Designing the User Experience for Different User Needs for B2B E-Commerce

Mark Conde
Abstract

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In today’s world, more and more companies are doing business with one another electronically; this has lead many of these companies to build online web stores for their customers to make business transactions with. Many of these online stores are out of date and/or lack good user research on how to design a web store to meet the demands of their users while creating a good user experience.

This thesis provides several conceptual design ideas on how to create a better user experience that takes into account the different users who are using the Seco Tools Online Store. These ideas were developed in combination from user research and previous research into design.
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**Introduction**

As countries are continuing to grow and develop bigger and bigger, businesses are growing and developing as well. In order for business to grow they need to build relationships with other businesses from all over the world to gain a competitive advantage over their competitors. When two businesses make transactions with one another is called a Business-to-Business (B2B) transaction (Lucking-Reiley & Spulber, 2001). According to Forrester Research, which is an independent technology and market research company have stated that in “2013 B2C e-commerce will generate $252 billion in revenue. In the same time period, B2B e-commerce is estimated to generate $559 billion in revenue” (Hoar, Evans, & Johnson, 2012). As you can see B2B e-commerce is more than twice the size for opportunity than B2C. Forrester Research goes on to state “most B2B organizations don’t have a viable e-commerce presence yet.” This means there are a lot of opportunities for business to capitalize on this and to gain an advantage over their competitors.

![Figure 1 – Forecasted Revenue](image)

**Introduction of Seco Online Store**

The Seco Online Store (SOS) has 28,000 products globally, with three types of distribution centers, local, regional, and global. The SOS provides some images of some of the products, such as CAD drawings. The online store also display the price with some discount value and dual currency is also supported per market. The SOS is available in many countries in many parts of the world as you can see with the image below the SOS is available in the green and blue countries:
The SOS is used the most in the United States and experiences the most orders from large distributors who order the parts from SOS and then sale and distribute them again to the end consumer. The SOS has been growing in use compared to Electronic Data Interchange (EDI) and other means of ordering products, such as phoning an order or fax.
The SOS is powered by IBM WebSphere Commerce, which is an e-commerce platform to host your e-commerce solutions; IBM WebSphere Commerce has been celebrated as one of the best platforms for e-commerce solutions for many years and is always ranked amongst the top in many independent reports such as Gartner. The actual SOS technical functionality and the technology to maintain it are very complex regarding many systems to work together. For example, you need a system to fetch and retrieve CAD drawings, a different system that does translations, etc. this type of technical functionalities are out of scope for this thesis but should be noted that there are many complex systems and they all need to be working correct to provide a smooth experience for the user.

Some Customer benefits of the SOS is the fact that is a 24/7 service, so you can place orders at any day or time of the week. Some other benefits that Seco claims is that you can place orders quickly and have the order processed also quickly. Also, they claim that there is high order accuracy as there is fewer manual order processing steps.

The benefits for having an online store for Seco is the reduced process cycle time from fast order processing, reduced manual order entry, fewer manual order processing steps, and low sensitivity for changes in order volumes. A detailed description of how to use the online store is found in the ‘Current System’ section of this thesis.

**SOS Staff**

There are two distinct groups of people who work on the SOS those are local administrators who are responsible for registration of new customers, setting them up with certain display and pricing options, checking complaints or problems from customers who have issues with the SOS. Local admins usually have other roles as well, for example, marketing or sales. The second groups are
those who are not in direct talks with customers but those who help with the local administrators. This might be second line support; they help if a local admin is not able to resolve a problem. They also deal with performance and availability issues. These are also developers and project managers.

**Goal of Project**
The goal of this thesis project at Seco Tools is to design a new online store that better aligns with the different user categories and their different user needs while providing a more enjoyable user experience for those who use the online store.

**Scope of Project**
In order to successfully design a web shop to meet the needs of different users, research must be done in order to understand their needs, this includes, user interviews, observation of how users use the system, and theoretical knowledge of design and culture in general. Once you have collected the information, you need to analyze it and put it into something more meaningful; in this case it will be personas, along with user scenarios, a prototype of the web shop, and ideas/guidelines to make the web shop geared to the different user needs. This prototype will be shown to the users and tested to see if it meets their needs.

**Product Scope**
From the research done with the users and previous theoretical research, the web shop will have a better user experience for the various differ users who use the SOS.

**Problem Statement:**
The current SOS is old, in fact in technology time; it is very old 12-13 years old with the latest update seven years ago. The current system relies on users remembering abstract product numbers to locate products, which causes many users to use external aids such as a printed catalogue to find the product number in the first place. Furthermore, there is little transparency with product selection and product information. You currently need to know the exact product number in order to verify you have the correct product, and it is hard to validate that it is in fact the correct product. As other systems developed by Seco to find Seco products have different navigational structure, which may lead to user confusion if they are using them in combination to find a product. Additionally, it makes sense for Seco to upgrade to a newer online store business wise, as it can reduce cost and time by no longer having staff fill in orders manually and accidently make a mistake while entering the order. Furthermore, it can potentially help with the increase of sales and better brand recognition, which in turn, can lead you to a competitive edge over other companies as you will increase customer experience/satisfaction, not only with your SOS but, also with the sales staff now focusing more time placed on providing value to their customers. You will now also be able to use the new SOS as another sales channel to entice future customers and as a marketing tool to show off the latest and greatest in B2B e-commerce technology.

**Purpose of Study:**
The purpose of this study is to give insights into how different user needs and cultures play a role in the design of B2B e-commerce sites and how as designers can create a better user experience for them by understanding their tasks, needs and cultures.
Importance of Study:
Such a study is important because there is not much research in regards to all the different user needs, culture and the designing of a B2B e-commerce site and how if one was designed to take into account all of the different needs and cultural background how it may be designed to increase the user experience of such a site.

Methodology and Approach
In this section I will be describing the methods and the approach I took in order to do the project for this thesis. This includes interviews, user scenarios, personas, sketching and prototyping, testing, and previous information provided by Seco.

Methodology
This study takes a qualitative and more of an explorative approach in the ways we can design a better experience for different user needs for those using B2B e-commerce. Therefore, semi-structured interviews were the main means of collecting data accompanied with direct observation and note taking. Furthermore, I used previous information from Seco and from other research; I also developed personas, user scenarios, and a prototype.

Research Questions
The aim of this thesis study is to answer the following question: How do we design for different user needs for Business-to-Business (B2B) online stores to create a better user experience?

To answer this main question we first need to address the following sub-questions:

1. Who are the different Users?
2. What are the users’ backgrounds?
3. What are the user needs of these different user categories?
4. How do you design to meet these different needs of the users?
5. How do you Increase User experience in e-commerce?

Roles involved
Seco Tools AB and Uppsala University directed this Project jointly.

- Project worker: Mark Conde (Uppsala University - Thesis Worker)
- Project Supervisor: Joakim Lööv (Seco Tools AB)
- Thesis Reviewer: Iordanis Kavathatzopoulos (Uppsala University – Professor in HCI)
Approach

I used several different design approaches to this thesis project, these are discussed in depth below.

User interviews

I will be interviewing stakeholders and users of the Seco Online Store between 30mins-1hr. These interviews may be in person or over the telephone to gauge the users ‘needs in regards to a B2B web store. According to Kim Goodwin, In her book, “Designing for the Digital Age”, Goodwin claims that individual interviews are good for understanding how individuals think however, they do a poor job at minimizing the self-reporting error, and getting behavioral detail (Goodwin, 2009).

Contextual Interviews

According to the book, “Rapid Contextual design”, “Contextual Interviews are one-on-one interviews conducted in the user’s workspace that focus on observations of ongoing work” (Holtzblatt, Wendell Burns, & Wood, 2005). Therefore you go to their site and site with the user as he/she is doing there and ask questions as to why they are doing certain things in that current moment. Goodwin also discusses this method and states that is good for understanding how people behave in their actual contexts of use and why they behave as they do. Furthermore, she states that this is the best method for most circumstances. However, she does note that this method is not good for understanding market demographics.
User Scenarios and Use Cases
User scenarios are like a short story, which explains why the user may use your product or a certain part of the product; this usually includes their motivation on why they may use it. A Use case is a case where someone may use a certain feature of your online store or cases where the user may need to do something, for example, look up a product to get more information on it.

From the interviews and prior research I have reused some scenarios and use cases that Seco had already developed and created some on my own, on how customers and users of the SOS may use the system. Examples can be found in the, ‘User Scenario’ section of the Appendix of this thesis.

Personas
Personas are user archetypes that help you make design decisions and help you communicate your motivation for these decisions (Goodwin, 2009). Furthermore, Goodwin states that each persona represents a set of behavior patterns and goals, and by designing for these archetypal users, you can satisfy the needs of the broader range of people they represent (Goodwin, 2009). The creation of a persona(s) is an above all a design tool which aids with product definition. They can help you envision what users most need from a product or service.

Sketching and prototyping
I did a lot of sketching to explore and try to generate new ideas of how the SOS can be improved upon. After doing the interviews and looking through the personas and user scenarios, I started to come up with ideas and designs on how to improve the SOS, I first started with simple sketches with pen and paper that just illustrated the design idea or concept, I then went into more detailed sketching with pen and paper (these can be found in the appendix under the ‘Sketching’ section).

After sketching my ideas, I went over them and made a prototype of some of the better ideas that I had come up with. A prototype is an incomplete model of a design, prototypes are used to explore ideas, elaborate, requirements, refine specifications and test functionality (Lidwell, Holden, & Butler, 2010). I used a program called Omnigraffe along with other programs like Adobe Photoshop and Adobe Illustrator to come up with a prototype of my design ideas. These can be found in the “My Design” section of the thesis.

Testing
After the initial prototype it is important to test it to see how valid of a design the current prototype is. Testing is important for any design to succeed and should be done, however testing does take a lot of time, and due to time constrains, I was not able to test my design yet. However, I have made a testing plan, which will be handed off to Seco tools if they wish to test the design and use some of the ideas.

Previous Information from Seco:
Previous research on some users has been done by staff at Seco and will be considered and may be used. Seco has several projects ongoing regarding the online store, where they have collected customer complaints, ways to improve the store, and some things customers like about the current SOS. These projects are limited in scope and usually deal with a certain aspect of the SOS, for example, improving product search.
Culture

In this section I will discuss about the different definitions and models on how culture is defined. I will then talk about how and why culture is important for Human Computer Interaction and for design.

Culture – What is it?

As a beginning for cross-cultural research into design and different cultural needs, it will be useful to examine the theories dealing with the components and dimensions of the type of culture I will be discussing and how culture is related to Human Computer Interaction. The concept of culture is difficult to define as Kroeber and Kluckhohn (Kroeber, Kluckhohn, & Untereiner, 1952) cite over 160 definitions of culture and divided them into seven different groups:

1. Descriptive definitions with an emphasis on enumeration of content
2. Historical definitions, emphasizing social heritage or tradition
3. Normative definitions, emphasizing rules, ideals, values, and behavior
4. Psychological definitions, describing culture as a problem-solving device, emphasizing the learning process or common habits.
5. Structural definitions, emphasizing the patterns or organization of culture.
6. Generic definitions, picturing culture as a product or artifact, emphasizing ideas and symbols
7. Incomplete definitions

As their reviews were published decades ago, one can only imagine the amount of definitions that are out there today. Straub and his colleagues (Straub et al., 2002) categorized definitions of culture into three groups.

The first category is definitions based on shared values. They state that, “values are acquired early in life, mainly through the family and neighborhood and later through school. They provide us with fundamental values and assumptions about how things are. Once a value is learned, it becomes integrated into an organized system of values where each value has a relative priority. This value system is relatively stable in nature but can change over time, reflecting changes in culture as well as personal experience.” (straub et al., 2002).

