand web applications based on HTML5, assuming class A browser, also offer the opportunity for user to interact anywhere as it provides better offline-support and connectivity. Looking at examples, *Logica EMO* provides good interaction as it offers the ability to get real-time notifications making changes possible right away. The *EMT* on the other hand intensifies interaction by offering the ability for users to participate in weakly competitions (gamification), and the access to daily feedback which can be interpreted as a way of providing stimulation.

5.2.2 Apparent Product Characteristics

The intended product features chosen by the designer might not be the features experienced by the user. The features are subjective seen from the users' perspective which means that the apparent product characters aren't always the same as the intended. The apparent product character is created by the users' themselves and is based on their personal standards and expectations. The perceived attributes are classified as either pragmatic or hedonic and comes from considering the major functions of the product. Pragmatic attribute is mainly considered to be manipulation which requires functionality and ways of accessing functionality. A product that is primarily pragmatic is considered to be an ACT-product. Hedonic attributes on

the other hand emphasizes, as described in the theoretical section, on individuals psychological well-being. Hedonic attributes are divided into stimulation, communicating identity, and provoking memories. Although it is the major functions that categorize a product as either hedonic or pragmatic it is in combination that the actual product character is shaped. A key aspect in designing products so that the intended product character, more or less becomes the apparent product character is to make the technology conform to the users' need, not the other way around. By reviewing the empirical result, and in particular the two Logica examples and the result from the questionnaire, some key factors have been identified when it comes to user expectation and standards regarding mobile applications and sustainability.

Pragmatic Attributes (ACT)

As Högenberg (2012) brings up, solutions provided as mobile applications in relations to sustainability often builds on visualizing impacts and providing data that enables the opportunity to manipulate the results. Manipulation, which is the key attribute describing a pragmatic product are often connected to software which in turn might be clear, supporting, useful, and controllable. These attributes are constantly returning when analyzing the result from the questionnaire. However they are mostly connected to the user assessments of mobile application and not in relation to CSR and sustainability attributions and values. What is required from three out of four fictive personas is functionality that enables them to assist in everyday situations. In relations to mobile applications these personas don't require any functionality that enables them to express themselves deliberately in front of others which strengthens the picture of mobile applications as a means to fulfill behavioral goals. Instead they use mobile application to retrieve information in an easy way, in order to be reachable, and to help in with everyday chores which, according to theory, is actions describing ACT-products. The summarized result from the questionnaire expressed as four personas points to the importance of applications to be useful, easy to navigate, and of good quality in order for them to feel satisfied. If the interface is of bad quality or if the application are of inferior quality the overall stimulation are affected in a negative manner.

Hedonic Attributes (SELF)

Hedonic attributes are as described above closely connected to the users' self, ideals and memories. Related to software products, hedonic attributes are for example outstanding, impressive, exciting and interesting. With mobile applications, as concluded above, being more pragmatic, hedonic attributes are still present and show themselves in forms of expressing identity and stimulating usage. There are, as Bergquist (2012) mentions, several ways of expressing identity through or with mobiles and mobile applications. It can be as easy as the physical design in itself that conveys values that the user identifies herself with. Or it can lie in the hardware that offers functionality that enables users to express themselves through applications. Identity nowadays is more dependent on culture and it is more individual than before. This fact is showed in the result from the questionnaire as several of personas states that they contribute to society and the environment for their own sake and that they don't care what others think of their commitment. For some however it is important to convey an image of themselves as being socially and environmental responsible. But as the result that rendered in persona one and four shows, expressing identity has to be highly

voluntary and should not be a predetermined choice. An example of expressing identity can be found in *Logica EMO* which offers the ability to post successes stories on social media. *Logica EMO* also offers hedonic attributes in form of stimulation as it encourage the user to improve her way of driving with real-time notifications. The daily feedback and gamification aspects of the *EMT* can also be seen as a stimulating measure as it offers potential for users to improve continuously and compete against each other. Sustainability and social and environmental responsibility is, according to the result from the questionnaire, a question of personal ideals and values, i.e. related to SELF-products. To contribute to society and being a good citizen renders in personal satisfaction which implies that (in relation to a product) hedonic attributes are explicitly called for and expected. These values and ideals can be accounted for when designing as the might evoke positive memories and attributions. Sustainability overall is an topic that is closely connected to evocation as is seen in persona four who argues that it is something that is learned from childhood. This type of evocation implies that although for instance Telia say that people aren't interested in sustainable products, there is still susceptibility among commonality. With sustainability being linked more to the individuals self, hedonic attributes are important to mobile applications intended to convey these kinds of messages. Moreover as a behavioral goal is more likely to change than individual goals the appreciation of SELF-products are more stable which means that these kind of products are more likely to be appreciated.

5.3 Output

As a second part in experiencing a product, the product character in a specific situation or context will provoke certain behavioral or emotional consequences. The consequences, which are viewed as outcomes of experience with or through technology, might be expressed judgments as either appeal or emotions and are closely linked to a specific situation. Usage mode, as the situation or context is described in the user experience model, can either be goal or action related. The usage mode is triggered by the situation itself and every product can be experienced in both states. However the product attributes (pragmatic or hedonic) will not be influenced by the mode. On the other hand, appeal and emotions depends on the context and the products momentary fit to it. In this way the usage mode becomes the moderator between the product character and consequences.

As the society become more globalized where large amounts of information can be spread in no time, one challenge that corporations stand in front of are how and what to communicate. The challenges lies in create value for the organization and its clients but at the same time attract a knowledgeable workforce. By addressing these challenges an organization that works with sustainability can generate advantages in many forms; greater awareness, attributions, loyalty, and positive consumer behavior. It also generates value for consumer, stakeholders and for the issues supported.

5.3.1 Usage Mode

The usage mode is as described above seen as the moderator between the product character and the consequences. The usage mode is divided into either goal or action mode where goal mode is about fulfilling the primary need which puts the product in second hand as a means to achieve the goal. This mode requires low arousal and high usability. With action mode on the

other hand it is the actions that decide the goal and high arousal is preferred as lack of stimulation can turn into boredom.

Seen in the personas the usage of mobile applications are connected to fulfilling specific tasks such as retrieving secondary information or for making every day chores easier. These behavioral oriented tasks resemble the criteria of goal mode which means that they use mobile application as a means to fulfill the primary goals. It is only persona four that uses mobile application primarily for entertainment purposes which is seen as action mode as the goal is to be entertained. On the other hand, looking at the responds to the open-end questions on sustainability the information seeking process is taking a more action mode approach. As the personas provide evident for, people seek information on sustainability randomly in order to get more knowledgeable about a company's commitments, to support that way of thinking, to ease their conscience, or to investigate what they are paying for. Persona four however, represents the people that are skeptical to CSR communication and doesn't actively seek information on these matters. Collectively, all personas provide evidence that most people put sustainability in second hand which complies with previous findings. They also searches information in an action mode which in turn leads to the conclusion that this type of information needs to be presented more responsively in a high arousal state providing stimulation.

