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How to Capture New Trade Opportunities in the Knowledge Economy

- A study of the Swedish ICT sector in relation to the US-Market

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Master's thesis in the Master Degree Programme, Entrepreneurship and Business Design

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Master's thesis in the Master Degree Programme, Management and Economics of Innovation

MASTER'S THESIS

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Design and Management and Economics of Innovation

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Preface

In the study, 25 industry experts as well as 14 entrepreneurs/managers of SMEs have been interviewed. The authors want to thank all interviewees for their participation, both in terms of interest and resources.

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Gothenburg, June 2014

Jennie Granberg and Mikaela Bartoll

Abstract

Defining trade as the exchange of goods from one country to another is outdated. The international landscape has changed. Firms can increase their value and grow in new and innovative ways. Trade in intangible assets, also referred to as trade in services, is growing significantly. Companies are increasingly producing customized goods and services. Across all industries, the current trend for companies is to provide specialized offers that are distributed digitally. The Information and Communication technology (ICT) industry clearly illustrates this change in society. The ICT sector consists of offers that must be divided in more categories than the traditional classification of products and services to truly realize and comprehend the full potential of the values. To understand and exploit new business opportunities within services, the offers from ICT companies is in this study divided into categories such as products, virtual products, services, and license-offers.

For small nations like Sweden, international trade is vital to creating and maintaining a growing economy. The Transatlantic Trade and Investment Partnership (TTIP) encourage Swedish companies to reach new consumers and new markets by introducing a free trade agreement between the European Union and the United States. This free trade agreement will promote Swedish businesses in the US. Further, there exists other export supporting activities encouraging trade in different ways. However, how well these activities have adapted to the changing environment of companies and new trade opportunities is in question.

This report is a study of the Swedish ICT sector in relation to the US market. Industry experts and managers of SME companies in Sweden and the United States have been interviewed. From the analysis it is clear that human flow and intellectual property rights are two of the main issues in an establishment on the US market. At the same time, these two issues do not seem to be in focus in either the free trade agreement TTIP, currently being negotiated between EU and the US, nor export supporting activities.

Glossary

Key Persons	- <i>Actors with specific knowledge in the area of ICT and TTIP</i>
Export Supporting Actors	- <i>Actors working with SME firms to promote export</i>
Entrepreneurs	- <i>Managers at SMEs</i>
ICT	- <i>Information and Communication Technologies</i>
SME	- <i>Small and Medium sized Enterprises. Number of Employees: < 250, Turnover: ≤ €50m (EU definition)</i>
FTA	- <i>Free Trade Agreement</i>
TTIP	- <i>Transatlantic Trade and Investment Partnership</i>
WTO	- <i>The World Trade Organization, 159 member countries and covers 99% of world trade</i>
GATS	- <i>General Agreement of Trade in Services</i>
GATT	- <i>General Agreement of Tariffs and Trade</i>
Knowledge Economy	- <i>A system of consumption and production based on intellectual capital</i>
Analysis	- <i>Market analysis or similar provided when a firm is looking into a new geographical market</i>
Funds	- <i>Capital, both in terms of grants and loans, provided to support the internationalizations of firms</i>
Networks	- <i>Groups of industry or market experts providing contacts useful in internationalization</i>
The American market	- <i>Refers to the US market in this report</i>

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1 Introduction and Background

The concept of trade is changing. The marketplace has become more international with consumers all over the world. With the help of information and communication technologies (ICT), the geographical distance between producers and consumers has decreased. Businesses today are able to easily reach consumers in new and international markets. There is a shift from trading tangible goods towards intangibles such as skills, knowledge and information. These resources are not dynamic functions of the human ingenuity and are not fixed or static (Vargo & Lusch, 2004). Previously, the focus of trade has been primarily on the distribution of physical goods. Today, markets have opened up for new types of offers that do not fit the old definitions and concepts (Petrusson & Heiden, 2009).

Trade is often discussed in terms of goods and services. The central role of goods in trade fits well with the political goals of exporting manufactured products (Vargo & Lusch, 2004). Services have traditionally been defined as anything that is not goods (Ariu, 2012). Half of Sweden's Gross Domestic Product (GDP) is created from trade and the importance of international trade is crucial. The figure below illustrates the trend in Swedish export where trade in services is increasing while trade in goods is stagnating. This displays the importance of the wide category of services and enables a focus to understand the increasing intangible part of trading in order to create further growth in the Swedish economy.