The second category is based on problem solving, where they cite Kluckhohn and Leighton’s work from 1946 titled, “The Navaho”, which consists of habitual and traditional ways of thinking, feeling, and reacting that are characteristic of the ways a particular society meets its problems at a particular time.

The third category is more of a general all incorporating definition including descriptions that describe culture as a multilayer construct or as thought characterized by various dimensions. In 1996 Nancy Hoft presented a review of such models and their relevance for interface design. Ewa Callahan has written an overview of these models (Callahan, 2005):

- The Objective culture and subject culture model (Steward & Bennett, 1991), where objective culture is described as institutions and artifacts of a culture, such as its political structures, economic system, social customs, arts, crafts, and literary works. Subjective culture encompasses the psychological features of the culture, values, assumptions, and patterns of thinking (Callahan, 2005).
• The iceberg model, this metaphor is used to suggest that only 10 percent of cultural characteristics are easily visible to the observer whereas 90 percent are hidden from view. Unspoken rules are hidden beneath the surface and are easier to research than unconscious rules, which lie even deeper (Callahan, 2005)
• The pyramid model, introduced by the Dutch cultural anthropologist Hofstede (Hofstede, Cultures and Organizations: Software of the Mind, 1997) (Trompenaars, 1993), positions culture (understood as learned, not inherited, characteristics common to a specific group or category of people) midway between personality specific to individual (inherited and learned) and human nature (inherited) common to all human beings. The borderlines between personality and culture and culture and human nature are blurred. Ewa goes on to claim that, “This model is especially useful in HCI research because it encompasses individual differences among users as well as similarities based on universal, inherited characteristics” (Callahan, 2005).
• The onion model presented by Trompenaars (Trompenaars, 1993) is similar to the subjective-objective culture model. The outer layer represents objective culture, the first things we encounter when introduced to a particular culture. The middle layer defines norms and values. The core of the cultural onion represents implicit characteristics of the culture and how people adapt to their environments (Callahan, 2005).

Organizational Culture
Hofstede who did one of the most cited studies regarding organizational culture, which covered 72 national subsidiaries, 38 different occupations, 20 languages and roughly 116,000 people; he identified culture as, “the collective programming of the mind that distinguishes the members of one category of people from those of another” (Hofstede, Geert Hofstede). Hofstede came up with five dimensions of culture, power distance, and individualism vs. collectivism, gender role, uncertainty avoidance, and long- vs. short-term time orientation.

1. Power distance, or the degree of inequality among people that the population of a country considers as normal, looks at how much people accept and expect that power is distributed unequally (from relatively equal to extremely unequal).
2. Individualism, or the degree to which people in a country have learned to act as individuals rather than as members of cohesive groups such as extended loyal groups and families (from collectivist to individualist).
3. Masculinity, or the degree to which “masculine” values like assertiveness, performance, success, and competition prevail over “feminine” values like the quality of life, maintaining warm personal relationships, service, caring, and solidarity (from tender to tough).
4. Uncertainty avoidance or the degree to which people in a country prefer structured over unstructured situations and their tolerance for uncertainty, ambiguity, and diversity of approach (from relatively flexible to extremely rigid).
5. Time orientation, or the degree to which thrift and perseverance, respect for tradition, and fulfilling social expectations are valued (from long term to short term) (Hofstede, Geert Hofstede).
My Definition
These ideas on culture are more descriptive rather than definitive and as there is no final definition of culture; although most of these definitions include some type of reference to communication and behavior. For this thesis work I will be using is a definition based on Gabrielle Ford and Paula Kotze which is, “the patterns of thinking, feeling and acting that influence the way in which people communicate amongst themselves and with computers” (Ford & Kotze, 2005). However, there is a few more terms that I think need to be added, those being behave and interactive products, therefore the definitions is the patterns of thinking, feeling and acting that influence the way in which people communicate and behave amongst themselves and with computers, and interactive products. I feel the addition of behavior (to behave), and interactive products are needed because different cultures behave differently with one another and with technology.

Why Culture is Important for Design/HCI
It is important to be aware of different cultures as designers as our products can now reach markets all around the world, we need to be aware of these cultures. It can be easy to design for something you know, your culture, but it can be very hard to design for cultures that are complete opposite of yours if you know little about the culture. This takes extensive research in order to be able to design successfully for such a culture. It is all too often we as designers here the stories of how one little ‘misunderstanding’ or ‘misconception’ can ruin your design or product. For example, just the other week, Ford released a new commercial for one of their cars that was displayed in India. This commercial displayed women gagged and bound in the trunk of the car. Ford was trying to show off that there is a lot of room in the trunk but this hit a culturally sensitive spot with not only India but with others around the world, and led to several people losing their jobs at Ford and the marketing firm that they hired but also tarnished their reputation.

We know that user interfaces in different cultures vary in different ways. In these interfaces it is common for designers to present information in different ways, such as; dates, time, numbers, iconography, graphic representation and language. Understanding these definitions and models can help us understand the problems researchers and designers come across when trying to incorporate cultural dimensions in the design of a web site or interface. These models show that some characteristics of an interface are easily visible. For example, the language of the interface, the different formats of time and dates, etc. Graphical representations and other aspects, such as mental models, metaphors, and behavior, follow this. The later part being more difficult to design for and you need further research into these matters to understand how to design for these cultures you are not very aware of. As Ewa Callahan states, “Design guidelines point out the need for awareness—rather than offering ready-made solutions—and emphasize the need for consulting people native in the langue and culture for which the interface is designed” (Callahan, 2005).

Designing for Different Cultures (Globalization vs. localization)
To make a product or design a user interface that is easy to use for users of various backgrounds and or cultures there are several ways of doing so, you can ‘globalize’ or ‘localize’ it. To globalize your product (sometimes referred to as internationalization), according to the Merriam-Webster online dictionary is, “to make global, especially: to make worldwide in scope or application” (Merriam-Webster - Dictionary), so this is designing with the thought that everyone around the world may use
your product so you design it for the ‘globe’. There are lots of companies who already provide such services, and guidelines on how to make your products globalize, for example, both Microsoft and IBM have globalized products and offer design guidelines on how to design your products in a globalized way. Just to name a few examples, you need to look at such things as the different address formats around the world, and the ability to enter zip codes, as some countries do not have zip codes. IBM gives a good example regarding color, “Color is an extremely powerful attention-getting device, but be aware that the same color can have different meanings in different cultures” (IBM, UI Guidelines - Globalization). For example, yellow may imply caution in several cultures, such as the North American culture. However, in China yellow generates Yin and Yang, which implies that it is in the center of everything. To localize your product, according to the Merriam-Webster online dictionary is, “to make local: orient locally” or “to assign to or keep within a definite locally” (Merriam-Webster - Dictionary) so this is to design for a certain locale, for instance, if you are designing for a gym in Stockholm, you would research about who your users are in that locale and design for them.

**Tradeoffs of globalization and localization**

The benefit from designing with localization is access to more markets as you can better cater to their needs. However, this is can be very expensive both money wise and time wise, as you need to do a lot of research in order to understand their culture. Furthermore, just providing a localization package for a given language is a lot of work, which requires skilled translators/technical writers who are able to make the syntax viable for that culture, and then you need to be able to test it and be able to provide support for that localized product. It is also harder to maintain and update these localized products if you do not have the proper team in place to support the localized product. I believe you need to do research on your markets and see if it is economically feasible to localize a product for certain locales. If it does make sense to localize a product I would suggest doing so as in the end you will end up with a better product for their culture which will provide them to a better user experience, which in the end may lead one company or person to your website over the competitors.

For example the user interface should be in their native language and the formats should also align with their culture. For example, the beginning of the week starts on a Monday for North America and Europe; however the calendars are different as North American calendars start with Sunday while many European calendars start with Monday. Furthermore, in Saudi Arabia the weekend is on Thursday and Friday, while Saturday is the first day of the week (IBM).

**Cultural frameworks that have tried including cultural in their design process**

There have been several methods that have tried to design interactive products for different cultures, most of these using Hofstede’s five dimensions or some combination of Hofstede and other cultural models to do so. Aaron Marcus was one of the first to put together a model; the results he got were in the means of guidelines.

Marcus who used the five dimensions developed by Hofstede to come up with guidelines on how to use them when designing for different cultures. These are as follows (Marcus, 2006):
• Power distance: Interfaces that display high power distance characteristics should provide highly structured access to information, prominence should be given to leaders, security measures should be both explicit and enforced, and there should be a strong focus on authority. The opposite holds true for low power distant sites.

• Uncertainty avoidance: Interfaces that display high uncertainty avoidance characteristics should focus on the prevention of user error by providing minimal menu options, simple and descriptive help facilities, and a navigation structure that is focused on preventing users from getting lost. Colors, sounds and images should be used to reinforce the messages. In contrast, low uncertainty avoidant interfaces should encourage user exploration; provide many menu options, and use colors, sounds and images to provide additional information.

• Masculinity vs. femininity: Interfaces that are oriented towards the masculine side of this dimension should be focused on allowing for quick results for limited tasks. The navigation structure should support user exploration and control. The content should be suggestive of a challenge for the user to master something, and cater for explicit distinctions between genders and age groups. Graphics and animations should be used for utilitarian purposes. In contrast, feminine oriented interfaces should use aesthetic appeal and poetry as a way of gaining users’ attention. There is a blurring of gender roles. In particular, feminine oriented interfaces should support mutual cooperation and the exchange of ideas and support.

• Individualism vs. collectivism: Individualist interfaces should use images of materialism and consumerism to denote success, and youth, action and individuals to gain the users’ attention. The content should be focuses on personal achievement, new and unique products and concepts, and contain or encourage controversy and personal opinions. Users should not be required to provide personal information. In contrast, collectivist sites should use images of the achievement of socio-political agendas to denote success, and experienced, aged leaders and groups of people to gain the users’ attention. The content should be focused on group achievement, history and tradition, and contain official slogans while discouraging personal opinions.

• Time orientation: Short-term oriented user interfaces should be structured in a way that allows users to complete tasks quickly. Rules should be used to verify the credibility of information, and information content should be based on truth and certainty of beliefs. In contrast, long-term oriented interface navigation style and content can be more complex, as users will persevere until they gain an understanding. Long-term oriented websites should contain content that is of practical value, and can use relationships to verify the credibility of the information.

User Experience (UX)
In this section I will describe the different definitions of User experience. I will then discuss about why user experience is important for e-commerce sites with a focus on B2B e-commerce sites.

Different definitions:
As with culture there are many different definitions of user experience sometimes abbreviated UX. The design firm Nielsen and Norman group define User Experience, as "User experience" encompasses all aspects of the end-user’s interaction with the company, its services, and its
products. Nielsen and Norman state that the first requirement for a good user experience is to meet the needs of the customer or user, without concern or difficulty. The second step is simplicity and elegance, which they claim “produce products that are a joy to own, a joy to use.” They go on to state “true user experience goes far beyond giving customers what they say they want, or providing checklist features. In order to achieve high-quality user experience in a company’s offerings there must be a seamless merging of the services of multiple disciplines, including engineering, marketing, graphical and industrial design, and interface design (Nielsen & Norman, User Experience - Our Definition).

As Marc Hassenzahl defines user experience in his article titled, ”User Experience (UX): Towards an experiential perspective on product quality” as, “UX is a momentary, primarily evaluative feeling (good-bad) while interacting with a product or service” (Hassenzahl, 2008).

Lastly the ISO Definition of UX, which is “a person’s perceptions and responses that result from the use or anticipated use of a product, system or service” (ISO 9241-210).