5.3.2 Consequences

Moderated by the usage situation the assessment of the apparent product character leads to consequences. These consequences are judgments of the product appeal (e.g. good/bad), emotional consequences (e.g. pleasure, satisfaction) and behavioral consequences (e.g. the time spend, loyalty). These consequences are in the integrated model described as the outcome of CSR communication and are displayed as emotional and behavioral consequences connected respectively to the company, consumer, and issue/cause. They might however be, or arise as, a result of appeal, satisfaction or pleasure.

Emotional

In the empirical result describing *Logica EMO* and the *EMT*, evidence on output are clear. Offering comparable solutions might strengthen the company CSR in form of awareness or the brand as positive attribution. The issue/cause for which the solution is connected to might also get higher awareness. As mobile applications are considered to be ACT-products as they, by the personas, are used to fulfill behavioral goals, met expectations renders in satisfaction. The conclusion drawn by analyzing the results in the personas strengthens this as they state that they feel satisfaction when the applications have the functionalities needed to achieve specific tasks. To feel pleasure and joy with an application the expectations of the functionalities must be excelled which means easy to navigate and user friendly or that it satisfies the need beyond just entertainment. As an exception persona four represents people that use application primarily as a source of entertainment which means that pleasure, joy, curiosity or thrill is reached more easily. Persona four is an exception as well when it comes to susceptibility of CSR communication as he is skeptical and no emotions are triggered. On the other hand he believes that the key to get more knowledgeable and to raise more cause

awareness is for companies or organizations to provide information in or in relations to products.

As described above the interaction with technologies providing information on sustainability can be assessed as SELF-products appealing to peoples ideal and personal opinions. By analyzing the personas, most responds to knowing that a network operator works actively with sustainability are expressed as personal well-being and satisfaction. For some, the feelings towards CSR communication will render in comfort and a sense of safety (insurance). Also, the feelings of being active themselves gives a sense of self-satisfaction and pride. As an example persona three also feels satisfaction when portraying herself as a responsible person. This can be seen, in the context of providing functionality to identify oneself, as a positive attribution towards a company.

Behavioral

From the GRI guidelines under both the section of providing access and technology applications it is clear that the potential of telecommunication and the attached technology is great. Providing access is about changing people's ways of living and bridging the digital divide, whereas technology applications might result in rapid changes in consumption patterns and lifecycles. Both *Logica EMO* and the *EMT* are solutions with aims of raising the awareness and encourage change of behavior towards a more sustainable alignment. In order to convey a message that is more tangible and understandable they also provide information on the impact social and economic impact people have. From the personas, interaction with mobile applications is mostly about fulfilling the behavioral goals which renders in satisfaction. Reviewing the result from the questionnaire provides evidence that people care a lot of what other people thinks of an application. This can be interpreting as both positive and negative word of mouth. This is exemplified by persona four who puts weight on recommendations made by others. This word of mouth can also be coupled to the issue/cause and is augmented by the always online society. Other behavioral consequences extracted from the personas are a fear of getting addicted or being perceived as anti-social. Lastly, revisiting the topic of price and purchase behavior this is something that is connected to company consequences as people aren't interested in paying extra for sustainable products.

6 CONCLUSIONS

This section aims to summarize the findings from the analysis and presenting them as conclusions to the research questions posed in the introduction. More concrete a general description of the findings will be presented as a respond to the purpose of the thesis followed by specific, more detailed answers to each research question.

Adapting a strategy for CSR as a means for organizations and companies to work towards sustainability is in some context tightly connected with identifying their sphere of influence, involving stakeholders and integrating the recognized areas of responsibilities throughout the entire organizational practices. In this way the company can create as big as possible shared values for all participating stakeholders. Looking at sustainability and its connection to the company core practices, and exemplifying it with Telia there is a need to differentiate work and communication towards private and corporate clients as well as towards other stakeholders. Working with CSR and towards sustainability in the right way maximizing the shared value, the result will pay out in different forms, but this implies the right communication. As the analysis showed, Telia as an example has products and services that is implicitly connected to sustainability which intensifies the opportunities for communication. A key area for Telia is the environmental questions as it is something that they have a long history working with at the same time as the connection to the company core practices, with telecommunication as a (not so evident) carrier of sustainability, is clear which increases the credibility. The environment is also a topic that is highlighted in the society at the same time as it is easier to convert into numbers. The susceptibility among commonalty is also higher as a result of the distinction of the possible negative impact. The environmental awareness and in some sense sustainability is something that we learn from childhood which intensifies the susceptibility of communication. The majority of the respondents from the questionnaire thought that it was important for companies to work with sustainability questions but at the same time as the awareness of the actual work was close to nonexistent. The low awareness together with the age distribution of the questionnaire and the communication abilities today puts the spotlight on mobile applications as a prominent channel.

RQ1: Is mobile applications a suitable medium for communicating CSR and sustainability initiatives? What limitations, if any, are present?

In general there is a challenge with communication for an IT-intense company as a large extent of the general public, clients and other stakeholders doesn't see IT as a carrier of sustainability. There is also a challenge with communication as there might be a concern of negative associations and an intensified scrutiny. A conclusion is on the other hand that as it is the exterior of a company that is the customers reality there is a necessity to choose a communication channel with high visibility, credibility and reach, and mobile applications is such a channel. Looking at the market growth and sales number of mobile devices and smart phones, mobile application seems to be an appropriate medium but there are difficulties as not all content (regarding CSR) are suitable being presented in that manner. A conclusion drawn is that it is essential to adapt to consumers and customers' needs and interests, which are both low, and provide sustainability as a value add-on visualized in an attractive manner.

Revisiting TeliaSonera Publications, this application is a way of increasing communication and reach with the same content as in the annual reports. This is however a presentation aimed at investors primarily and doesn't appeal to regular consumers. Getting people to start, and continue to use applications is another challenge which is bridged by adapting the content and presentation after their needs. Looking at the two types of mobile application technologies investigated in this thesis they offer the abilities for companies to adapt to these needs as well as the company prerequisites. More specific native applications seem to be a more suitable technology for communication with customers. Overall the potential with telecommunications and mobile applications are vast as the technologies might encourage people to change their way of living towards sustainability as well as it is a response to the rapid change in consumption. In conclusion mobile applications is a suitable media communicating sustainability although with some limitations being present.

RQ2: What are the most vital elements when it comes to CSR and sustainable products or services and how can these be incorporated in the design of mobile applications?