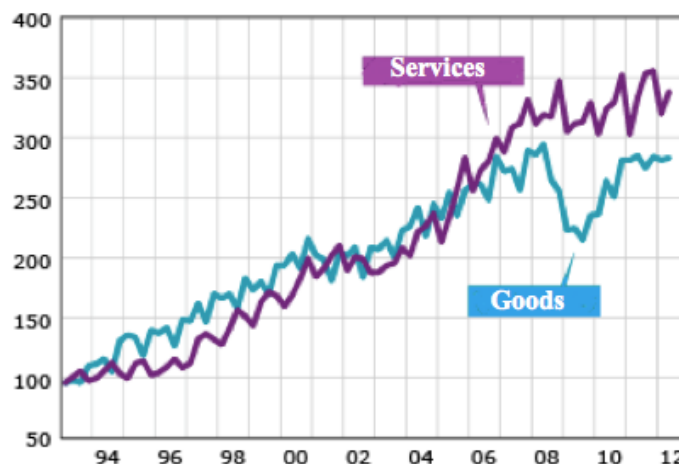


Figure 1 Swedish export, divided into Services and Goods for the period 1994-2012 (Source: Statistics Sweden)

The transformation in the economy can easily be seen in the ICT industry, where the digitalization of goods and services caused a transformation in the view and process of trade and internationalization. With international standards and products without transfer cost, the ICT sector is different from other industries. The ICT industry is globalized, quick and knowledge intensive. Its technology makes it possible for other industries to become more international since they are dependent on communication technology to be more efficient. Internet, for example, has made new types of assets tradable. With the use of Internet, borderless virtual business platforms are being created since suppliers, producers and customers freely can interact without going through pre-defined traditional channels of the value chain (Moen, Gavlen, & Endresen, 2004). The technological change is rapid and due to the fast diffusion of knowledge and short product lifecycles - internationalization is a key feature of this sector.

However, the reality for business within the ICT sector is complicated since new types of offers and technological innovations, such as virtual products, offer value and revenue without being counted as trade. One current issue is how trade is measured when there is a package of bundled services and goods transferred internationally. The future view of trade with more intellectual assets being transferred will change the way of looking at trade issues. The definitions vary and are often holding back the development of the ICT industry. The concept of international trade is important to understand in order to stimulate business to correctly stimulate job growth and wealth in the economy. Trade statistics and the nature of trade regulations in the countries of the Organization of Economic Cooperation and Development (OECD) economies have to a large extent remained the same.

The United States is seen as a market of big potential for many Swedish ICT companies. Trends within the ICT sector often originate from the US. The US has large corporations, a well-known culture and a prevalent language. The step to look for customers and end users over the Atlantic seems close. The trendsetting region, Silicon Valley, often serves as inspiration and is a logical influence in the industry because of its many high-technology businesses in the area. This link between the

ICT sector and the US market is interesting to look into in order to understand and increase the trade of knowledge intensive products and services.

1.1 Export Supporting Activities and Barriers to Trade

To promote international trade, two main support factors are of great relevance; Export Supporting Actors and Free Trade Agreements (FTAs). Several supporting actors provide funds, analysis, and/or networks to promote the establishment and trading of Swedish ICT businesses in the US market. The former Swedish Trade Council, now Business Sweden, is one of these actors. Established in Sweden, it is an initiative between the government and the private sector. There exist several other actors, both private and public, that assist in export related company issues. In this study, these actors are referred to as Supporting Actors. They may be specialized in specific sectors, phases of company expansion, regions or niche markets. Depending on the company and its business model, these external actors support and help companies access its capital, or by providing market and customer analyzes, and/or providing network contacts.

The ongoing negotiation between the United States and the European Union regarding a future free trade agreement over the Atlantic will affect trade opportunities within many industry sectors. The trade agreement, named the Transatlantic Trade and Investment Partnership (TTIP), is still on a macro level with ambitions to increase the flow of trade between the participating nations. The details of the agreement and time frame of implementation are unknown and under negotiation, but negotiators have outspokenly ambitions about coming to an agreement in 2016. However, it is clear that the agreement, if it applies, will have impact and spillover effects on companies of any size in Sweden since it aims to remove different barriers that affects trade between the regions.

Actions to increase international trade are not the only factors to influence trade. Trade barriers are factors that hamper or block the flow of products and services between nations. A trade barrier is a measure that governments and authorities introduce to imported goods and services so that they become less competitive than locally produced goods and services (Ministry of Foreign Affairs Denmark, 2014). The barrier can be linked to specific products as technical requirements, or a part of

administrative nature such as rules and procedures that are connected to trade transactions. Figure 2 below illustrates how activities are taken in to different directions, serving to either facilitate or block international trade.