The definition I will be using is the experience the user/customer has when they first visit the site and remain on the site to do their task, in this case it may be searching for an item, purchasing an item or checking a recent order.

We should also distinguish UX and usability. According to the definition of usability, it is a quality attribute of the UI, covering whether the system is easy to learn, efficient to use, pleasant, and so forth. Again, this is very important, and again total UX is an even broader concept (Nielsen & Norman, User Experience - Our Definition). It is important for a system to be both usable while providing a good user experience.

**The Case for Global UX**

As companies continue to expand their product into new markets and companies trying to attract the best talent they is the challenge of how to manage and work together to produce a product that will produce a good user experience for all. Whitney Quesnbery and Daniel Szuc pointed out in their book, “Global UX”, five key trends that are changing the practice of User Experience:

- The world is both smaller and larger. The Internet has changed the way we do business and how we work and communicate with one another. They claim that, “This starts with the physical network, but is mostly about new channels and devices and ways of connecting” (Quesenbery & Szuc, 2012).
- Companies are changing. In today’s world there are more global teams and products and also claim that even smaller companies are able to reach the global masses with their products, especially so for digital products which you can access over the internet. They state that the “internet is flat”. To illustrate this, they give an example of the online web shop, ETSY (esty.com) where you can make a handcraft and sale it to someone on the other side of the world, for example, someone in the United States can place an order for a piece of jewelry handmade from Israel and have it shipped to a friend in New Zealand (Quesenbery & Szuc, 2012).
- We are connected. They claim that, “We are more mobile, more connected, and more aware of people outside our immediate environment” (Quesenbery & Szuc, 2012).
• Innovation happens everywhere. Also, in today’s world new forms of innovation have emerged and powerful ways to spread these innovations has led innovation to become more accessible from anywhere.

• Thinking globally is also thinking locally. Lastly, (Quesenbery & Szuc, 2012).

Layers of culture
When working with different cultures Giles Colborne came up with a spectrum from easy to predict, to hard to predict, some of these examples are provided below:

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<thead>
<tr>
<th>Easy to Predict</th>
<th>Task</th>
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<td>Infrastrucure</td>
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<td>Language</td>
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<td>Culture</td>
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</tbody>
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<table>
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<tr>
<th>Hard to Predict</th>
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</table>

Figure 5 – Layers of Culture

• Tasks: Booking a hotel, buying a shirt—the users’ template of a task is fairly consistent from country to country. Once you know the task in country A, you’ll have a good idea how people would like to do it in country B. This is the task outside of the technology.

• Infrastructure: The infrastructure can affect users’ use of technology. For example, when using the Internet means pay-per-minute, users restrict their access: when broadband speeds are high, users are more tolerant of video and flash. Statistics on this for different countries are usually available from industry sources and economic monitoring organizations.

• Legal: A phone call to your client’s office should make you aware of legal issues such as taxes or tax exemptions, privacy laws, or accessibility regulations. These may have a profound effect on task though, such as a need for internal travel visas in Russia that makes hotel booking more complex.

• Market: Market norms can change users’ expectations of task. For instance in one market it may be the norm for cars to come packaged with lots of features, in another, cars may be basic and the features available as add-ons.

• Language: Although translations of words may appear simple, subtleties in meaning can have a profound influence. For example, on the Lexus site, German users expected “Technical specifications” to be more “engineering” than UK users who expected “performance and dimensions.”

• Culture: Everything else. Social attitudes to betting (acceptable or not), role of family, social status of roles, what is considered to be “clean,” food rituals, holidays, justice, public and
personal morality, society vs. individual, good manners, tone of voice, cultural icons, hopes and fears.

As you see some layers can be more easily predicted, while others can be very difficult, these layers take a lot of time and resources to figure out how to design accordingly. A good example about customization is, “Thinking about deep customization early makes it easier for the technical builds to be flexible enough to accommodate customization. We often decide what functional modules to include, or even swap out modules for specific markets. This might be presentation and brand, like the visual design and style or the product spokesperson, but even behaviors can be customized. For example, a summary page with a lot of alerts might be appropriate in North America, but would seem too aggressive in Japan. Both the technical module and the behavior need to be flexible” (Quesenbery & Szuc, 2012).

**User Needs and tasks**

In this section I will discuss the different kinds of user needs, such as immediate, perceived and latent user needs. I will also describe and give examples of how different users/user groups may have different core tasks.

**Different Users, Different Needs**

With different groups of users comes different needs, in the case of the SOS some users, such as customers may want to purchase an item which is their core task (discussed below), but in order to purchase the item they have a need to find the item fast and be sure that it is the correct item they are looking for. While others, such as users from the sales department may be using it as a sales channel to entice a future customer, again this would be their core task, however to do so, they need the SOS to be easy to use and aesthetically pleasing to help them make a sale, because their user need is to make sales and make sure their customers are happy. In the book User Experience Innovation, Christian Kraft distinguishes between three types of user needs, those being immediate user needs, perceived user needs, and latent user needs.

**Immediate User Needs**

These are needs that users have ‘here and now’; most users are able to imagine and articulate these needs. For example, “I want this product to improve my work performance” or “I want this product to improve the safety of my family” (Kraft, 2012). These needs are important to fill because they can change easily and rapidly.

**Perceived User Needs**

These are often superficial and created needs that users falsely believe they have a need for a certain product when they truly do not. These are often created by marketing campaigns to allure customers into thinking ‘your’ product will solve. Craft states that, “…be careful with these needs. They may set the user’s expectations too high, which can ruin both the first impression of your product and the long-term user experience” (Kraft, 2012).

**Latent User Needs**

These are user needs that the user already has but cannot imagine or articulate and needs that the user may not be aware of yet. You as the observer can identify these types of needs. To give an
example of a latent need translated into a successful product, Kraft gives the example of Hydration packs. Outdoor enthusiasts have a need for water and always had trouble carrying around large amounts of water, so they designed a way for users to carry around bags of water (Kraft, 2012). Kraft also goes on to state that “Latent needs are crucial for user experience innovation, since they can often put you one step ahead of competition (Kraft, 2012), he goes on to argue that these latent needs may give you a competitive edge.

Different User Needs, Different Core Tasks
As there is different user groups with different needs, each one of these different user groups have different core tasks (examples of core tasks provided above). A core task is a task that a large number of end users would like to perform with a specific digital product, such as a web page or device. Kraft defines it as, “…any task that users expect to be able to perform with your product” (Kraft, 2012). These core tasks can be identified from doing user research, such as observation or interviews. When you as a designer make design decisions that are not based around user needs and tasks it is like ‘shooting from the hip’ sometimes you hit the target, but often you miss it completely and this can lead to unsatisfied and the loss of customers which can further lead to a negative impact on the brand of the company.

Core tasks and User Needs Vary by Product
As previously defined core tasks and user needs are often the most desired functionalities of your digital product which you as a designer need to accommodate for. In this thesis I will be discussing what may be some core tasks or user needs for an e-commerce site. Some general user needs for an e-commerce site either B2C or B2B may be as follows:

- Need to find a gift to purchase for a birthday present
- Want to find information regarding my last purchase
- “I know what I want, and I want to purchase this item fast and easy”

The core tasks to support these user needs may be as follows:

- Finding an item/looking up information regarding an item
- Tracking an order
- Easy and fast checkout, for example Amazon’s buy in one click feature

Mental Models
A mental model is an internal scale-model representation of an external reality. It is built on the fly, from knowledge of prior experience, schema segments, perception, and problem-solving strategies. A mental model contains minimal information (Dove, Davidson, & Weltz, 1999). The definition I will be using which most HCI practitioners use is a set of beliefs about how a system works. Humans interact with systems based on these beliefs (Norman, 1988). According to this definition, this makes mental models very important in the design of digital products. Mental models are often linked to usability as user’s mental models can match and predict the actions of a product. Therefore, it is good to know the definition of usability, which according to the ISO definition, usability is, “the extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency, and satisfaction in a specified context of use” (ISO 9241). According to Dove,
user interfaces should be designed to meet the user’s natural mental model about computers, the environment, and everyday objects (Dove, Davidson, & Weltz, 1999).

**Current System**
From the interviews that I conducted I discovered that the current SOS currently acts more of an order placement system rather than an online store, this is due to in most part because most of the time the customer already knows what he wants to order before he/she logs into the SOS and places an order. As discussed earlier, the current SOS is used the most in the United States, and the biggest users of those are distributors.

![Figure 6 – Landing Page](image)

**Landing Page**
When you first arrive on the SOS you see the above picture, with instructions to select your location. Once you have selected your location you get this picture to log in.
As you can see, you have to log in before you can browse the store, this is for several reasons. One being that they do not want to display pricing as this can lead competitors into browsing their site and viewing their prices and making their prices a bit lower in order to try and get more customers that way. Another is that Seco wants to keep control of those who use the online store, they do not want just anyone and or business from any country to be able to place an order on the online store who have no relationship with the company. They would like to build the relationship with the person/company and see where it leads before they give access to the online store.
Once you have logged in you will see the home screen. Here you are presented with a static image that says ‘welcome’ in several languages (4). You are also presented with the shopping cart, which shows your current order, and order history (5). The shopping cart is shown almost on all screens throughout the SOS. The product navigation (1) and ‘your’ menu (2) areas are displayed on all screens along with the search column (3).

**Finding a Product on the SOS**

Currently almost all customers who use the SOS are customers who already know what they are looking to buy. For example a customer may be looking for an insert for a Milling PCD tool; they are able to find the product needed in two different search ways, the first by using the search bar in the search column (3) or by browsing for the product using the product navigation (1). As most of the products have a long combination of letters and numbers that makes up the product name, for example, ‘APHT 160408FR-M08,PCD20’, it is often the case they use the product number which is shorter and just a number, for example the same product from above has a product number of ‘92121’. This is easier to find an item but still can be difficult to remember or cumbersome to type in, and with one typo, you may find the wrong product which can lead to other issues, such as ordering the wrong product as the SOS currently does not provide much information on many of their products, or the search results showing you many different results as Seco currently has over 28,000 products. However, most users still use this method to find a product as the other method to find a product, browsing has a lot of steps and is very time consuming and can also lead to many of the same problems as being difficult to know if you have found the correct product. I will provide you with the two different options on how to find a product from the SOS, first being how to browse for a product.
Browsing for a Product and an overview of the screens within the SOS

The first step in browsing for a product from the SOS home screen (figure 8) is to choose the type of product from the product navigation (1) that includes Holemaking, Milling, Turning, Threading & Grooving, Tooling System, and Other Products. If we were to browse for a milling item we would click milling and you would be presented with the following screen:

![SOS Home Screen](image)

Figure 9 – Milling Product Page

Here we are presented with two columns, sub categories and products. We see there are Inserts, Recondition, Solid Tools, and Tools sub categories. The second step would be to select the subcategory of the product. For example, if we click on Inserts we get presented with products within the subcategory of inserts as shown:
The third step would be to find and locate the actual product if it was shown in the products column, however, most of the time you need to choose another sub category of the sub category you had already selected. Therefore we need to select a sub category of the 'Milling Inserts' sub category. These are now all the sub categories of the sub category of inserts, or the different types of inserts Seco provides for milling products. We are also now presented with a clickable breadcrumb on the top of the two columns. If we then click on one of the types of inserts we are then presented with the actual products of that type of insert:
Figure 11 – Milling Product Sub Category Selected