When it comes to sustainability a key factor is to convey a message in a way that is understandable to people, both socially and environmentally as well as economically. The information, in mobile applications, has to be presented in applicable and useful way so that the interaction becomes easier which makes the product more attractive. The content must also be presented in alignment with user interests and values which, as concluded, means adapting a more implicit communication strategy and focusing on applications as products used to fulfill behavioral goals. By adapting the different application technologies and packaging them in different ways the possible usage situations can be conformed to the wider audience by providing the right functionalities. In this way the focus is on aspects more alluring than sustainability as the potentiality for products or services regarding this topic increases if they convey attributes more attractive such as price, cost savings or better services as well as quality and usefulness. Based on the usage situations for mobile applications there are no need to provide functions that allows people to express themselves advantageously in front of other. However, regarding sustainability there is an increasing individuality and for some a need and desire to express their own actions in this matter. This calls for functionalities, but as concluded it has to be voluntary and not imposed. Within the telecommunication sector which is IT intense, guidelines states that visualization is important and can be adapted in more than one sense. By visualization of cost savings, indirect effects or possible impacts the susceptibility can increase making sustainability more understandable. Visualization in itself might not increase the susceptibility, but by providing it as a value add-on for free might strengthen the intended message, together with an increasing possibility to manipulate the result. Lastly applications are used to carry out goal based tasks which means that there is a need to pin down the information in a structured and stimulating way, as exemplified in for example Logica EMO. The result also shows that people, if they search, searches information on sustainability or company responsibility in a random manner not connected to a specific purpose. This once again implies that sustainable information needs to be pinned down in the same structured and goal based way to create stimulation and aroused feelings and in turn continued usage.

RQ3: In what ways can user values be accommodated for when designing mobile applications intended to convey a sustainable message?

There is an increasing demand on corporations to communicate CSR more, and with the above conclusions mobile applications might cater for this demand. A key aspect that is of vital importance is to make the technology conform to the users' need, not the other way around. For a user to feel satisfied and pleased with an application it has to be easy to navigate and user friendly. The two application technologies investigated provides functionalities and ways of accessing functionalities in order to fulfill these values. They also come with advantages satisfying the needs of the messenger. A way of making products and otherwise uninteresting sustainability information more appealing is to present the content as embedded multimedia files. Another way of creating stimulation is by providing feedback and in turn the ability to manipulate the results which is an important aspect of mobile applications. Packaging the applications through gamification is also a promising way of increasing the user engagement and interest. In conclusion, real time notifications (feedback) and gamification increases the stimulation, interest, engagement and the ability to manipulate which affects the usage in a positive manner. As well as fulfilling the users' needs, the exemplified solutions provide functionalities which makes it possible to communicate identity. Expressing identity can be done in many forms with mobile devices and applications and what's important is to include a mixture of both pragmatic and hedonic attributes since sustainability are more coupled to personal values and ideals and applications are primarily pragmatic. By providing the ability to express identity and attribution people feel satisfied.

RQ4: In what ways can mobile applications augment the communication of an organizations' CSR and sustainability initiatives and the outcome of these?

With an ever increasing globalization come challenges connected to sustainable development and communication of sustainability work. By addressing these challenges the benefits might be great, not only for the company. The right communication can create additional value that comes in many forms. Right communication implies choosing the right channels where mobile applications are one that is prominent. With mobile applications the ability to reach more people increases as well as it might strengthen company CSR, brand and the supported cause. Communicating sustainability through products might also increase the awareness among skeptics at the same time as it encourage a more sustainable way of living and raises the understanding for the cause. Considering the telecommunication sector in general there are opportunities to create products and services that reduce the negative impacts and that visualize savings and impacts which benefit both the company and the consumer. Communicating for example the risks associated with mobile use and driving, or other connections between products and emission might also affect the users in a positive direction. For Telia, a key area to focus on would be the environment as they possess data which, through technology, attach sustainability to the core practices increasing the credibility and reducing the skepticism. Telia's position on the market as a trustworthy and reliable company can also increase the credibility in the communication as it can be seen as a respond to the anxiety of security and safety among consumers. By using new technologies a company also portrays itself as an innovative which is a desirable quality, and by making things attractive

for stakeholders an even greater value might be collected. Communicating corporate responsibility also makes consumers feel satisfaction and well-being which in turn might lead to a positive word-of-mouth creating attachment and attributions with the help of the always online society.

RQ5: How can Logica address the potential opportunities and limitations based on the capabilities they possess?

Discovered in the investigation are opportunities and limitations dealing with what areas that should, or could be communicated through mobile application, the technologies themselves and knowledge about them, and how to communicate in order to meet user and society expectations. Addressing the not so obvious connection, in the eyes of their customers, between Telia and the environment, this is an area where Logica possesses great knowledge. This is obvious when reviewing the solutions exemplified in the empirical result. Considering the different main areas that Logica provides solutions for and the different markets active in these opportunities fits the abilities possessed by Logica. Also when it comes to the mobile technologies and how to conform technology to the users' needs Logica possesses knowledge required as they offer solutions for all operating systems and addresses user experience in all steps of the development process. Lastly solutions offered by Logica have proven to strengthen company CSR and brand which is the most important and valuable aspect when communicating sustainability.

7 FINAL DISCUSSION

This section provides a final reflection of the conclusions drawn above. Moreover a brief discussion, based on Telia's CR work as well as a subjective assessment on the empirical result, will be made on producing actual applications. Accompanied with that will be a reflection of user awareness in real life situations. Concluding this section, some suggestions on future investigation are posed together with a list recommendation.

The result from this study is of a more general nature providing answers to questions investigating the suitability and appropriateness of mobile applications as a medium for communication of sustainability. With the market trend of smartphones and mobile applications being bright there is definitely room for providing applications with a sustainability theme. However the interest and awareness for sustainability products or services is still low which makes the challenges of offering a distinguished application even harder. Therefore the application needs to be promoted and designed in an attractive manner focusing on aspects that are more understandable and closer to real life for consumers but implicitly contributing to sustainable development. Discussed in the empirical result, although maybe not that evident, are two approaches of communicating CSR coupled to mobile applications. As seen in *TeliaSonera Publications* the information or material can be adapted for presentation in application formats increasing the reach of reports, or the information can be implicitly communicated packaged as mobile applications more appropriate for everyday usage situations, as exemplified by the *EMT*. These two types symbolize the difference in intended target groups. As CR reports are found uninteresting for regular people, publishing them in application formats is a way of reaching investors and corporate clients, and perhaps some genuinely interested consumers. However, attracting consumers and customers calls for a different approach similar to the one in the *EMT*. But as mobile applications often are used to perform fast tasks repeatedly there is a need to find application areas that combine this with company sustainability operations discussed above. As TeliaSonera have already launched an application with the purpose of increasing the reach of corporate information, and with Telia being the company's exterior towards the Swedish national market, a justifiable choice would be to increase communication towards customers and perhaps corporate customers. Revising what GRI states as good CR practices for the telecommunication sector and merging it with the postulations above, the possible application areas might be narrowed down. With Telia being a company within the telecommunication sector they provide products and services in excess of just telecommunication, such as broadband and cable television. This increases the possibilities of finding suitable areas of applications. Although the specific possible application areas are outside the scope of this thesis and left for future studies, some potential areas have been discussed briefly in both the empirical result and the analysis. These areas are however a subjective assessments, with some foundation in the empirical investigation, and have in no context been subjects for evaluation. Suggested application areas for future investigation and implementation:

- An application "limiting" drivers' mobile usage while driving.
- An application where customers can see and react upon electricity consumption coupled to Telia's products or services or entire household consumption.

7.1 Recommendations

Based on the empirical result, analysis, conclusions and the discussion that embodies this thesis some interesting key aspects have been prominent when it comes to future design and implementation of actual applications. Below a short and concise list of considerations are presented.

- When designing an application, packaging it, or parts of it, in the form of *Gamification* will increase user experience, interaction and engagement.
- *Visualization* of the result will help to increase understandability of the actual savings of reduced impacts as well as it increases stimulation by letting the user see the progress.
- *Manipulation* in the form of feedback and the ability to react upon the result has been identified as a key factor when it comes to mobile applications and sustainability.
- When designing an application with an intended sustainability contribution the focus has to be on the *Application Functionalities* and not on sustainability.
- Besides application functionalities the sustainability aspects has to be included as a *Value Add-on* not affecting the price situation or the actual product.
- Social media is a big part in people's lives these days and with the society becoming more individual a justifiable factor, when it comes to sustainability, to include in an application is the ability for users' to *Express Identity*, providing it has to be voluntary.
- Based on the conclusion on how people use mobile application, a suitable choice of technology would be *Native Applications*. This is also based on the possibility to provide a superior interface, an intensified user experience and the possibilities that come with the ecosystem of native applications.
- For information that is meant to be presented as text, *Web Applications* are a more suitable choice. This is based on the costs in comparison to what's expected and presented.
- With regards to the work done by Telia, the guidelines posed by non-governmental organizations and the susceptibility among commonalty, a focus on the *Environmental Aspects* of the sustainability concept is recommended.

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APPENDIX I – CSR CORE SUBJECTS

(International Organization for Standardization, 2010)

Core subject: Organizational governance
Core subject: Human rights
Issue 1: Due diligence
Issue 2: Human rights risks situations
Issue 3: Avoidance of complicity
Issue 4: Resolving grievances
Issue 5: Discrimination and vulnerable groups
Issue 6: Civil and political rights
Issue 7: Economic, social and cultural rights
Issue 8: Fundamental principles and rights at work
Core subject: Labor practices
Issue 1: Employment and employment relationships
Issue 2: Conditions of work and social protection
Issue 3: Social dialogue
Issue 4: Health and safety at work
Issue 5: Human development and training in the workplace
Core subject: The environment
Issue 1: Prevention of pollution
Issue 2: Sustainable resource use
Issue 3: Climate change mitigation and adaption
Issue 4: Protection of the environment, biodiversity and restoration of natural habitats
Core subject: Fair operating practices
Issue 1: Anti-corruption
Issue 2: Responsible political involvement
Issue 3: Fair competition
Issue 4: Promoting social responsibility in the value chain
Issue 5: Respect for property rights
Core subject: Consumer protection
Issue 1: Fair marketing, factual and unbiased information and fair contractual practices
Issue 2: Protecting consumers' health and safety
Issue 3: Sustainable consumption
Issue 4: Consumer service, support, and complaint and dispute resolution
Issue 5: Consumer data protection and privacy
Issue 6: Access to essential services
Issue 7: Education and awareness
Core subject: Community involvement and development
Issue 1: Community involvement
Issue 2: Education and culture
Issue 3: Employment creation and skills development
Issue 4: Technology development and access
Issue 5: Wealth and income creation
Issue 6: Health
Issue 7: Social investment

APPENDIX II – QUESTIONNAIRE

1. Jag är? *

Man
Kvinna

2. Ålder? *

<20
21-30
31-40
41-50
>51

3. Huvudsaklig sysselsättning? *

Arbetssökande
Student
Anställd
Egenföretagare
Övrigt:

4. Utbildning? *

Grundskola
Gymnasium
Högskola/Universitet
Yrkesutbildning
Övrigt:

5. Har du en smartphone? *

Om nej, fortsätt till fråga nr 10
Ja
Nej

6. Hur ofta laddar du ner nya appar till din telefon?

Dagligen
Någon gång i veckan
Någon gång i månaden
Någon gång om året
Aldrig

7. Hur ofta använder du de appar du har på telefonen?

Dagligen
Någon gång i veckan
Någon gång i månaden
Någon gång om året
Aldrig

8. På vilket sätt upptäcker du nya appar?

Blir rekommenderad
Via reklam
Via företagshemsidor
Via Appstore eller Androidmarket
Övrigt:

9. Vilken typ av appar använder du mest?

Spel
Hälsa och fitness
Kommunikation (sociala medier, e-post, mm.)
Media (musik, video, mm)
Nyheter och tidsskrifter
Resa
Shopping
Transport
Väder
Livsstil
Ekonomi
Sport
Övrigt:

10. Vilken är din teleoperatör? *

Telia
Telenor
Tre
Comviq
Tele2
Halebop
Övrigt:

11. Är det viktigt att ett företag har ett socialt ansvarstagande? *

Ja
Nej

12. Är du medveten om din teleoperatörs sociala ansvarstagande? *

Ja
Ja, till viss del
Nej

13. Vilken del av ett företags sociala ansvarstagande anser du vara viktigast? *

Mänskliga rättigheter
Arbetsförhållanden
Miljö
Goda verksamhetsmetoder
Konsumetfrågor
Samhällsengagemang och utveckling

Del 2

14. Jag använder mobilappar främst för att...
15. En situation då jag absolut använder en nedladdad app är...
16. Känslorna som en app kan få mig att känna...
17. Det som får mig att känna nöje och belåtenhet med en app är...
18. För att jag i längden ska fortsätta att använda en mobilapp...
19. Jag använder inte en speciell typ av app(ar) på grund av...
20. En farhåga med mobilappar kan vara...
21. Socialt ansvarstagande är i min mening...
22. Känslan av att veta att min teleoperatör arbetar aktivt med frågor som rör socialt ansvarstagande...
23. Jag letar efter ett företags sociala ansvarstagande för att...
24. Att ha tillgång till lättåtkomlig information om ett företags sociala ansvarstagande...
25. Det ansvarstagande jag förknippar med min teleoperatör är...
26. Anledningen till att människor bidrar till samhälle och miljö är...
27. Då jag bidrar till samhälle och miljö känner jag...
28. Vad andra människor tycker om mitt miljö- och samhällsengagemang...
29. När det gäller miljö- och samhällsfrågor är det viktigt att andra människor ser mig som...