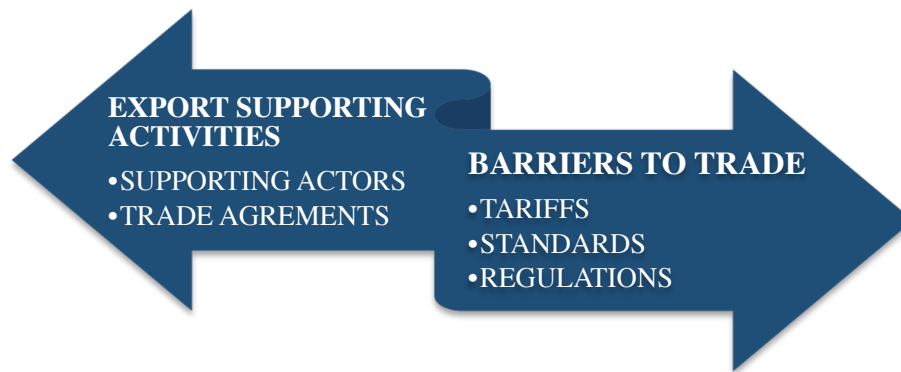


Figure 2 Activities in two different directions, aiming to facilitate or block international trade

With the rapid development of the ICT industry and ICT firms and its high potential to quickly become international in a short time, it is important to make the supporting factors fit the transformation toward a more knowledge based economy. How the Swedish government and other stakeholders can adapt and understand the new needs of ICT firms are of great relevance to serve and help companies today and going forward.

1.2 Problem Statement

Studies and reports are being done in order to understand how the Swedish economy would benefit from increased export as well as the potential outcomes of the TTIP agreement. However, the concept of trade needs to be investigated in order to fit the reality of businesses today. In the fast pace of technology and the shift of the economy to become more knowledge-based, there is a gap between how the policies function and the reality of how small and medium sized firms act within the ICT industry in relation to opportunities for internationalization.

The important questions to answer are whether the Export Supporting Activities and the TTIP framework are optimized for the new economy and whether they can increase trade in relation to the Swedish ICT sector's business opportunities in the US market.

The problem has been formed into one research question, which has been split into four areas of investigation.

Research Question: What trade challenges do Swedish ICT SMEs face in regards to the US market?

- 1. What does trade mean for ICT firms?
- 2. How will the TTIP framework affect export of Swedish ICT?
- 3. How do the trade challenges relate to the future of international trade?
- 4. How can Supporting Actors provide help in relation to trade for knowledge intensive firms such as ICT?

1.3 Purpose

The aim of this study is to provide an understanding and an analysis of the current situation and future challenges for Swedish ICT SME trying to export to, or establish in, the US market. Based on the results of the analysis, the report aims to provide valuable insights in the information gap between entrepreneurs and the Export Supporting Actors, with the aim of helping Swedish firms to capitalize on the US market more effectively.

1.4 Delimitations

Import and export are, in many ways, connected and both are important when looking at macro effects and perspectives of the total economy. However, this thesis focuses on export related issues only.

The TTIP agreement will have effect on a Transatlantic, European, and Swedish level. However, the study will mainly analyze the effect of Swedish SMEs within the ICT sector and not look into specific European or Transatlantic matters.

Other studies have been made on what the effects of other free trade agreements (FTAs) have on trade and investments. However, TTIP is a new type of FTA aiming to serve as a “golden standard”, which makes other comparisons less relevant and out of the scope of the study. This report will therefore not put focus on analyzing effects of other FTAs.

The study will discuss the importance of accessing funds and networks in the process of internationalization. However, the study will not further analyze or investigate the impact it has in relation to internationalization for ICT firms. The network of various actors helping companies in different ways with export related issues is shifting frequently with new actors and organizations that are hard to group and categorize. The study will not analyze or elaborate on any relationships between the existing Supporting Actors.

1.5 Thesis Structure

The report consists of twelve chapters divided into three main sections; Pre-Study, Empirical Findings, and Analysis/Conclusion.

Section I – Pre-Study

The pre-study contains the methodology, as well as theoretical definitions and concepts that are important to understand for the area of investigation. This section also includes relevant information about barriers to trade, TTIP and the link between the Swedish ICT sector and the US market. Chapter 2-5 represents the pre-study.

Section II – Empirical Findings

The empirical findings of the study are based on an extensive interview series, which is presented in chapter 6.

Section III – Analysis/Conclusion

Section III includes analysis and conclusions where the authors have elaborated with information from the pre-study in combination with the empirical findings. The section ends with developed recommendations.

2 Methodology

The study has been performed with a top-down focus and is based on qualitative data derived from experiences, perspectives, and thoughts of relevant actors. During the research, an abductive focus has been used, starting with information generated from the literature review, which were tested and developed throughout the process. This was a sufficient process in order to understand theory in connection to the empirical findings (Dubois & Gadde, 2002). The characteristics of the research have allowed a cyclic process of investigation and contain a mixed method of research that will be explained below. This process is encouraged by Bryman and Bell (2011) who explain that multiple research methods is sufficient in order to capture complexity in the data.