As you can see the subcategories have now gone away and the products are presented. Here we see the name of the product, the product number, the inventory which is Regional Distribution Center (DC)/Non-Regional DC (we later discuss DC’s), price, which can be changed to fit the country’s currency, the quantity, an order button, and page navigation at the bottom. Once you have located the product you can then click on the product name, for instance, if we then click on the first product ‘APHT 160408FR-M08,PCD20’, we get presented with (figure 12):
If an image is available it would be shown however most products do not have an image, you are also presented with the product information, the ability to add it to your cart by selected the quantity and clicking the order button. You can also add it to a ‘pre-selected list’, which is a requisition list users can make for frequently purchased items or for items for a certain type of product. If we were to add it to a new pre-selected list we would be presented with the following (figure 13):
Here we are presented with the name of the list, and whether if it is a shared or private list, as sometimes there are several accounts for the different users at a same company. You then would enter the product numbers, and the quantities, and clicks save. This list would be accessible from figure 8 in the search column by clicking the ‘pre-selected list button’. Now, the fourth step in the process would be to order the product that we have located, therefore, if we were to click the ‘order’ button on either figure 11 or figure 12, it would then be populated in your shopping cart shown in figure 8. The fifth step would be to then click the order button in the shopping cart to go on with the order. If we were to do so we would be shown the following screen (figure 14):
The Current order screen shows the item that you would like, the quantity, the real time inventory of the product a place to put your contract or promo code, the net price and total of the product. You then can remove the item or update it if you have changed the quantity on the current order screen. You then again can add it to a requisition list or you can go on and submit the order. The current address that is saved in the database is shown and you can select different addresses to ship to with the drop down menu, you can also create a new address by clicking the said button. You then would go on and choose the shipping method and other options such as purchase order number to keep track of it for your own self or to log into your own system. Once you have filled out the form and
verified your information, you would then precede to the sixth step when you click the submit order, and are presented with the Order Summary screen, as shown:

**Order Summary**

![Order Summary Table]

Here you get an overview of your order such as your shipping method and address, the product and price. You can click the previous button if you notice a problem with the order and you then get presented with the current order screen shown previously. If everything looks ok, you would then go on to the seventh step by clicking the order button and your order would be placed. You would then conclude with the last step by getting an email and seeing the order confirmation screen, shown below (figure 16):
Order Confirmation

Your order has been received and is being processed. Thank you for shopping at our store.

<table>
<thead>
<tr>
<th>Web reference number:</th>
<th>1095459</th>
</tr>
</thead>
<tbody>
<tr>
<td>Order placed:</td>
<td>4/23/13 11:38 AM</td>
</tr>
<tr>
<td>Placed by:</td>
<td>stu01 (stu01 stu01)</td>
</tr>
<tr>
<td>Client Number:</td>
<td>1039</td>
</tr>
<tr>
<td>Purchase Order Number</td>
<td>1</td>
</tr>
<tr>
<td>Shipping method:</td>
<td>Default</td>
</tr>
<tr>
<td>SHIPPING ADDRESS</td>
<td>Test us stu01 stu01 stu01 stu01, MI stu01 United States Phone number stu01 Fax number stu01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ITEM/DESCRIPTION</th>
<th>Contract / Promo code</th>
<th>QTY</th>
<th>EACH Net</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>APHT 160408FR-M08.PCD20 Product number/EDP #: 92121</td>
<td></td>
<td>1</td>
<td>$136.00</td>
<td>$136.00</td>
</tr>
</tbody>
</table>

Figure 16 – Order Confirmation

In this screen you see a message stating that your order is being processed, and a thank you message. You are also presented with an overview of your order such as address and product information.

Searching for an item

Now that we have gotten an overview of the screens in the process of placing an order I will discuss about how you would use the SOS to search for an item. Again, once you have already logged in and are at the home screen of the SOS, you would then use the search column as show in figure 8 and enter the product in the search box and click the ‘go’ button, you will then be presented with the search results page (figure 17):
In this case I was able to find the product with one search as I knew and entered the product number in correctly. From here you have the same options as to add it to a pre-selected list or to order the product, to proceed with the order process it is the same steps from step 3 described in how to browse for an item in the SOS

Other Screens
Now that you went through the process of browsing through the product navigation (figure 3), and searching for an item on the SOS to place an order, I will now discuss about the ‘your’ menu as shown in figure 3, and the screens that are presented when clicking the different tabs, here we see a home, current order, order status, account, help and logoff menu tabs. If we click the home menu item we are brought to the home screen of the SOS (figure 8). If we click on the current order tab we are presented with the current order screen as shown in figure 14, if we then click on the order status tab we are presented with the following screen (figure 18):
Order Status

Orders previously processed

<table>
<thead>
<tr>
<th>Order Number</th>
<th>Order Date</th>
<th>Status</th>
<th>Total Price</th>
<th>Purchase Order</th>
</tr>
</thead>
<tbody>
<tr>
<td>1030649</td>
<td>April 23, 2013</td>
<td>Not confirmed</td>
<td>$156.00</td>
<td></td>
</tr>
<tr>
<td>1030657</td>
<td>April 17, 2013</td>
<td>Not confirmed</td>
<td>$1,291.00</td>
<td>125656</td>
</tr>
<tr>
<td>1681514</td>
<td>October 21, 2012</td>
<td>Confirmed</td>
<td>$107.30</td>
<td>NoShipUS2</td>
</tr>
<tr>
<td>1682013</td>
<td>October 21, 2012</td>
<td>Confirmed</td>
<td>$423.10</td>
<td>NoShipUS1</td>
</tr>
<tr>
<td>1485740</td>
<td>October 10, 2012</td>
<td>Not confirmed</td>
<td>$198.00</td>
<td>Do Not Ship PO</td>
</tr>
<tr>
<td>1179208</td>
<td>June 17, 2012</td>
<td>Not confirmed</td>
<td>$798.31</td>
<td>Katarina</td>
</tr>
<tr>
<td>813020</td>
<td>March 11, 2012</td>
<td>Confirmed</td>
<td>$836.50</td>
<td>TestPO222</td>
</tr>
<tr>
<td>269506</td>
<td>October 23, 2011</td>
<td>Confirmed</td>
<td>$96.90</td>
<td>111TEST111</td>
</tr>
<tr>
<td>110007</td>
<td>May 1, 2011</td>
<td>Confirmed</td>
<td>$177.10</td>
<td>333333</td>
</tr>
</tbody>
</table>

Figure 18 – Order Status

Here we see previously ordered items along with an overview of the order, you can see the products that you ordered by clicking the order number in blue or reorder an item that you previously had ordered by clicking on the icon with the green arrow on the far right which will bring you to the current order screen (figured 14) where you can submit the order quickly. Moving on, if you click the account tab you are presented with the below screen:

Account

Personal information

Need to update your name, e-mail address, or password? Click the button below.

Change Personal Information

Address book

Need to update your address book? Add your contact names and numbers to our easy to use address book!

Edit Address Book

Figure 19 – Account Page
Here you can change your personal information or edit your address book, if we click on the ‘Change Personal Information’ button we are presented with a update registration screen as below:

![Figure 20 – Change Information Page](image)

Here you are presented with an overview of your account information at the top and then a section to update the information below that such as password, name, location, phone number, etc. If we were to click on the ‘Edit Address Book’ on the account home screen we will be presented with (figure 21):
Address Book

Personal address list

Add New Personal Address

Katarina TEST
Katarina company
Katarina Sundin
Street 24
wdr dfs lats
wefgsogfog
Saint Paul, MN 12345
United States
Phone number 1234567890
Fax number 1234567890123456

Edit Delete

Nickname
Organization name
First name Last name
Address 1
Address 2
Address 3
City, MI Zipcode
United States
Phone number Phone
Fax number Fax

Edit Delete

Organization address list

TEST_US
2835 Bellingham Drive
Troy, MI 49293
United States

Figure 21 – Address Book Page

Here we can add a new address, edit or delete previous ones. Furthermore, if we click on the help tab on the ‘your’ menu we are presented with a heading that says Help and a link to the online manual of products which is currently a dead link. Lastly, if we click the logoff tab we will be logged out of the SOS and be presented back to the logon page (figure 7).

The Good about the Current System

From various people during my interview process I have discovered that the current SOS is quite fast, stable and reliable. Another good thing about the current system is that you can quickly place an order if you have the product number correct by using the quick order feature. You can also reorder an item quite fast by clicking the reorder icon that skips part of the order process. Another additional feature users quite like is the requisition list feature where you can add products to a list that you may order from quite often or to organize the products into categories or parts for a certain tool of theirs. Another feature that I found to be good is the display of the real time inventory levels for the different distribution centers (DC). This is important because it gives a good expected delivery time frame as if you order a product that has it in stock at your local or regional DC you will get usually in
the next business day, however if you order from a global DC it may take two to three weeks for you to receive the product. This has a slight drawback as if the product is not in the local or regional DC the customer may go to a distributor or competitors web store and order it from there.

Problems with the Current System

Out of date
As mentioned previously, the current system is quite behind with the overall design and aesthetics of a modern day e-commerce site, especially a B2C e-commerce site. While the back-end of the B2B IBM web sphere version that Seco is using may be strong, I believe the front-end design is lacking several years behind with not only graphic design but also interaction design.

Order Button
One of the problems with the current system is that when you go to a product information page or the product search page you are presented with a button that says order, this button is also on the cart. I believe this can lead to user confusion but you would need to do actual testing to verify this, as what the order button doing is two different actions, and they are presented on the same screen. If you click the order button which is not in the shopping cart it adds it to your shopping cart, while if you click it in the shopping cart you proceed to further steps in the order process.

Lack of Product information
The lack of product information is a big problem for the users of the current SOS, which has been discussed briefly in this thesis and will be discussed further below and in the recommendations section of this thesis.

Browsing for an item
Currently browsing for an item on the SOS is rarely used as you can see from the example I previously wrote about it is very time consuming, even after you have selected the product and sub-categories, you still need to browse through the product column and find the correct product you are looking for. Furthermore, often the case is that there are more than one page of product results with many of the product names looking similar and no clear distinction to tell one from the other apart. Below is an example of this:

<table>
<thead>
<tr>
<th>ID</th>
<th>Name</th>
<th>Quantity</th>
<th>Unit</th>
<th>Price</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>183120R300Z4-MEGA-84</td>
<td>39970</td>
<td>15 / 4</td>
<td>$233.00</td>
<td>ORDER</td>
<td></td>
</tr>
<tr>
<td>183120R300Z5-MEGA-84</td>
<td>39971</td>
<td>0 / 117</td>
<td>$233.00</td>
<td>ORDER</td>
<td></td>
</tr>
<tr>
<td>180130R300Z4-MEGA-84</td>
<td>39975</td>
<td>58 / 31</td>
<td>$273.00</td>
<td>ORDER</td>
<td></td>
</tr>
<tr>
<td>180180R300Z4-MEGA-84</td>
<td>39976</td>
<td>2 / 10</td>
<td>$363.00</td>
<td>ORDER</td>
<td></td>
</tr>
</tbody>
</table>

Figure 22 – Browsing for an Item

As you can see, it is very hard to tell the difference between the four products, it is even harder with the first two items as they also have the same price. The only difference between the first two
product names is rather than Z4 it is Z5, illustrated below:

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Product Name</th>
<th>Quantity</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>180120R30Z4-MEGA-64</td>
<td>60070</td>
<td>16 / 4</td>
<td>$253.00</td>
</tr>
<tr>
<td>180120R30Z5-MEGA-04</td>
<td>30971</td>
<td>0 / 117</td>
<td>$233.00</td>
</tr>
<tr>
<td>18059309Z4-MEGA-04</td>
<td>39979</td>
<td>58 / 31</td>
<td>$273.00</td>
</tr>
<tr>
<td>180600Z4-MEGA-04</td>
<td>39976</td>
<td>2 / 16</td>
<td>$363.00</td>
</tr>
</tbody>
</table>

Figure 23 – Browsing for item example 2

Furthermore the bottom two products name differentiate in a different place of their names that being a 3 and a 6 as illustrated above. As there is only one different character separating these two product names it can be very hard and time consuming to cypher through all the results on various pages to find the product you are looking for.