APPENDIX III - Summary of multiple choice questions from the questionnaire

1. Kön	Quantity	Percent
Man	17	51%
Kvinna	16	49%
Totalt	33	100%

2. Ålder?		
<20	0	0%
21-30	27	82%
31-40	2	6%
41-50	3	9%
>50	1	3%
Totalt	33	100%

3. Huvudsaklig sysselsättning?		
Arbetssökande	0	0%
Student	18	55%
Anställd	14	42%
Egenföretagare	1	3%
Övrigt	0	0%
Totalt	33	100%

4. Utbildning?		
Grundskola	0	0%
Gymnasium?	3	9%
Högskola/Universitet	25	76%
Yrkesutbildning	5	15%
Övrigt	0	0%
Totalt	33	100%

5. Har du en smartphone?		
Ja	31	91%
Nej	2	9%
Totalt	33	100%

6. Hur ofta laddar du hem nya appar till din telefon?		
Dagligen	0	0%
Någon gång i veckan	11	35%
Någon gång i månaden	17	55%
Någon gång om året	2	7%
Aldrig	1	3%
Totalt	31	100%

7. Hur ofta använder du de appar du har på telefonen?		
Dagligen	22	71%
Någon gång i veckan	7	23%
Någon gång i månaden	2	6%
Någon gång om året	0	0%
Aldrig	0	0%
Totalt	31	100%

8. På vilket sätt upptäcker du nya appar?		
Blir rekommenderad	11	36%
Via reklam	0	0%
Via företagshemsidor	0	0%
Via Appstore eller Androidmarket	19	61%
Övrigt	1	3%
Totalt	31	100%

9. Vilken typ av appar använder du mest?		
Spel	8	26%
Hälsa och fitness	3	11%
Kommunikation	14	45%
Media	2	6%
Nyheter och tidsskrifter	2	6%
Resa	0	0%
Shopping	0	0%
Transport	0	0%
Väder	0	0%
Livsstil	0	0%
Ekonomi	1	3%
Sport	1	3%
Övrigt	0	0%
Totalt	31	100%

10. Vilken är din teleoperatör?		
Telia	15	46%
Telenor	2	6%
Tre	6	18%
Comviq	0	0%
Tele2	7	21%
Halebop	3	9%
Övrigt	0	0%
Totalt	33	100%

11. Är det viktigt att ett företag tar ett socialt ansvarstagande		
Ja	30	91%
Nej	3	9%
Totalt	33	100%

12. Är du medveten om din teleoperatörs sociala ansvarstagande?		
Ja	1	3%
Ja, till viss del	6	18%
Nej	26	79%
Totalt	33	100%

13. Vilken del av ett företags sociala ansvarstagande anser du vara viktigast?		
Mänskliga rättigheter	12	36%
Arbetsförhållanden	7	21%
Miljö	4	12%
Goda verksamhetsmetoder	1	3%
Konsumentfrågor	5	16%
Samhällsengagemang och utveckling	4	12%
Totalt	33	100%

APPENDIX IV - Categorization of the open end questions from the survey

Sentence	Answer	Grouping of answers	Identified basic values
14. Jag använder mobilappar främst för att...	det underlättar i livet det underlättar dagliga livet underlätta vardagen Underlätta vardagen snabba upp mitt liv underlätta något	underlätta vardagen	Generella och sociala värderingar
	hålla mig uppdaterad hålla mig á jour med jobbet få tillgång till information information lätt komma åt den info jag behöver Uppdatera mig själv Få reda på saker komma åt det jag söker snabbt och enkelt	Ha lätt tillgång till information	Stimulering och epistemiska värderingar (att hålla sig uppdaterad, informationssök)
	kolla mejl eller resetider Ersätta pc, sociala medier, musik, video, spel, surfa, navigation, fitness få saker gjorda Läsa PDF filer, spel, manualer etc. lyssna på musik, spela spel och kolla nyheter kommunicera sociala medier spela, nyheter surfa	Hjälpa till med praktikaliteter	Generella och sociala värderingar
	Underhålla mig själv fördriva tiden de roar mig det är bekvämt ha roligt spela spel Det är roligt det är kul	Underhålla mig själv	Emotionella värderingar (bekvämlighet, underhållning)
15. En situation då jag absolut använder en nedladdad app...	När jag är uttråkad när jag har tråkigt tid över när jag har dödtid när jag har tråkigt När jag är lite uttråkad	är när jag vill fördriva tid och underhålla mig själv	Generella och emotionella värderingar (tidfördriv, underhållning)

	Tågresor när jag cyklar till skolan		
	för att kolla kontosaldo Swedbank när jag ska kolla min internetbank vill kolla avgångstider Kolla tidtabellen för att skicka iväg ett sms för bussbiljett kolla vilken buss, när den går etc. när man reser med SL Resor på resande fot När jag reser spelar jag, eller läser. Använder en hel del i jobbet för att läsa manualer, dokument etc. när jag behöver komma åt skolmaterial eller för att snabbt kolla sociala medier så som facebook eller instagram då jag är vilse i en stad då jag tycker alternativet är komplicerat	är för att underlätta vardagen genom att använda appar som alternativa informationskällor	Generella och sociala värderingar
	Navigering, fitness Träning När jag läser nyheter när jag ska kolla vädret väder när jag lyssnar på musik när jag ska lyssna på musik kolla facebook vid mörker - tar hjälp av nedladdad "ficklampa".	Är då jag vill komplettera mig själv med sekundär information och underhålla mig själv	Generella och sociala värderingar (information),
	ingen situation vet ej	Är svårt att säga	Generella värderingar
16. Känslorna som en app kan få mig att känna...	Frustration frustration ilska. inget speciellt, irritation om det inte fungerar	Är irritation och frustration bl.a. då de inte fungerar	Emotionella värderingar (frustration, ilska, irritation)