The cities of Gothenburg, Stockholm, and Chicago have been the geographical areas of investigation. The interview series have been grouped in three main blocks. There were also three angles used to confirm the gathered information through academic literature and interviews. Triangulations have been an important part of ensuring the validity of this qualitative study.

2.1 Research Design

The applied research design has been a combination of case study design and cross-sectional design. This combination has allowed a small number of case studies to be examined based on the firms' internationalization experiences and their offers. A cross-sectional design was applicable to the study since it was important to identify variations between firms, organizations, and people (Bryman & Bell, 2011). The case studies, on the other hand, provided the means to develop theory by utilizing insights and context of empirical findings (Dubois & Gadde, 2002).

The study method is mainly based on qualitative data, which have been gathered through literature reviews, theoretical concepts, and an extensive interview series. To increase the validity of the results, Bryman and Bell (2011) underlines the importance of having research questions in the study. The study is based on one research question, which has been divided into four areas of investigation. The four areas of investigation were in need of independent research design to enable

maximum credibility of the results and reflect the different dimensions of the research process (Bryman & Bell, 2011).

RQ: What trade challenges do Swedish ICT SMEs face in regards to the US market?

1. What does trade mean for ICT firms?

To be able to define what trade means for ICT firms, two underlying questions had to be answered; What characterizes the ICT sector today and what is the general definition of trade.

Initial information and understanding about the ICT sector were generated through literature reviews. First, focus was put on collecting different definitions of the ICT sector and what types of companies are included in these different types of definitions. Later, the most suitable definition was chosen to apply for further use in this study. Inspections were done of companies included in this definition to better understand their categorization of ICT and how they differ mutually. Finally, interviews with Supporting Actors served as important sources, providing an experience of working with the ICT sector and insight in how the sector is treated in reality. Interviews with Entrepreneurs provided insight into their everyday work, issues that they are experiencing and what kind of trade challenges they face.

The definition of trade was seen as a block of trade concepts including broad concepts such as export, offer, business model, firm, and market. Concepts are building blocks of theory and represent points that business research are conducted around and may stand for an explanation of certain aspects of the social world (Bryman & Bell, 2011). Theoretical models were used to understand how these concepts are defined today. Also, it is important to understand not only how the concepts are defined, but also how they are used in everyday work. Key Persons served as the source of information and provided their view on how the concepts are used and measured in Sweden today.

The information and knowledge gathered were used to relate the reality of firms within the ICT sector to the definition and usage of trade concepts. From this

comparison, it was possible to present what trade opportunities exist within the ICT sector.

2. How will the TTIP framework affect export of Swedish ICT?

To understand the TTIP process and why the negotiations started, an extensive literature review served as the foundation. The collected data consisted mainly of macroeconomic analyzes that were predictions about the outcome of TTIP. More specific information about the process from a Swedish perspective was gathered from interviews with Key Persons with insight in the TTIP process.

The understanding of what trade means for ICT firms was useful in this area of investigation. It was compared to data about effects of TTIP. Interviews with both Supporting Actors and Entrepreneurs provided information about their level of interest and knowledge, as well as how they believe TTIP could affect trade with the US.

During the study process, the authors also attended seminars and events such as “The America Day” and an SNS Seminar¹ with the topic of TTIP, which provided information about the TTIP process as well as an understanding of where the common knowledge and interest of managers and other stakeholders lie.

3. How do the trade challenges relate to the future of international trade?

Thoughts and reflections that occurred during the study of literature reviews and theoretical concepts laid the foundation for this third area of investigation. The result is mainly based on hypotheses, which have been tested and generated inductively during the interview series with Key Persons, Supporting Actors as well as Entrepreneurs.

4. How can Supporting Actors provide help in relation to trade for knowledge intensive firms such as ICT?

¹ Centre for Business and Policy Studie. This is Sweden’s leading policy research institute.

To be able to generate recommendations of how Supporting Actors best could provide help in the future, the starting point was to investigate what kind support that is given today. This was done by searching for material and information that could easily be found online, at seminars and events, and directly from Supporting Actors. This search provided an understanding of what kind information that reaches Entrepreneurs who are interested in export and establishment abroad. Also, interviews with Supporting Actors provided an opportunity to listen to their own explanation of what support they are providing.