**Searching for an item**

The main problem with searching for an item is the fact that you need to type in the product fully most of the time, in order to find the product you are looking for, as a partial name can lead you to the problem above, having you go through a list of products that have product names that look very similar to one another.

**Order Handling**

After you have placed an order on the SOS there is not much tracking of your recent order, only if the order has been ‘confirmed’ or not. The process of getting an order confirmed is that the order is sent to the regions office electronically and the system checks whether it is a customer, if the order is within their limits, if it is in stock and other attributes, once it has done this check it sends back a confirmation email to the customer with the price, including any discounts that may have not shown on the SOS such as bulk ordering as the SOS does not provide this. After that it will also send a confirmation to the distribution center to have it packaged and sent out to the customer. From doing my interviews, I heard from several participants that this was one of the problems that they were told from customers.

**The Interviews**

For this thesis I thought it was best to do user interviews to get a better understanding on how users are using the SOS. I ended up contacting 18 people through email, with the email template located in the appendix of this thesis titled, ‘Interview Email’. I had scheduled 12 interviews and ended up interviewing 8 of the 12 as some of the others became too busy or had a last minute meeting that they had to attend instead while some of them asked to rescheduled, due to time constraints on my part, I had to decline. In total, I ended up interviewing people in the sales, marketing, developer, and support/admin roles of the SOS. These interviews lasted from 20 minutes to 50 minutes with most being a bit over 30 minutes. Three of the interviews were held in person, while the remaining five
were held over the phone. I interviewed people from various different countries with different backgrounds. The majority of the people I interviewed were from Western cultures, while two of them were from Eastern cultures. While doing the interviews I had several different templates for a semi-structured interview depending on the role of who I was interviewing to use, these templates can be found in the appendix section of this thesis under the ‘Interview Questions’ section. Although, I did not always ask questions from the template it was used as more of a reference to start talking points on certain areas of interest and from the answers I received from the interviewee I would then reflect on their answer and see if I needed further clarification, if so, I would then ask another question regarding that one to clarify his answer. While doing the interviews I also took notes on certain points that I found interesting or of value regarding my thesis work. However, due to time constraints, as I recorded the interviews, I was not able to do a full transcribe of each interview as this would be too time consuming, so I mostly relied on my notes and the replays of the recording to come up with design decisions for the SOS.

Interesting Finds from the Interviews
After conducting the interviews and reflecting back upon them and going through my notes, I discovered some interesting finds, such as one interviewee saying, “some customers just like to talk to people, so they rather phone an order”, in regards to why some customers are not using the SOS. Another one is that I discovered that internet speed and access is sometimes a problem, this is especially the case in eastern cultures, where some people are not allowed to use internet at work so, they do not have access to the SOS and need to rely on phoning in an order, or have unreliable/stable networks that make the connect too slow for them to use the SOS. I heard from several people from the marketing department that they would like to use the SOS for marketing purposes as it is now not being used for such purposes. Something else that I found very interesting and may be one of the main reasons why most of the orders on the SOS are from the United States is that they do a lot of training regarding the SOS both in person and with Webinars. Other interesting finds will be mentioned throughout the thesis.

Personas
After the interviews and previous research, I developed personas, which were described earlier in this thesis. I created six personas, which can be seen in their entirely in the appendix section, titled ‘Personas’. The personas I created are the following, the customers, which I created two personas, one being the purchaser and the other being the end customer, as I thought these two roles were different and important enough to the SOS and need to rely on phoning in an order, or have unreliable/stable networks that make the connect too slow for them to use the SOS. I heard from several people from the marketing department that they would like to use the SOS for marketing purposes as it is now not being used for such purposes. Something else that I found very interesting and may be one of the main reasons why most of the orders on the SOS are from the United States is that they do a lot of training regarding the SOS both in person and with Webinars. Other interesting finds will be mentioned throughout the thesis.
Recommendations
In this section I discuss some recommendations to make a better B2B e-commerce store. These recommendations are not only for Seco, but also for other companies who want to create a better buying experience for their customers.

Web Analytics
According to the Digital Analytics Association (DAA), “Web analytics is the measurement, collection, analysis and reporting of Internet data for purposes of understanding and optimizing web usage.” Web analytics is used to understand user behavior and give you insights into how users are accessing, using and enduring problems on your site. For example, web analytics can inform you on how a visitor got to your site, the type of monitor they are using, the location of the visitor, whether the visitor is a unique visitor or a repeat visitor. It can also inform you on how long visitors stay on your page, where they click, scroll and where they may run into problems while visiting your website. For instance, if a visitor is filling out a form to join your site and there are a lot of questions on the ‘new user form’ and you analyze that a lot of visitors are abandoning this process, you can see where they are abandoning this process and reanalyze whether some of the questions are necessary or not.

According to Avinash Kaushik, who is a notable author of several famous web analytics books and Digital Marketing Evangelist for Google, describes Web Analytics 2.0, which deals with more of the user behaviors of a site. Below is what he describes is a ‘formal’ definition to Web Analytics 2.0:

(1) the analysis of qualitative and quantitative data from your website and the competition,
(2) to drive a continual improvement of the online experience that your customers, and potential customers have,
(3) which translates into your desired outcomes (online and offline).

- Quantify the holistic economic value of your website and measure macro and micro conversions for e-commerce, non-e-commerce, and B2B websites
- Profit from analytical methodologies that attack the holy trinity of search: internal site search, pay-per-click marketing, and search engine optimization
- Leverage experimentation and testing to create truly customer-centric websites and innovate by failing faster (Kaushik, 2009)

As you can see there are several main reasons as to why web analytics would be beneficial for any B2B online store as you can possibly discover problems users are having with your current shop and also be able to run more statistical reports with your data to help improve and/or discover hindrances for your online shop.

You can run queries on abandoned shopping carts which could lead to increase in revenue for the company, for example you can a daily query that checks a certain price level that was left abandoned and then maybe have the local sales man offer that customer a discount if he goes through and places the order, such as 10% off. You can also run these queries to better understand how your customers are actually using your online store, as you can even email some of the customers if you
are not able to identify some of their behavior from reading the logs and ask them why they abandoned the cart, the price was too high, the item was not in stock, etc.

**Design for mobile in mind**
From the information that I received during the interview process, I discovered that sales teams often go out to clients and show them the Seco website, along with other services, such as the Seco guide and Seco Online Store. Also, I discovered that sales team sometimes may even place an order for their clients using the SOS. After such insights, I think it would be a good idea to create a response website or separate applications that can be user friendly for mobile teams. Not only will this help support the sales team at Seco, it may also help customers using the SOS as they can now place an order wherever they may be easily and efficiently with their mobile phone or tablet. This can also help with developing countries as well, as some countries main ways to access the Internet is through mobile means. Some reasons why it is important to design for mobile is it can increase the speed of the site, help aid sales staff with clients and in the end land a sale. More and more people are using their mobile devices to connect to the Internet and do business, so a site should be responsive to fit these needs. Lastly, this can help aid with expanding into developing countries where sometimes their only Internet access is through the phone lines as they lack broadband infrastructure.

**Be culture friendly**
This has been discussed throughout the thesis, but you should design according to the cultures of the users of your site.

**Make the site feel safe and secure to use**
Users need to trust the online store, if they do not trust it then why would they use it, if they have other means of ordering. That means that it should be accurate and reliable with stock info, spare part recommendations, fast, and readily available at all times. One current feature of the online store, the stop light feature to display inventory levels. For example, red meaning out of order, yellow meaning low in inventory and green meaning available. From the interviews I conducted I discovered that since the administrator can set whether or not they want to display the stop feature instead of displaying the actual inventory numbers in the different distribution centers such as ‘12/20’, that some think this can lead to the customers staying on the online store and continuing their purchase as they see green and think the item is available. There are several problems with this scenario. The first, how much inventory do you need for the light to be green? This is the minimum sales quota set for that product, so that can be easily out of date if you get a new customer who just specifically wants to order that product. The second, what happens if the customer sees the two green lights indicating the product is in stock at his nearest distribution center and at the consolidated distribution center so he goes ahead and places his order which exceeds both inventory levels? This would lead to the customer receiving two separate shipments from the two different distribution centers and then another package when the remaining parts of his order becomes back in stock. If you decide to set up the stop light feature you should give indication when an item goes out of stock and that they may receive two packages or part of your order may be delayed because some of the product is out of stock. In the end this can lead to confusion and the customer not trusting such a feature as they have no indication of what the lights actually mean. If you display the inventory levels in real time you can get customers to make better-informed decisions on their ordering.
Make the content findable
If a user cannot locate the product they are looking for or have difficulties finding it, the customer cannot buy the product or may refrain from using the online store. Nielsen and Norman Group did study with 143 users on usability and e-commerce sites and found that 55% of the 143 user failures they observed were caused by bad content (Nielsen Norman Group). This could also mean finding the information about the product. As they state, “Content can be verbal or visual. Either way, it must provide the information users need to both decide on products and feel comfortable trusting the site with their money.”

Display better product information
Provide better descriptions of the product, along with images of the product so the user can see the product and verify that they have found the correct item. From the interviews I conducted, I was told that many users like to know technical aspects of the product such as speeds or feeds and have trouble finding it.

Order Button
Change order button on product information, and search results page to add to cart, and the button to actually place the order in the shopping cart should also be renamed to check out or place order. The current system clashes with the users’ mental model of what order means, when you select order you expect to be ordering something, when in reality with the current SOS you are just adding it to the shopping cart to maybe order it.

Open the online store for everyone to see and better integration
I suggest opening the online store for everyone to see and maybe hiding certain feature of it, such as the price, inventory level, etc., until the user has registered or logged in. Once logged in everything should be displayed including the agreed upon pricing. From the interviews that I conducted, I discovered that the main reason you have to register for the online store and have an account before you can view the SOS is because Seco would like to make sure the customer has enough solvency, and will be a returning customer for Seco. Nonetheless, I would suggest opening the store to all as this can be another means to entice future customers. However, this should be done carefully as Seco currently has a products page that explains about the line of the product. Seco also provides brochures, both online and offline formats, along with a customer zone online application tool to help you witch such things as finding products. This would all need careful review and should be integrated with the SOS, as this will provide the user with a better overall user experience when using the Seco website and services. I would suggest that when a new customer comes from the SOS they click the sign up and they get some type of notification that asks them to fill in some information and a thank you for your interest and a sales representative will get back to you shortly message, that way the sales representative can look over the applicant to see if they seem like a good for Seco.

My Design
In this section I will discuss the design that I have constructed and the design decisions that were made to create the design. I did not design every screen like I went over above, rather what I felt were the main screens/features. Within these designs that I came up with you can easily carry them over to the other screens that I did not have the time to design for. My design is geared toward the
United States, or other western cultures that use similar design layouts and colors. Therefore, my idea of the SOS is that the colors of the buttons and the text should fit the culture appropriately. I did research into the different cultures and how they design and some more eastern cultures still do not have some general agreed upon color guidelines for buttons such as the United States has. For example, it would be very rare to see a submit button in red, as red is seen to be more of a warning color, but for instance, in China there are some very popular sites that use red, orange, blue, green, etc. for submit buttons as some of these colors do not have the same meaning in their culture.