	inte mycket inget särskilt inte så mycket känslor är inget speciellt Har inga direkta känslor till en app	Är inget speciellt	Generella värderingar
	lättillgängligt up-to date snabba svar upplyst. tillgänglig Lättnad	Är en känsla av att vara tillgänglig och uppdaterad	Sociala värderingar (kontroll), emotionella värderingar (lättnad)
	Glad glad glad avslappnad, kul avslappnad Imponerad coolt, smart, bekvämt nöjd frihet mindre rastlös	Är positiva känslor som får mig att bli glad	Emotionella värderingar
	nyfikenhet, glädje Nyfikenhet spänning Spänning effektivitet	Är nyfikenhet och spänning	Stimulering (nyfikenhet, spänning, effektivitet)
17. Det som får mig att känna nöje och belåtenhet med en app...	När den är gratis pris vs nyttan Bra nedladdning	Är när nyttan möter priset	Generella och sociala värderingar
	Att den fungerar som den ska, utan att "hänga sig" eller ta allt för lång tid på sig. när den fungerar som den ska den funkar som det står att den ska göra att den fungerar som den ska Att den fungerar som jag vill och är buggfri och framför allt snabb om den fungerar som jag tycker att den ska	Är när den fungerar som förväntat utan buggar	Generella värderingar, säkerhetsrelaterade värderingar (igenkännande av funktioner och utformning), emotionella värderingar (frustration)

	den fungerar snabbt Snabb, enkel och funkar snabbhet snabba svar	Är när den är snabb	Generella värderingar
	enkelhet, snygg design och att den funkar bra Snabbt, snyggt och enkelt gränssnitt Om den är innovativ men samtidigt enkel och stilren.	Är när den är snygg, stilren och innovativ	Sociala värderingar, Traditionella värderingar (kulturella ideal)
	när den är lättöverskådlig god användarvänlighet och funktionalitet lättanvänd och lätt att komma igång med Om det är lätt att komma åt det man söker med appen. T.ex. så finns det en app som berättar om det kommer upp lediga studentbostäder. När man öppnar appen är det första som kommer upp. Då ser man direkt det man söker. smidighet enkel setup enkelhet, fyller ett syfte, tar till vara på mobilens styrkor såsom tillgänglighet, konstant uppkoppling mot nätet eller kamerafunktionen	Är när den är användarvänlig och när man lätt kan navigera sig rätt	Säkerhetsrelaterade värderingar (användarvänlighet)
	om den är rolig Den levererar efter förväntningar fyller ett behov, mer än nöjesbehov utan något som underlättar vardagen. när goda nyheter når mig framgång att den är underhållande att den tillfredsställer det behov jag har för stunden	Är om den är rolig men även fyller mina behov också utöver nöjesbehoven	Emotionella värderingar (underhållande), utveckling och självbejakelse (fyller personliga behov)

18. För att jag i längden ska fortsätta använda en mobilapp...	Måste den vara gratis. krävs att de är gratis	Måste den vara gratis	Generella och sociala värderingar
	Funktera utan buggar. Ska den fungera så måste den fungera bra är att den är stabil och fungerar som den ska	Ska den fungera bra utan buggar	Säkerhetsrelaterade värderingar (buggar)
	får den absolut inte bli sämre ska den uppdateras kontinuerligt Enkel att använda och uppdatera. Bör den uppdateras till det senaste ska den uppdateras med ny funktionalitet Den fungerar och uppdateras ska den fungera och aldrig kännas gammal	Måste den vara uppdaterad med de senaste funktionerna	Stimulering (känsla av nytt)
	vara till någon form av nytta och uppdaterad nytta Inom kort kommer den absolut största delen av alla nativeappar att ersättas av nätbaserade appar. Dessa måste ha snabb uppkoppling mot nätet, ev. 4G för att kunna fungera tillfredsställande. Det allra viktigaste är att appen fyller ett behov som användaren inte kan tillfredsställa på annat sätt. använder den till nytta	Måste den tillföra en nytta	Generella och sociala värderingar
	enkel Snabb, enkel och funkar ska den vara enkel och fungera bra funktionell Bra funktion	Ska den vara snabb, enkel och funktionell	Generella värderingar

	<p>Så krävs att den är smidig och lätt att använda. Samt uppfyller sina övriga syften</p> <p>krävs en lätt åtkomst fungera i vardagliga situationer</p> <p>är att den är användbar</p>	Ska den vara användarvänlig och fungera i vardagliga situationer	Säkerhetsrelaterade värderingar (användarvänlighet)
	Kvalité	Måste den vara av kvalité	Generella och sociala värderingar
	att den inte tråkar ut mig	Krävs en underhållningsfaktor	Emotionella värderingar (underhållning)
19. Jag använder inte en speciell typ av app(ar) på grund av...	<p>att de vill ha för mycket åtkomst eller lägga ut saker automatiskt på sociala medier</p> <p>Då de samlar in en massa onödig information om mig som kan komma till att användas på fel sätt</p> <p>att den vill ha för mycket information av mig och vill posta allt på Facebook</p> <p>dåligt lagringsutrymme på mobilen, spelar inte så mycket och vill inte att alla ska komma åt min information</p>	att den begär information som jag inte vill lämna ut samt att vill att jag ska posta allt på sociala medier	Säkerhetsrelaterade värderingar (personlig information), Sociala värderingar
	<p>meningslösa</p> <p>uppfyller ingen funktion</p> <p>fyller inte mina behov</p> <p>att den är opraktisk</p> <p>att jag inte känt något behov</p> <p>ointresse</p> <p>ointresse</p>	Att den inte uppfyller mina eller egentligen inga behov	Generella värderingar
	<p>fyller inget syfte,</p> <p>ointresse, många appar är dessutom av dålig kvalité, halvdanna interface och dålig uppdatering är två saker som får mig att avstå från att använda appen</p> <p>deras dåliga grafik osv</p>	Kvalitén på den. det ibland dåligt utformade interfacet samt den dåliga grafiken	Generella och säkerhetsrelaterade värderingar (användbarhet)

	de kostar pengar kostar pengar att de kostar pengar jag betalar inte för dem då jag ännu inte hittat en app jag använder en längre tid	Att den kostar pengar	Generella och sociala värderingar
	Att man kan råka köpa något onödigt sega, fel när man loggar in Foto för att dom sällan är så bra För mkt reklam	Reklam och en risk att göra nått man inte menar att göra	Säkerhetsrelaterade värderingar (risker, buggar)
	Dåliga omdömen	Någon har gett den dåliga omdömen	Sociala värderingar
	Jag tycker att det blir osocialt att sitta och pilla på telefonen. Jag har inte många spelappar.	Det är osocialt	Sociala värderingar
	Etiska skäl	Etiska aspekter	Universella värderingar
20. En farhåga med mobilappar kan vara...	Virus virus eller liknande att mobilen kraschar	att de innehåller virus och på det sättet havererar	Säkerhetsrelaterade värderingar
	Vad som händer med informationen den sitter inne på Att de har kontroll över delar av telefonen/tillgång till information Informationsläckor Användandet av personlig data på telefonen info insamlade Att det ska delas info från den Säkerhet, dvs. om min personliga info kan läcka ut kolla min nätverkstrafik När den kollar upp ens Att obehöriga får tillgång till privat information utskickad data	Någon får tillgång till personlig information om mig och mitt användande	Säkerhetsrelaterade och sociala värderingar (personlig information)