During the study period, the authors have been working from Business Sweden's offices in Gothenburg, Stockholm, and Chicago. This has provided an opportunity to learn from, and talk to, actors and entrepreneurs in both Sweden and the US to understand their everyday work and understand their ecological environment. During the time of the thesis period, the authors have been attending a few educational events hosted by Business Sweden called *Steps to Export*, in order to gain insight in what help Entrepreneurs can retrieve from attending the same.

During the interviews with Entrepreneurs, they were asked what kind support they have had, valued, and/or could not get when they were in the process of trading with the US or enter the US market. The results combined with the analysis from studying what trade means for ICT firms were then put in relation to the support possible to get from Supporting Actors today.

2.2 Literature Review, Theoretical Concepts and Interview Series

Since the study is mainly based on qualitative data, a triangulation method was used to ensure validity of the results (Bryman & Bell, 2011). With the approach of a top-town perspective, a broad literature review where information was validated through theoretical concepts was the starting point. More specific information and interesting aspects was finally generated through the interview series. Here, an elaboration with the theoretical concepts together with the empirical findings served as the foundation for the analysis.

Literature Review

A broad literature review served as the foundation for the study. Focus was put on understanding the background and aim of TTIP, the Swedish ICT sector, and how trade has developed from the industrial age moving into the knowledge based society. An extensive literature review was done in order to reach a high level of trustworthiness in the interviews as well as credibility for the whole study (Bryman & Bell, 2011).

Theoretical Concepts

To understand the concepts related to trade that were discussed during the interview series and found in the literature review, theoretical concepts were of great help. Since some concepts are used differently depending on personal reflections and business surrounding there was a need to revise the concepts in the connection to different social contexts (Bryman & Bell, 2011). While doing a qualitative research, theory is supposed to be an outcome of the investigation (Bryman & Bell, 2011). Therefore, theoretical ideas emerged from data gathering to reach an academic standpoint and to elaborate with issues and questions that were brought up. Focus was put on three main areas: definitions of trade concepts today, classification of the information and communication technology, and formulation of offers based on knowledge intensive assets.

Interview Series

The interview series were divided into three blocks; Key Persons, Supporting Actors, and Entrepreneurs. Focus in all sessions was put on obtaining a deep understanding of the interviewee's situation in order to be able to analyze the cause of origin for specific thoughts and expressed opinions. A large majority of the interviewees have been met in person, to create an open and creative dialog between the interviewers and the interviewee. At all sessions, the two authors/interviewers have been present in order to confirm that the parties understood and had the same perception.

The abductive focus of the study opened up for semi-structured interviews, where questions were open-ended and flexible in order to fit the situation and the answer of the respondent (Cooper & Schindler, 2008). At all sessions, an interview template was used as a starting point in order to be able to confirm or reject

previous information and hypotheses. Bryman and Bell (2011) describes that the qualitative research may contain both the testing of theories and the generation of theories. This has led to the design of new questions that have been developed and added during the interviews based on new input and perspectives generated.

2.3 Data Sampling

The interview series have been performed using a top-down perspective starting on macro level with information from Key Persons, through Supporting Actors, moving down to Entrepreneurs in order to understand the industry as well as more practical matters. Also, in this process, triangulation has been important in order to confirm the thoughts and opinions from the three blocks to ensure the internal reliability and validity (Bryman and Bell, 2011). The process of the interview series is illustrated below.