**General Design Decisions**
Throughout my designs I have followed some general design guidelines such as gestalt laws, usability guidelines, and User Centered Design process. Some examples of these guidelines are, “provide useful content” and “the law of proximity”, or rather that when we perceive a collection of objects, we will see objects close to each other as forming a group. I have also used some of my previous research on culture when incorporating my design for the SOS. By following these more general guidelines it has helped me create a more holistic design taking into account all the different users who use or may use the SOS. Furthermore, from my previous user research, and the following of some of these guidelines I believe it has helped me create a better customer or user experience for those using the SOS. However, since this thesis is not about guidelines I will not go much further into detail about them, but it important to follow such guidelines as they have research to show that they work with creating better-designed products.
Landing Screen

With the suggestion to open up the SOS for everyone to see, I felt that it was important to have an aesthetically pleasing landing site, so this screen is the most fine tuned design that I have constructed. Below I will go into detail about the different design element that’s were constructed (figure 25):

Figure 24 – Future Landing page
The Seco Online Store header was left as it is important for the user to know where they are in the system so this lets them know they are now at the online store. The first item marked is the navigational side bar. In this bar you can easily and quickly place orders via the the ‘Quick Order’ flyout, view your lists and create new ones with the ‘Your Lists’ flyout, view, reorder, or track current or recent orders with the ‘Recent Orders’ flyout. These will be described in more detail and the reason why they were placed in the side bar later. You will then see the menu items for Seco’s products, such as, ‘Holemaking’, ‘Milling’, etc. the order of importance should be Seco’s most popular product as most users would want to view that product, this can also be localized for the region, so, for example, maybe holemaking is the most popular products in the United States, but Milling is the most popular in Sweden, then these should be reordered for each version. After the products you come to different ways to sort or search for products via sorting. How I imagine this to work is that you can start off by sorting so if you clicked steel, you would then be displayed with different product categories, such as holemaking, milling etc. you would then select one of those to see all the steel products within that product categorie. As most people who visit B2B e-commerce sites, already have a good idea of what kind of product they are looking for this eliminate them with displaying a lot of products from various different product lines. However, if you place a search or click on one of the categories, and then if you click on one of the sorting options in the menu bar it will do a sort for that search/categorie. The sorting was a feature that I found to be important from the interviews that I did. Some customers would like to sort for certain dimensions, material types etc.
The Second item marked is the search bar, here I suggest having an autfill feature like google and many others have implemented where when you start typing in the search bar you get a list of items below for example if you type, ‘g1’ you would get a list of all items that start with ‘g1’ and would filter them out by continuing to type or selecting the item from below. This feature should only work when the user has a good internet connection as this may take a lot of bandwidth. You can also do a more direct search by clicking on the dropdown ‘All’ button, here you can select the different products, such as holemaking, which will only search in that product category. You will also see an advanced search in the ‘All’ button dropdown where you can select certain dimensions, materials, etc as well.

The third item marked is the header, your account, and shopping cart elements. The header includes a way to easily contact someone if you need a question or assistance with placing an order or need to contact a sales person. The help link would link to a page where it has a frequently asked question (faq) list regarding the SOS. As you may remember, the current SOS has a help page with nothing displayed. This was also brought to my attention from some of the interviews that I did, that some people were not sure if they should contact their sales person or customer service regarding some questions that they had. By implementing this feature it can help solve this problem. You will then see the language element, here it should display the language that the online store is set to, so it should be displayed as English in the screen above, but I kept it general to explain the functionality of it. The SOS should be able to see where there traffic is coming from and according to that display it in that language, from there you can change the language to what you prefer. Also, when you create an account for the SOS you should have the option to select the language that you prefer that would override the automatic setting, but you would need to be logged in for this to work. Lastly, you see the log/sign out item. This is basically a easy way to log out of the SOS. After the header element, you will then see the your account menu drop down, this also displays the current user logged into the system. The menu items and what you can do within the menu will be later in the thesis. After that you see the shopping cart drop down menu, which will also be described in more detail in the below.

Figure 26 – Your Account menu
The ‘Your Account’ menu was designed to easily let the user edit their profile personal settings, these can also be changed my SOS admins. Here you can also easily view or track your orders, view or edit
your lists, or update your address book. You can also log out of the online store here as well. The
screens that would appear when you click on one of these were not designed due to the limitation of
time, so its more of a conceptual idea of how I see the SOS.

![Shopping Cart](image)

**Figure 27 – Shopping Cart**

The shopping cart displays the products that the customer wishes to order. These are added to the
shopping cart by adding the ‘add to cart’ button, or clicking the reorder button on the recent orders
fly out. For each product added to the cart it will display a number, in this example there is 3 items so
a number 3 is displayed in the cart. If you click on the cart, it will then drop down and become active,
here you see a bit of detail about the products, which you can easily click to get more details, you can
also update the cart, such as adding or removing an item or quantity. You would also proceed with
your order by clicking the view cart button.

The fourth items marked are spots for the marketing or sales department to display some
information, maybe the current marketing or sales campaign, product showcase, etc. From doing my
interviews and previous research, I have discovered that the current SOS is not being used for
marketing purposes, and that the marketing department would like to take advantage of that, so I
felt this is a good way for them to do so. Like the marketing department the sales department were
only showing the SOS to some of their customers for them to use it, so this is a way for them as well
to show off some of Seco’s products. Lastly, these two marked items can be changed per region so if
you are running different campaigns or if products are released at different times, etc you can display
what is relevant for that region.

The fifth item marked is the right sidebar, in this sidebar, I have decided to included a easy way to get
in contact with a sales rep or customer service, the seco product guide where you can discover
products that fit your business needs. Also, a place where you can showcase your awards. In today’s
market it is important to let other companies know that you are ISO compliant or are a trusted/safe
partner with some type of payment options. From my interviews, I discovered from one person in
the United States that they were working with a company that actually asked them if Seco does any
type of environmental initiatives. I think this is becoming a more and more important feature that
should be showcased as not only the public but also your own business partners look for such an
assist which can lead to building better relations with all involved. These features are also changeable and should be configured to the region, so you should display an Asian looking person for the contact us picture if you are working with a region from Asia. The most important reason for displaying the contact person is from my interviews I found out that a lot of customers are a bit hesitant to use the SOS because they think they may run into a problem with an order or need assistance to verify a product. With this design you feel more comfortable that help is just a click away so I think the customer would feel more inclined to use the SOS.

The last item marked is the different product categories that Seco provides, also, I have chosen to display the subcategories of the main category so the user, if he/she decides can easily jump into that product category and start browsing. The current design did not display any products which lead the user to start clicking through the different products to find a product. With this current set up you are displayed with an image of the type of product and then the subcategories within that product.

**Quick Order**

The quick order is a nice feature, and helps aid with placing orders quickly. Customers like the current feature that Seco has. However, I think it my design with the quick order is a bit faster and nicer. Firstly, in the current version of the SOS, you would have to enter the product number, and then click the ‘go’ button, so this only provides the customer to enter one item and then click go which would then bring them to the current order screen where they can select the quantity and see further information. However, if you wanted to add more than one item you would have to click the ‘enter more items’ label below the quick order input box. If you clicked here you would get a longer list where you can enter the product numbers, the quantity and select order. This is really nice as you can quickly add products and tab through the process of adding more. With my current design I have the idea that if the user clicked the quick order label they would be presented with a fly out box where they can enter the product number, quantity and add to cart. As seen below:

![Figure 28 – Quick Order](image)

Once the customers fills out the product number, or enter the product name it will automatically look up the product number from the database and enter it there automatically. After inputting that field you would then have to go to the quantity field. You can do this by making it he active box, this
can be done from tabbing over or clicking the quanity box with your mouse/finger, etc., once this is active another row would smoothly transition in like below:

![Figure 29 – Quick Order Example 2](image1)

This list can be as long as the user wanted as the browser scroll would keep going down as the user kept adding products. I think this a nice feature as it is faster than the current design and also provides a nicer experience adding products to the quick order process. Furthermore, if you simply hover the product number in the quick order list or in fact any of the labels in the left navigational menu bar, such as recent orders, you will be presented with further information to provide you with more insurance that you have selected the item, this is demonstrated below:

![Figure 30 – Quick Order Example 3](image2)

**Your Lists**

I have redesigned the ‘Your Lists’ part of the online store as well. Here I have made it similar to the quick order feature with having it fly out. Once you click on the label a fly out box will come out and here you will see your different lists a long with the option to create new lists. The image below illustrates this:
This was an important feature and something that Seco previously did a nice job is having a list feature for their online store. A lot of customers seemed to like it and enjoy it. From the interviews I gathered that the various user groups use them. For example, distributors have some named for their end customers while the normal business has some more general list types like the product name that they are building, then all they have to do is order that list again and it would include all the parts for that product. If the user clicks on the name of the list it brings them to the list page, where they can edit that list or view the products included in that list, or order it from that page as well. I decided not to include a reorder in the fly out mainly because the item below ‘Your Lists’, ‘Recent Orders’ has this feature and if it is a list that they use frequently and want to reorder it fast, they should use the recent order reorder option. Lastly, you can also create a new list by clicking the button.

Recent Orders
One of the most talked about aspects of the current online store was the lack of order handling, I designed the recent orders label to try to address this concern and make it easier for the customers to track their order. From this fly out you can also reorder previous orders, and see what products where ordered by clicking the order number. I also thought it would be a nice feature to have the order status color coded, such as illustrated below as this can lead the customer to see the status of his order(s) at just a glance. I decided on the colors below for the United States SOS, or most other western cultures, however this combination may not work with every culture and should be adjusted appropriately.
To see a list of all of your orders you would click the ‘see more’ label and it would bring to a page with all of your orders with their history.

The Product Line Page

The product line page has been designed in a way to help aid those who want to browse or discover new products. It showcases the different product lines that Seco provides within the various fields that they are involved in. I have also incorporated a place for the marketing or sales department to place a ‘featured’ product. I have also thought to bring back the right sidebar that was earlier described in the landing site of the new designs, but this can also be changed to meet the different cultures and user groups. This right sidebar can include the same information as before, or you can even turn it off for them if you think it provides unnecessary information for that culture/user group and would prefer a nicer, cleaner layout. From this screen, you can still sort for the products by the material, size or whatever other sorting information that would be helpful to sort by using the left side menu bar. Also, I have included breadcrumbs navigation so the user can see where exactly they are in the system although, with my redesign I have tried to make it easier for the user to realize where they are at, it is still a nice feature to have to go back in steps as well. The product page should have the option to also load the pictures of the different products if the connection is good enough to do this. This was something I thought the SOS admin can change in their admin panel of the online store.
List of Products Page

The list of products page displays what the user would get if they clicked on one of the product lines from the product page. You are displayed with a list of all the products displayed within that product line. I have included an image of the product, name, product number, inventory, and the price. Some of the features I have included in this page are that you can sort the products by the name or the product number to make it easier to find the product you are looking for. I also decided to not display the ‘add to cart’ button until the user places his/her cursor within the individual product box, I have illustrated with the following picture:
Once the user enters the product box, the quantity automatically becomes 1 and the ‘add to cart’ button appears, I thought this was a nice feature instead of displaying ‘add to cart buttons’ for every single product while at the same time leaving it fast and efficient to place a quantity of 1 order. If the user has clicked the ‘add to cart’ button, the product then would be added to the shopping cart and if they hover over an item that was previously added the ‘add to cart’ button would change to ‘update your cart’ which is displayed in the below image:

I have also designed a kind of smart built in tracking system so that user can more easily understand how the inventory system works. How I imagine this to work is that when you enter in a quantity other than one you would get feedback back from the database that checks the real time inventory levels and return a message depending on the amount you entered and the different warehouses, the
system will then return a message like below:

![Image of a shopping cart with an option to add to cart](image1)

**Figure 36 – Add to Cart functionality**

The message lets the user know that the item is in stock and should arrive on time. You can click the ‘details’ label to get more information about the order handling process, or you can click the ‘see full product information’ label to go to the actual product page to learn more about the product. I thought it was nice to have such a system as I received some complaints that they do like being able to see the inventory levels so they know if they can order items, however, some of them would place an order thinking they would receive the product on time but one of the warehouses only had a limited supply and they would need to wait for the rest of the shipment. This has been resolved with the screen below.