	att lämna ut personlig information Att folk i framtiden inte lär sig grundläggande kunskaper så som att hitta en adress utan GPS, lära sig sökläsa i dokument etc.		
	att de är en säkerhetsläcka att jag inte vet om den är säker eller inte	Att det innehåller säkerhetsläckor	Säkerhetsrelaterade värderingar
	Beroende framkallning att de åter upp tiden Att man skaffar fler än vad som är nödvändigt	De skapar ett beroende	Säkerhetsrelaterade och sociala värderingar
	att de kostar pengar fast man inte informeras om detta dolda kostnader	Dolda kostnader	Traditionella och säkerhetsrelaterade värderingar
	Att man kan fastna oanvändbara	Dåligt utformande vilket ger problem	Säkerhetsrelaterade värderingar
	enkelspåriga rutiner med skygglappar för nytänk	Brist på nytänkande och nyskapande idéer	Stimulering (brist på stimulering)
21. Socialt ansvarstagande är i min mening...	viktigt viktigt viktigt bra Självklart	Bra och självklart samtidigt som det är en viktig fråga	Generella och universella värderingar
	se till att alla mår bra bry sig hjälpa samhället på något plan	Är att bry sig och hjälpa samhället	Generella och universella värderingar
	miljöansvar, bra arbetsförhållanden Bra arbetsvillkor i varje led, även från leverantörer att ett företag tar ansvar för sin påverkan på sin direkta och utökade omgivning miljö och arbetsvillkor	En fråga om miljö och arbetsvillkor	Universella värderingar (miljö och arbetsförhållanden)

	för de anställda och dess familjer tar hand om samhället runt arbetarna		
	Att verka för en hållbar socieekonomist samhälle. långvarig symbios mellan företag och dess samhällen Ansaret att sträva efter ett välfungerande samhälle.	Långsiktigt arbete mot ett hållbart samhälle	Universella värderingar
	Att främja yttrandefrihet	Att främja yttrandefrihet	Universella värderingar
	god medborgare	Att vara en god medborgare	Universella värderingar och utveckling
	En stor fråga	En stor fråga	Generella värderingar
	Överskattad PR	Överskattad PR	Säkerhetsrelaterade värderingar
	Se till så att informationen en app samlar på sig inte används på fel sätt	Att se till så inte personlig information används på fel sätt	Säkerhetsrelaterade värderingar (personlig information)
22. känslorna av att veta att min teleoperatör arbetar aktivt med frågor som rör socialt ansvarstagande...	Bra Vore bra! är väl bra känns bra Kul torde vara positivt Är positivt är att det skulle vara positivt	Är positiva då det känns bra	Emotionella värderingar (måttligt positiva)
	gör mig glad skulle vara otroligt positiv är bra och tillfredsställande otroligt viktigt	Är mycket positiva och tillfredsställande	Emotionella värderingar (mycket positiva, tillfredsställelse)

	skulle göra att det känns som jag har gjort rätt val av operatör Känns betryggande Är tryggt trygghet	Är känsla av trygghet	Sociala (identifiering) och säkerhetsrelaterade värderingar (trygghet)
	Bra men räddar inte världen lite bra, men bryr mig egentligen inte	Bra, men lite skeptiskt är jag	Emotionella och sociala värderingar
	dålig koll	Att jag inte har koll	Generella och sociala värderingar
23. Jag letar efter ett företags sociala ansvarstagande för att...	stilla dåligt samvete	Stilla mitt dåliga samvete	Sociala och emotionella värderingar
	det är kul att veta det är bra gynna det tänket det är viktigt veta mer veta vad de gör	Det är kul att veta samtidigt som jag vill gynna det tänket	Emotionella värderingar (roligt, kul), Utveckling (informera sig)
	veta vad jag betalar för upplysa mig om hur företaget tar sitt ansvar Se till att investera i företag som delar mina åsikter veta att de tar sitt ansvar Jag är intresserad hur de står till svars för frågan det är viktigt att de inte bara utnyttjar sina arbetare särskilja de företag som är medvetna om vad som är viktigt	Veta vad jag betalar för samt för att se hur de uppfyller sina åtaganden	Sociala värderingar (identifiering), Utveckling (upplysning och uppföljning)
	jag ska må bra av att vara kund se hur det sociala ansvarstagandet ev. påverkar mig och mina kära trygg användning	För att jag och mina anhängare ska må bra och känna oss trygga	Emotionella värderingar (välmående), säkerhetsrelaterade värderingar (hälsa)
	Det gör jag ej det råkar stå någonstans	Råkar läsa det någonstans	Generella värderingar

	<p>Samma engagemang borde synas även i deras produkter</p>	<p>På produkter där det också borde vara deklarerat</p>	<p>Traditionella värderingar (informera kunden)</p>
<p>24. Att ha lättåtkomlig information om ett företags sociala ansvarstaganden...</p>	<p>vore bra är bra bra verkar bra är positivt skulle vara jättebra</p>	<p>Vore bra att ha</p>	<p>Generella värderingar</p>
	<p>är viktigt viktigt nödvändigt anser jag vara en skyldighet som företaget har</p>	<p>Är viktigt om inte nödvändigt</p>	<p>Sociala och traditionella värderingar (respekt för kunden, skyldighet)</p>
	<p>skulle underlätta i vissa val Är önskvärd ifall någon vill komma åt det underlättar. Underlättar för mig som konsument gör det enklare att välja företag om produkten är likvärdig</p>	<p>Skulle underlätta i vissa val av företag eller produkt</p>	<p>Sociala värderingar</p>
	<p>är bra men inte nödvändigt, det handlar väl om goodwill och marknadsföring i slutändan ändå är alltid bra. Jag tror inte att så många läser dem men de är bra att ha där ändå är bra men kanske inte nödvändigt i app-form. Mer en flik på hemsidan kanske.</p>	<p>Är bra men den läses nog inte tillräckligt och handlar ibland om marknadsföring</p>	<p>Generella och sociala värderingar (skepticism)</p>
	<p>inte så nödvändigt för mig är inte så viktigt</p>	<p>Är inte speciellt viktigt</p>	<p>Generella värderingar</p>
<p>25. Det ansvarstagande jag förknippar med min teleoperatör...</p>	<p>inget inget alls noll. inget för tillfället inget särskilt mycket litet</p>	<p>Är inget alls</p>	<p>Generella värderingar</p>