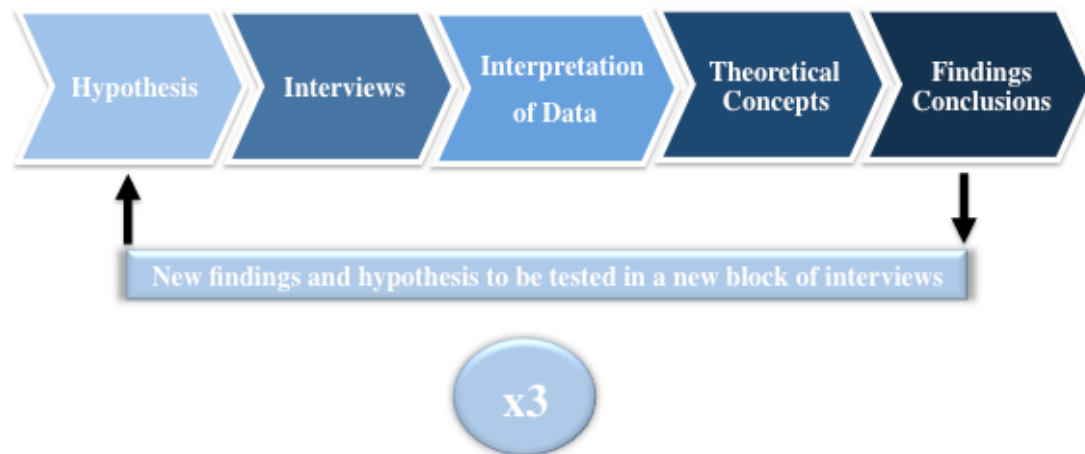


Figure 3 The process of the Interview Series

All interview sessions have had hypotheses and concepts derived from the literature review used as a starting point (the interview templates can be found in Appendix II-V). The concepts started broad and general and were able to be narrowed down with the help of interviews (Bryman & Bell, 2011). Interpretation of data was done to ensure that the two interviewers had the same view and further relate the information gathered to relevant theoretical concept. After this, findings and conclusions could be drawn and led to new hypotheses, which could be tested in the next block. The process in figure 3 was completed three times, one for each of the three blocks.

2.3.1 Interview Sampling

Focus during the interview series was put on obtaining a deep level of understanding for each interviewee, which had the effect on the number of interviews (a complete list of all interviewees can be found in Appendix I). In each block, the sessions continued until there was a clear trend in the response from the interviewees. The interviewees were picked based on different parameters dependent on what block they belonged to.

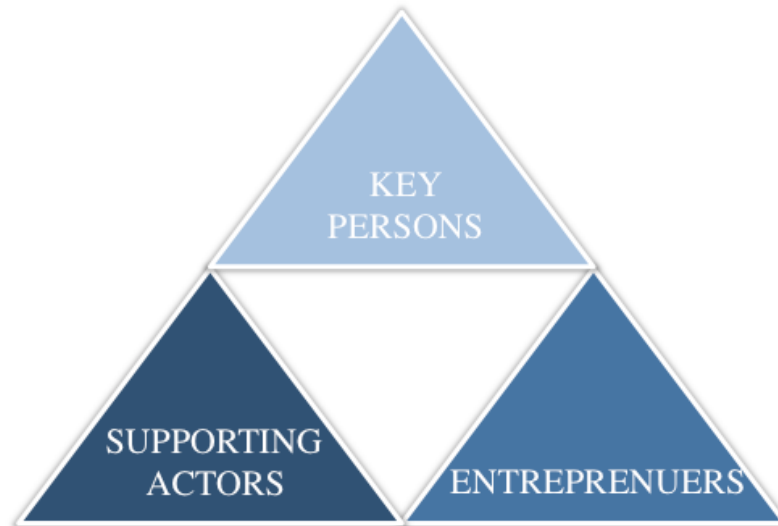


Figure 4 Triangulation of the Interview Series with three blocks different actors – Key Persons, Supporting Actors, and Entrepreneurs

Key Persons

Key Persons are defined as those who possess specific knowledge in an area of interest for the study. In order to reach a holistic view of both the ICT industry and the TTIP negotiations, persons with insight in these matters have been of particular interest. Interviews have been held with representatives from the Foreign Ministry in Sweden, The Swedish National Board of Trade and representatives from business federations.

Supporting Actors

The interviewees were selected based on their organization's aim to support small companies to grow and go international. Also, they were chosen on their ability to help companies with export oriented issues. A connection to the US market and knowledge within the ICT sector was a requirement. The network of supporting actors with different specialties and industry knowledge is big and interconnected. First, the supporting actors in the study were limited to include those based in

Sweden and in the US. Second, the actors were chosen based on the ease of finding them online and at local and regional events since this is where entrepreneurs typically look for information and attend.

Entrepreneurs

The entrepreneurs were selected based on their position and their experience with trade related issues. When possible, interviews were made both with the CEO in Sweden and a Manager within the same firm, but in the American subsidiary.

This study uses the definition of ICT proposed by the Organization of Economic Co-operation and Development (OECD). To choose the entrepreneurs most relevant to the study, several criteria had to be fulfilled. By using the theoretical framework, entrepreneurs were grouped into categories depending on the offer provided by the firms. The offer was categorized into product, virtual product, service and license offer. The interview series includes a uniform representation of each category. In the process of selection, it was also taken into account whether they had become active on the US market or not, and whether they had got help from any Export Supporting Actor. This was done have an extra dimension and to make sure that different variants of categorization were represented. Some respondents have assisted in the process of getting connections to other interviewees. Time was spent selecting and interviewing entrepreneurs in both Sweden and in the United States in order to receive information from both US and/or Swedish perspectives regarding risks and possibilities with internationalization.