![Image of a shopping cart with a detailed message](image2)

**Figure 37 – Add to Cart Information Message**

Furthermore, if the user was to then click the ‘add to cart’ button they would get a message whether it was added successfully or not, if it was successful, it would then have an option to proceed with check out as shown below:
Lastly, if an item is out of stock you can display it a bit greyed out, that way the customer can still see the product and information about it.

**Product Page**

The product page is the page that shows the product. I have designed this page in a way to show off the product and to provide the customer with the information they need to make an informed decision as to whether this was the correct product or not. I think it is nice to provide various product images such as real pictures and CAD drawings of the product as well, as many customers like these and find them useful. I think it is also nice to display a product overview along with more detailed product information that shows all the important aspects other product such as size, material, etc. I have also thought that you can bring back part of the right sidebar, which might show the customer service representative so that way the customer can get in contact fast and easily if they have any last minute questions. Lastly if you would scroll a bit further down you would see a section with recommended products, which are products that are recommended for the product that you are viewing. I think this is not only important for the customer to see but other staff such as sales staff, as this can be a way to generate more sales through cross sales. Recommended products help the customer find like products that they may need when they are purchasing the current product or in the future. These can be seen in the image below:
Discussion

In this thesis I have drawn from previous studies that have tried to incorporate culture into their designs while also doing my own research with users from various different cultural backgrounds. This has resulted in the conceptual design ideas that I have presented in this thesis. I believe a poorly designed product that does not take into account the different users will make the overall user experience of your product diminished, thus leading to poorer user performance and satisfaction. It can lower productivity, increase cost of training, result in costly errors on the users end. Furthermore, it can make your product less marketable. I think an effective approach to design for different user needs and cultures is to first define the main ideas from different means of research and then iterating until you get them correct, and then adding more detailed design to create an even better user experience, this takes a lot of time, but will result in a better product in the end.
Revisiting the Research Questions

The research questions have been addressed through my user research and incorporated into personas and user scenarios, which shows the different users, their backgrounds, and their needs. My conceptual design showcases the way on how to design to meet all of these different needs of the users and ways to increase user experience in e-commerce.

Conclusion

The purpose of this thesis study has been to explore how to create a better user experience for all the different users and user groups who use the SOS. These users and groups come from various different backgrounds and cultures. I think the current online store needs improvement to increase the user experience for all those who use or may use it. I have discussed the theory and research that was used along with the current SOS on how I reached my final design decisions.

My advice is that if you want to understand a different culture other than your own, you need to get first-hand experience with that culture. You should read about anthropological research methods and then interact with the culture observing and listening to what and how they are doing their task and try to figure out why they may be doing in that way. If you are able to figure out why, you will be able to design a better fitting product for their culture as it will line up with their mental model and create a better user experience for them.

Further Research

In general, I think there is still a lot of research needed in the user experience and e-commerce field. Especially in regards to B2B e-commerce sites, a lot of these sites still rely on usability and not user experience; I feel that usability is not enough in the current era, and there should be a stronger focus on the user experience.

Also, there are a lot of design guidelines and other guidelines, some have been proven to help aide in your design while others are just peoples opinions which may have worked for them but are not scientifically proven. Furthermore, many designers today, are not currently following a lot of these guidelines and standards. So, are the ISO guidelines/standards really good, if they are not being followed?

Further research and testing regarding the SOS is also needed, as my ideas and designs where more on a conceptual level, you should test these with users to see what they think and find ways to improve upon the ones they may like. For example, what should be displayed on the product information page? What kind of sorting/filtering should Seco provide? Etc. Lastly, actual onsite user interviews and observation of real customers and other users who use the SOS is needed as this will lead to a lot of insights into how users use the system.
Bibliography


Appendix

Interview Email
Hello, as Joakim Lööv may have already previously emailed you, my name is Mark and I am Master’s Student doing research on the design for a new version of the Seco online store (SOS). To make sure the new version satisfies our customers (and hopefully makes your job easier), we’re trying to find participants to interview. We are looking for a variety of people who use the current SOS. Based on the information you give us, we can design a better online store that fits the way people actually use the online store.

This study will be an interview either over the phone or in person if you are working in Fagersta. The interview will take around 30 minutes and no longer than 1 hour of your time. We will be asking questions regarding your current experience with the SOS and ways you think may improve the store for the future. We would like to record these interviews for better insurance of our notes, however if you object to this, that is perfectly fine. Furthermore, your identity will be anonymous in the study. I will go ahead and book a meeting in Lotus Notes, and if you are not interested in participating please feel free to decline, if the time does not work for you please decline and ask for another time that works best for you.

Your help is much appreciated.

Kind Regards,

Mark Conde
Interview Checklist

☐ Intro name

☐ Record – As previously stated the recording is my note taking personally and will be discarded.

☐ Intro of interview – I’m doing research on the SOS and to design a newer version of the current SOS I will ask you some questions about the current SOS and some more general questions about Seco’s customers or your general work area.

☐ Background Questions

  • Position?
  • How long?
  • How often do you use the SOS?
  • What responsibility if any do you have in regards to the SOS?

☐ Interview Questions

☐ Conclusion

☐ Any thing else that you would like to add?

☐ Thank you
Interview Questions

Stakeholders
Sales department - Marketing – SOS Developers – SOS Administrators / Support – End users
(Distributors & Direct customers)

Goal of Interview
The goal of the interviews is to get a better insight into how users are using the SOS so we can design a better online store to fit their workflow and needs.

General Questions
- How do you envision the Seco Online Store (SOS) (in general terms: i.e. The SOS is a place where customers can go and......?)
- What do you think is important for the users in regards to the SOS?
- What customers and users are most important? Why?
- What makes a good shopping experience?

End Users (Customers)
- How does the process work here at (company x)? (work flow Q)
  - How/when do you place an order, how do you know when you need to place an order?
- What are the different groups or roles involved in the process of placing an order on the SOS today?
  - How do the various roles work together, if at all?
  - What are the biggest problems or inefficiencies in this process today?
- What do you like about the SOS? Why did you choose it over other options? (such as calling sales rep to place order, etc)
- What would you say are the biggest problems with the SOS today?

Regarding current products:
- How often do you use the SOS?
- What purpose do you use the SOS for? Just to place an order? To look a product up? For Support, Etc.

Subject matter expert
- What is the users’ general background?
- What is their context for working? (work environment)
- What are the typical demographics and skills of potential users, and how much do these vary?
- What distinctions in user roles and tasks would you expect us to see?
- What sorts of workflows or practices do you think we’ll be seeing in the field?

SOS Administrators / Support
- Typical task as administrator
  - How are these tasks supported with SOS and the tools with it?
  - How often would you say you are working with the SOS per day?
- What problems do you encounter most often?
  - Easily resolved?
• Where do users most often get confused today? (training)

Goal of Interview (Customer)
The goal of the interviews is to get a better insight into how users are using the Seco Online Store (SOS) so we can design a better online store to fit their workflow and needs.

General Questions
• How do you envision the Seco Online Store (SOS) (in general terms: i.e. The SOS is a place where I can to......?)

Regarding current SOS:
• How often do you use the SOS?
• What purpose do you use the SOS for? Just to place an order? To look a product up? For Support, Etc.
• Have you used it to place a large order before?
  o If not, why not?

End Users (Customers)
• How does the ordering process work here at (company x)?
  o How do you know when you need to place an order?
• What are the different groups or roles involved in the process of placing an order on the SOS today?
  o How do the various roles work together, if at all?
  o After you have placed an order on the SOS, what other tools do you use to keep track of your order?
  o What are the biggest problems or inefficiencies in this process today?
• What do you like about the SOS?
  o Why did you choose it over other options? (such as calling sales rep to place order, etc)
• What would you say are the biggest problems with the SOS today?

Conclusion
• How would you compare this online store to others you’ve used?
  o General E-commerce site such as Amazon?
  o Other B2B E-commerce site?
• What do you think makes a good shopping experience (both online and offline)?

Goal of Interview (Marketing)
The goal of the interviews is to get a better insight into how users are using the SOS so we can design a better online store to fit their workflow and needs.

General Questions
• How do you envision the Seco Online Store (SOS) (in general terms: i.e. The SOS is a place where customers can go and......?)
• What customers and users are most important? Why?

Regarding current products:
• Do you currently use the SOS for marketing purposes, such as marketing documents, local markets, etc?
  o Links to online store on documents/advertisements?
**Marketing Questions**

- Who are your customers and users today?
  - How do you want that to be different in 5 years?
- What are some qualities you want people to attribute to Seco and their products?
- Who are the biggest competitors and what worries you about them?

**Conclusion**

- What do you think makes a good shopping experience (both online and offline)?

**Goal of Interview (Sales)**

The goal of the interviews is to get a better insight into how users are using the SOS so we can design a better online store to fit their workflow and needs.

**General Questions**

- How do you envision the Seco Online Store (SOS) (in general terms: i.e. The SOS is a place where customers can go and……?)
- What do you think is important for the users in regards to the SOS?
- What customers and users are most important? Why?
- What is the general background of a user?
  - What is their work environment like (office, warehouse, etc)?
- What are the typical and skills of potential users, and how much do these vary?

**Regarding current products:**

- How often do you use the SOS?
- What purpose do you use the SOS for? To help customers? To look a product up? For Support, Etc.
- What things do customers complain about or ask for most often, and why?
- Do you train/instruct your clients on how to use the SOS?

**In regards to customers...**

- How do you think the general process works when placing an order?
- What do you think are the different groups or roles involved in the process of placing an order on the SOS today?
  - How do you think these various roles work together, if at all?
  - What do you think are the biggest problems or inefficiencies in this process today?
- What do you think the customers like about the current SOS?
- What would you say are the biggest problems with the SOS today?
- Why do you think customers don’t use the SOS or are hesitant in doing so? (long relationship, older generation, etc)

**Conclusion**

- What do you think makes a good shopping experience (both online and offline)?
**Goal of Interview (Admin/Support)**
The goal of the interviews is to get a better insight into how users are using the SOS so we can design a better online store to fit their workflow and needs.

**General Questions**
- How do you envision the Seco Online Store (SOS) (in general terms: i.e. The SOS is a place where customers can go and......?)
- What do you think is important for the users in regards to the SOS?

**Regarding current products:**
- How often do you use the SOS?
- What purpose do you use the SOS for? To help customers? To look a product up? For Support, Etc.
- Do you train/instruct your clients on how to use the SOS?

**SOS Administrators / Support**
- Typical task as administrator
  - How are these tasks supported with SOS and the tools with it?
- What problems do you encounter most often?
  - Easily resolved?
- Where do users most often get confused today, in your opinion?
- What things do customers complain about or ask for most often, and why?

**Conclusion**
- What do you think makes a good shopping experience (both online and offline)?

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**Goal of Interview (dev)**
The goal of the interviews is to get a better insight into how users are using the SOS so we can design a better online store to fit their workflow and needs.

**General Questions**
- How do you envision the Seco Online Store (SOS) (in general terms: i.e. The SOS is a place where customers can go and......?)
- What do you think is important for the users in regards to the SOS?

**Regarding current products:**
- How often do you use the SOS?
- What purpose do you use the SOS for? To help customers? To look a product up? For Support, Etc.