	vet inte vet ej ingen aning lite oklart oklart. (Jag har jobbtelefon och styr inte själv över mitt abonnemang) Helt okej tror jag	Är lite oklart, jag vet inte vad de gör	Generella värderingar
	Väldig bra ganska bra	Är väldigt bra arbete	Generella och sociala värderingar
	Statligt ansvar	Är statligt arbete	Generella och sociala värderingar (associering)
	att de tar vinst och hjälper sina anställda lika villkor för alla	Att de värnar som sina anställda	Traditionella och universella värderingar (jämförelse)
	etik	Etiskt uppförande	Universella värderingar
	miljöpåverkan är prio ett, att utlovad funktionalitet/tjänst levereras	Är att de tänker på sin miljöpåverkan och att deras produkter levererar det som utlovats	Universella och generella värderingar
26. Anledningen till att människor bidrar till samhälle och miljö är...	sitt eget välbefinnande För att göra rätt för sig för att känna sig delaktiga att de vinner någonting själva på det även om de inte alltid vill inse det	för sin egen skull och för att känna sig delaktiga	Utveckling och självbejakelse (eget välbefinnande), sociala värderingar
	lätta sitt samvete samvete, moral de tror de gör skillnad och får bättre samveten	för att lätta sitt eget samvete	Utveckling och självförverkligande
	finns inget samhälle utan människor för att det gör skillnad För att säkra framtiden att den ska bevaras för framtiden och minska co2 utsläppen för att vi alla delar på dethär samhället och är beroende av en bra miljö för fortsatt liv. framtiden	värna om samhället och miljön för oss själva och kommande generationer	Universella och sociala värderingar

	<p>ge kommande generationer en bra värld att leva i</p> <p>medvetenheten om att behovet finns för vår framtid.</p> <p>Att vi värnar om vårt samhälle för att det ska vara hållbart för oss själva och övriga.</p> <p>för att vi alla ska få det bättre</p>		
	<p>För att det är något som berör oss</p> <p>att det är viktigt och att det lyfts fram extremt mycket</p> <p>för att de verkligen behövs</p> <p>för att det gynnar alla</p> <p>för att vi alla ska få det bättre</p> <p>Att vi utgör samhället och miljön</p> <p>För en bättre miljö</p>	För att det är viktigt och det gynna alla	Sociala och universella värderingar
	<p>att de är goda medborgare</p> <p>en vilja att hjälpa sina medmänniskor</p>	För att de är goda och vill hjälpa sina medmänniskor	Traditionella och universella värderingar
	<p>att de är genuint intresserade av frågan</p> <p>Att företag gör det tror jag mer handlar om image och förtroendekapital</p>	Ett genuint intresse	Sociala värderingar
	<p>För att vi har lärt oss att vi ska</p>	För att vi har lärt oss att vi ska	Generella, sociala och traditionella värderingar
27. Då jag bidrar till samhälle och miljö känner jag...	<p>mig nyttig</p> <p>mig nyttig och glad</p> <p>mig nyttig. "God"</p> <p>mig glad</p> <p>Mig duktig</p> <p>Känns bra</p> <p>att det är väl bra</p>	Mig nyttig och duktig	Emotionella värderingar

	Nöjd mig nöjd med mig själv stolthet mig stolt mig nöjd	Mig nöjd och stolt	Emotionella värderingar, Utveckling och självförverkligande
	mig lugn och som att jag bidrar med något att jag bidrar Delaktighet hjälper till att bidra till en bra framtid att jag gör en god gärning att jag, förhoppningsvis, gör något bra.	Att jag bidrar till framtiden med en god gärning	Sociala värderingar, Utveckling och självförverkligande
	bättre som människa mig som en bättre människa mig tillfreds och glad att jag gjort en god gärning Tillfredsställelse	Mig tillfredsställd	Utveckling och självförverkligande
	bättre samvete	Att jag får bättre samvete	Emotionella värderingar, utveckling och självförverkligande
	att det egentligen inte gör någon skillnad	Att det egentligen inte gör någon skillnad	Emotionella värderingar
28. Vad andra människor tycker om mitt miljö- och samhällsengagemang...	spelar inte så stor roll spelar ingen roll bryr jag mig inte om Bryr jag mig inte om skiter jag fullständigt i obetydligt Skiter jag i spelar ingen som helst roll är inte speciellt viktigt är inte av så stor vikt känns som mindre engagerade	Bryr jag mig inte om	Sociala värderingar (identitet), utveckling och självförverkligande (oberoende av vad andra tycker)
	bryr jag mig inte särskilt mycket om, jag gör det för min egen skull är nog inte något nämnvärt. Jag är ingen aktivist precis. Mer en "man gör vad man kan" typ.	Är upp till dem, jag gör det för min egen skull	Utveckling och självförverkligande

	Berör inte mig, upp till var och en hur de ställer sig till saker och ting		
	bra tror jag Bryr jag mig om är viktigt att det är bra bra	Är att jag är bra på det	Generella och sociala värderingar
	De har nog ingen åsikt har jag ingen aning om	Har jag ingen aning om	Generella värderingar
	är att jag är mer engagerad än de flesta, som lantis i Sthlm är man mer engagerad än de flesta. att jag är solidarisk	Är att jag är mer engagerad och solidarisk än de flest	Sociala och traditionella värderingar (solidaritets)
	säger mycket om deras personlighet	Säger mer om deras personlighet	Sociala värderingar
29. När det gäller miljö- och samhällsfrågor är det viktigt att andra människor ser mig som...	ingenting, de behöver inte veta vad jag gör, jag gör det för att jag tycker det är viktigt. lagom medveten och engagerad. Jag anser inte att det är viktigt att alla vet mitt engagemang, det viktigaste är att jag själv vet och känner att jag bidrar.	Engagerad, men det viktigaste är att jag känner att jag bidrar	Sociala värderingar, utveckling och självförverkligande (en känsla av att bidra)
	Den jag är	Den jag är	Sociala värderingar
	ansvarsfull ansvarstagande ansvarsfull	En ansvarsfull person	Sociala värderingar
	att jag drar mitt strå till stacken delaktig. en som hjälper till Inte värre än någon annan att jag drar mitt strå till stacken lagom och lite självdistanserad normal bidragande till nytta	En som bidrar med det som förväntas av mig	Sociala och universella värderingar

	en förebild en förebild Förebild	En förebild	Sociala värderingar
	en person som inte är helt okunnig i frågan. Det är ju viktigt för alla att ha koll! en medveten och insatt person Insatt modern	En medveten och modern person	Sociala och universella värderingar