2.4 Reliability and Validity

To assess and establish quality of the thesis Bryman and Bell (2011) points out the importance of ensuring the reliability and validity of a study. The study is based on several qualitative interviews that affect the reliability of the study since it is hard to replicate and freeze the social setting and circumstances at the time. To treat the issue of external reliability, the interviews have been recorded and written down. To reach the internal reliability, both interviewers have been present during all interviews to make sure there was agreement on what have been discussed and to ensure that the same interpretations had been met. Further, main takeaways from meetings were discussed after each interview setting. With the possibility to visit

most of the interview objects in their own natural environment the researchers could get a better picture and understanding of the local setting which increases the credibility in the findings. A triangulation method of sources has been used to ensure the internal validity in the study, both during the data collection as well as combining empirical findings with theoretical concepts. To meet the external validity, the selected entrepreneurs from the firms have been chosen depending on categorization of their offer. This was done to ensure aspects from a variety of experiences. However, given the relatively small number of interviewees, the external validity may be weak.

2.5 Quality Measures

As in all studies based on qualitative data, there is a chance that the information may be angled from a certain perspective. However, it is important to understand that there is no correct answer or truth when it comes to qualitative studies (Bryman and Bell, 2011). How the interviewees answered the questions in the interview sessions tends to differ based on several factors. The most significant are whether the establishment/export was a success or not and the purpose of the actors existence. For example, if the Supporting Actor is controlled by the government or not and what kind of revenue stream they have. What type of advice given by the Supporting Actors might differ based on their connection to the government as well as their purpose; to provide funds, analysis, or network. It might also differ in regards to how the inflow of clients looks like. This has been important to consider before any conclusions can be drawn.

Successful Entrepreneurs tend to describe their process of US establishment, as only a straightforward path without any analyzes done beforehand. In interviews with successful Entrepreneurs, they tend to remember the process, as there was no actual barrier. A misleading view can be that they advise others to be more aggressive in their establishment and act more and analyze less. On the other hand, the Entrepreneurs who failed their journey tend to favor the importance of being well prepared.

3 A Need for Redefining Trade Concepts in the Knowledge Economy

As we are moving towards a more knowledge intensive economy, old concepts like *Trade, Export, Offer, Business Model, and Market* must be redefined to include new business opportunities that are made possible through the use of information and communications technologies. The definitions of today are presented with the ICT sector in focus aiming to point out why some concepts and definitions are not optimized in the new economy.

3.1 Knowledge-Based Business Perspective on Trade and Export

For a firm to survive in a competitive climate, it is important to understand and use the resources effectively to pursue opportunities and avoid treats (Barney, 1991) Along with this view, Vargo and Lusch (2004) claim that knowledge is a resource which is the foundation for competitive advantages and economic growth. The resources of a firm can be divided into those that are property-based or knowledge-based (Grant, 1996). The old views of property-based resources and tangible products as components of economic exchange have served well in the industrial society. However, as the transformation of the society move forward and focus is put on skills and specialization, it changes the business ideas. The shift is seen as more focus is put on value and utility, rather than traditional manufactured and agricultural output (Vargo & Lusch, 2004). Therefore, the knowledge-based resources are important to accumulate since they provide a sustainable competitive advantage as they often are hard to understand, difficult to imitate and involves technical or creative skills (Miller & Shamsie, 1996).

R&D can be seen as strategic assets to companies and these activities are expected to be immobile since they require high knowledge intensity (Meijers, Dachs, & Welfens, 2008). Without knowledge, a firm is not capable of discovering and exploiting new opportunities and with the increase of knowledge-based resources in the society; the focus on R&D accumulation of firms becomes important in order to survive. With this transformation, it becomes more tacit and difficult to transfer R&D and its knowledge (Meirelles, Pace, & Basso). However, some argue that

R&D becomes more mobile between companies in the future and points out that it is the human capital that is immobile (Artus, 2013).

With the view of the knowledge-based recourses as sustained superior advantages, it becomes more important to possess and accumulate. The effect and impact it has on transfer and exchange between companies becomes crucial. Trade and exchange today is becoming more international containing more than “just things that can be packed and shipped”. Trade is often discussed together with terms such as export of goods and services that easily can be valued and represented statistically. Despite the increase of wider product categories and specialization within both sectors and firms, there are no perfect definitions to separate goods from services. Old concepts describe goods as having exchangeable value. Goods are usually referred to as tangible things with a physical dimension, while services are described as intangible and more knowledge intensive (Parry, Newnes, & Huang, 2011). Intangible assets can according to Petrusson and Heiden (2009) be defined as intellectual- assets, property, and capital. Here assets can be seen as valuable objects, property as objects for commercial transactions, and capital as objects that are accepted by some financial establishment. The typical view of trade can be modeled with this illustration meaning that companies have assets that are first turned into properties and then finally to capital. The difference between the assets lies in the ability to claim ownership and common valuation. Ownership and common valuations are built up as social constructions. These social constructions differ between nations, which are why it is hard to manage ICT offers in international trade, since the assets need to be packaged differently in relation to the markets in order to obtain protection and value (Petrusson & Heiden, 2009).