**SOS Developer/support**
- Typical task as developer
- What kind of problems do you encounter most often?
  - Easily resolved?

**Conclusion**
- What do you think makes a good shopping experience (both online and offline)?
Goal of Interview (Joakim)
The goal of the interviews is to get a better insight into how users are using the SOS so we can design a better online store to fit their workflow and needs.

General Questions

• How do you envision the Seco Online Store (SOS) (in general terms: i.e. The SOS is a place where customers can go and......?)
• What do you think is important for the users in regards to the SOS?
• What customers and users are most important? Why?
• What do you think is the general background of a user?
  o What is their work environment like (office, warehouse, etc)?
• What are the typical and skills of potential users, and how much do these vary?

Regarding current products:

• How often do you use the SOS?
• What purpose do you use the SOS for? To help customers? To look a product up? For Support, Etc.
• What things do customers complain about or ask for most often, and why?
• Do you train/instruct users on how to use the SOS?

In regards to customers...

• How do you think the general process works when placing an order?
• What do you think are the different groups or roles involved in the process of placing an order on the SOS today?
  o How do you think these various roles work together, if at all?
  o What do you think are the biggest problems or inefficiencies in this process today?
• What do you think the customers like about the current SOS?
• What would you say are the biggest problems with the SOS today?
• Why do you think customers don’t use the SOS or are hesitant in doing so? (long relationship, older generation, etc)

Marketing Questions

• Who are the biggest competitors and what worries you about them?

Conclusion

• How would you compare this online store to others you’ve used?
  o General E-commerce site such as Amazon?
  o Other B2B E-commerce site?
• What do you think makes a good shopping experience (both online and offline)?
<table>
<thead>
<tr>
<th>Requirement Group</th>
<th>Title</th>
<th>User Story</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Information</td>
<td>Consistent structuring of products for navigation</td>
<td>As a customer, I want to be able to find products by familiar/efficient navigation, so that I don't necessarily have to product number or designation to search for them.</td>
</tr>
<tr>
<td>Product Information</td>
<td>Enriched navigation results</td>
<td>As a customer, I want to have enough information in the navigational results, so that I can place a new order based on that information alone.</td>
</tr>
<tr>
<td>Product Information</td>
<td>Add product data to the search hit list</td>
<td>As a customer, when I have searched for products, I want enough information on the products, so that I directly can add them to the cart.</td>
</tr>
<tr>
<td>Product Information</td>
<td>Add product data to the detailed product view</td>
<td>As a customer, to be able to distinguish between similar products, I want to see the product's details, so that I can select/buy the sought-for product.</td>
</tr>
<tr>
<td>Product Information</td>
<td>Add product data to the current order view (the detailed one)</td>
<td>As a customer, when viewing the content of the shopping cart, I want to understand what products currently are there, so that I don't place in anyway an incorrect order.</td>
</tr>
<tr>
<td>Product Information</td>
<td>Display stock replenishment date</td>
<td>As a customer, I want to know when a product will be back in stock, so that I can plan my purchases</td>
</tr>
<tr>
<td>Product Information</td>
<td>Outgoing products</td>
<td>As a customer, I want to know if a product is to or has been be discontinued, and if it has a replacement, so that I don't order outdated products by mistake.</td>
</tr>
<tr>
<td>Product Information</td>
<td>Allow more than one price list per market</td>
<td>As a customer, I want the SOS to support all my country's viable currencies, so that I may purchase at prices with a sensible currency.</td>
</tr>
<tr>
<td><strong>Product Information</strong></td>
<td><strong>Add product data to the order details</strong></td>
<td><strong>As a customer, when viewing the details of past order, I want to see which products that the order contained, to know which products I've ordered previously.</strong></td>
</tr>
<tr>
<td>---</td>
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</tr>
<tr>
<td><strong>Product Information</strong></td>
<td><strong>Order using own product no.</strong></td>
<td><strong>As a customer, I want to be able to find and order products by my own company's designation/product number, so that I don't have to keep additional product numbers available to me.</strong></td>
</tr>
<tr>
<td><strong>Product Information</strong></td>
<td><strong>Present estimated delivery date</strong></td>
<td><strong>As a customer, I want to know when the product can be delivered, so that I can determine its availability to me.</strong></td>
</tr>
<tr>
<td><strong>Product Information</strong></td>
<td><strong>Filtering</strong></td>
<td><strong>As a customer, I want to be able to filter products further when I am at the bottom of the navigational tree, so that I more easily can find the products I need.</strong></td>
</tr>
<tr>
<td><strong>Product Information</strong></td>
<td><strong>Publish information on holders (machine side)</strong></td>
<td><strong>As a customer, I want to be able to see which holders are available for the product that I am currently viewing, so that I might be able to buy that at the same time.</strong></td>
</tr>
<tr>
<td><strong>Product Information</strong></td>
<td><strong>Publish information on inserts (Work piece side)</strong></td>
<td><strong>As a customer, I want to be able to see which inserts are available for the product that I am currently viewing, so that I can buy those too.</strong></td>
</tr>
<tr>
<td><strong>Product Information</strong></td>
<td><strong>Stock trend</strong></td>
<td><strong>As a customer, I want to know the relative size of the stock, so that I can judge the likelihood of getting an in-stock product.</strong></td>
</tr>
<tr>
<td><strong>Product Information</strong></td>
<td><strong>Add product data to the expanded quick order view</strong></td>
<td><strong>As a customer, when placing a set of quick orders, I want to get confirmation on the products entered, so that I can be sure that I'll be getting the intended products.</strong></td>
</tr>
<tr>
<td><strong>Product Information</strong></td>
<td><strong>Net-, gross price and discount should be shown in SOS.</strong></td>
<td><strong>This is shown today in the detailed product view, if display net price is ticked in account settings. This should be displayed in other areas as well.</strong></td>
</tr>
<tr>
<td><strong>Product Information</strong></td>
<td><strong>Show information for non returnables</strong></td>
<td></td>
</tr>
<tr>
<td>Product Information</td>
<td>ID barcodes searchable in SOS</td>
<td>As a customer, I want to scan the code on the product package, when in the SOS, to find the product.</td>
</tr>
<tr>
<td>---------------------</td>
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<td>----------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Product Information</td>
<td>Illustrations of navigational tree</td>
<td>As a customer, I want to see illustrations that exemplify each node of the navigation tree, so that I can navigate using graphical aid and not only textual</td>
</tr>
<tr>
<td>Product Information</td>
<td>Add product data to the current order preview</td>
<td>As a customer, I want to be reassured of that the product that I've selected to buy also is in the shopping cart, so that I don't miss ordering a product or order it twice.</td>
</tr>
<tr>
<td>Order Handling</td>
<td>Add tracking</td>
<td>As a customer I want to have access to be able to track my recent purchase to see when it will be delivered</td>
</tr>
<tr>
<td>Order Handling</td>
<td>Stock information</td>
<td>As a customer, I would like to know when an item will come back in stock. How can I do this, without calling in?</td>
</tr>
</tbody>
</table>
Personas

Pamela Smith
Customer
Age: 36
Occupation: Purchaser
Frequency of use: Often

Background:
Pamela works at a large company that works with many types of products. She spends most of her time at work logged into many different online stores and systems, placing orders to keep her company’s warehouse in stock.

Frustrations:
• Many steps to place an order/reorder
• Unnecessary calls to companies to ask them questions regarding pricing or shipping
• Slow systems
• Lack of order handling

Role in Purchasing Process:
Pamela is notified if stock is running low from the company’s own inventory software, which tracks inventory levels, she is also sometimes notified by staff, often customer service or sales staff. Once she is aware that she needs to order a product, she then logs onto the SOS and determines how much she needs, the method of shipment, and the address it needs to be sent to if different than the warehouse, she then places the order.

Needs:
• Quick order process
• Fast system
• To be able to track and trace order after placement
• To see ALL pricing options/discounts
• Find items quickly
• When an item will be replenished

"I want to do my job as quickly and efficiently as possible"
Bill Hall
Customer
Age: 27
Occupation: End customer / factory worker
Frequency of use: A few times a month

**Background:**
Bill works at a medium sized factory that works with automobiles. He spends most of his time at work assembling small parts to make a larger one that is then shipped to automobile companies.

**Frustrations:**
- Many steps to place order/reorder
- Unnecessary calls to companies to ask them questions regarding pricing or shipping
- Slow systems
- Lack of order handling
- Lack of product description and information
  - Is the item in stock? If not when will it be?
- Lack of images

**Role in Purchasing Process:**
Bill is notified if stock is running low from the companies own inventory tracking system, which tracks inventory levels, which is not always 100% reliable. Once he is aware that he needs to order a product, he then logs onto the SOS and determines how much he needs and how soon he needs it. Bill tries to look for as many discounts as possible. the method of shipment and places the order.

**Needs:**
- Quick order process
- Fast system
- To be able to track and trace order after placement
- To see ALL pricing options/discounts
- Find items quickly
- Fast delivery

"I need systems that are easy to use"
Zhi Peng
Sales
Age: 44
Occupation: Sales / admin of SOS
Frequency of use: Several times a week

Background:
Zhi works as a sales person at Seco. He spends most of his time interacting with customers, trying to build better customer relations, generate purchases/orders and to fulfill sales volume objectives.

Frustrations:
- Hard to use the SOS as an additional sales pitch
- Lack of product information
- Slow systems
- Lack of order handling

Role in Purchasing Process:
Zhi is quite involved from the purchasing process, even at times placing the purchase for the customer by logging into the SOS and placing an order. He is also an administrator on the SOS and helps with administrative tasks.

Needs:
- Quick order process
- Fast system
- To be able to track and trace order after placement
- To see ALL pricing options/discounts
- Find items quickly

"I enjoy interacting with our customers"
Veronica Lundgren
Marketing
Age: 33
Occupation: Marketing
Frequency of use: Once a month

Background:
Veronica works in the marketing department at Seco. She spends most of her time at work doing research on customers to help create products to meet customers' needs and to promote and advertise these products.

Frustrations:
- Lack of marketing campaigns on current system
  - Advertising and promotion
- Slow systems
- Lack of product description and information

Role in Purchasing Process:
Veronica is currently only dealing with marketing activities, and the current SOS does not provide marketing campaigns.

Needs:
- Quality products
- Fast system
- To see ALL pricing options/discounts
- Showcase our products
  - Product information

"All of Seco’s products should reflect our brand image of having good products"
Isabelle Ericson  
Support / Admin  
Age: 31  
Occupation: Customer Service/Support  
Frequency of use: Daily

Background:  
Isabelle works in the customer service/support department at Seco. She spends most of her time at work assisting customers who have trouble or questions with Seco products.

Frustrations:  
- Lack of marketing campaigns on current system  
  - Advertising and promotion  
- Slow systems  
- Lack of product description and information

Role in Purchasing Process:  
Veronica is currently only dealing with marketing activities, and the current SOS does not provide marketing campaigns.

Needs:  
- Quality products  
- Fast system  
- To see ALL pricing options/discounts  
- Showcase our products  
  - Product information

"All of Seco’s products should reflect our brand image of having good products"
Donna Heathrow
Distributor
Age: 38
Occupation: Inventory Management
Frequency of use: Often

**Background:**
Donna works at a distribution center. She spends most of her time at work tracking, locating and ordering products.

**Frustrations:**
- Many steps to place a order/reorder
- Slow systems
- Lack of order handling

**Role in Purchasing Process:**
Veronica is currently only dealing with marketing activities, and the current SOS does not provide marketing campaigns.

**Needs:**
- Quick order process
- Fast system
- To be able to track and trace order after placement
- To see ALL pricing options/discounts
- Find items quickly
- When an item will be replenished

"I need to know where are products are at all times"