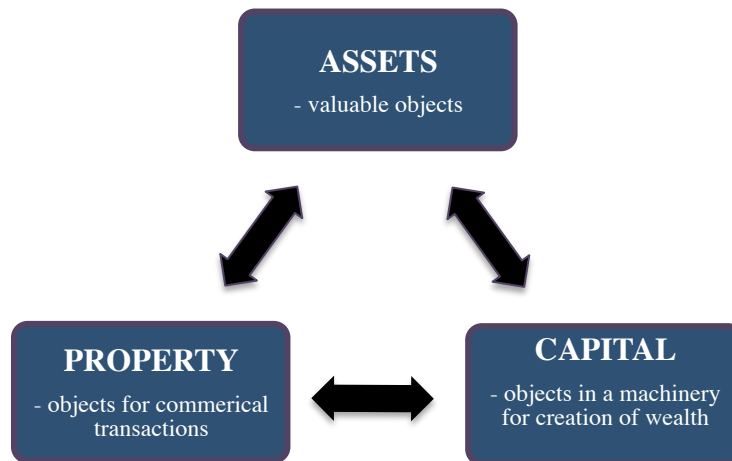


Figure 5 A Conceptual framework for the Assets, Property and Capital

The figure above illustrates three states of intellectual assets. The figure aims to describe that the same offer can be defined as an asset within one nation, and as property in another due to different intellectual property laws, standards, and regulations. A number of hybrid business solutions have been created with the combination of industrially manufactured products and services that can be led to the creation of virtual products which will be further described below (Petrusson & Heiden, 2009).

3.2 The Knowledge Intensive ICT Sector

The knowledge-based economy offers faster growth and productivity gains. One of the most knowledge intensive industries is the ICT sector. By the use of information and communication technologies, firms are allowed to exploit knowledge and technology in order to gain competitive advantages (Brinkley, The Work Foundation, 2006). Knowledge intensive firms are often connected with labels such as being innovative and intellectual (Cranfield, 2009). Information and communication technologies improve access to basic services and give rises to new organizational models and thereby provides benefits to the society and economy. Further it can improve and create new offers and business models for firms and organizations (Swedishwire).

The ICT sector is not very homogeneous and thus not per definition knowledge intensive although it contains fast diffusion of knowledge, skills and short life

cycles (Meijers, Dachs, & Welfens, 2008). OECD has given the sector a definition where focus is put on the functionality of the product. The product can be in the form of a good as well as a service. The definition reads:

“ICT goods must either be intended to fulfill the function of information processing and communication by electronic means, including transmission and display, or use electronic processing to detect, measure and/or record physical phenomena, or to control a physical process” (OECD).

Another definition states that the concept of ICT covers any product that will store, retrieve, manipulate, transmit or receive information electronically in a digital form (Meijers, Dachs, & Welfens, 2008). Broad groupings of the ICT sector are telecommunications equipment, computers and related equipment, electronic components, audio and video equipment and other ICT goods. A simpler grouping can also be done in the groups of hardware, software and service providers².

ICT can be seen as a motor for the whole economy and have led to great investments in industries by stimulating labor productivity growth (Meijers, Dachs, & Welfens, 2008). However, there are some issues that seem to be special in the case of ICT in terms of its patterns and mechanisms of internationalization. The ICT sector consists of both tangible and intangible goods and services, which per definition are intangible. Trade in the ICT industry is in statistics often divided into both export of goods and export of services. Last year electronics and telecommunications represented twelve percent of the export of goods in Sweden. The corresponding category in the service sector consisting of IT and Communication export were eight percent (Business Sweden, 2013).

Some types of ICT goods, especially digital goods and services can be reproduced and transferred internationally at almost zero cost, implying that special attention needs to be paid to Intellectual Property Right (IPR) issues. In comparison with other goods in other sectors, the prices of the products in the ICT industry tend to decrease fast while the quality of the traded goods increases (Bourassa, 2011).

² Erik-Willhelm Graef Behm, Business Region Gothenburg, 10th of February 2014

Further, a specific characteristic of the knowledge intensive activities within the ICT sector are the shortening of the product life cycles. New product cycles could theoretically lead to a new geographical offshoring sequence.

The importance of defining assets, property, and capital (explained in chapter 3.1) can be related to the level of goods and services in a sector. In a fragmented industry such as the ICT sector, a more detailed classification of goods and services can be done by dividing the offer from companies into product, virtual product, service, and license offer (Petrusson & Heiden, 2009). An offer is often a bundle of varying shares of the four groupings in figure 6. The type of bundling is often related to the ability to gain protection and obtain value.

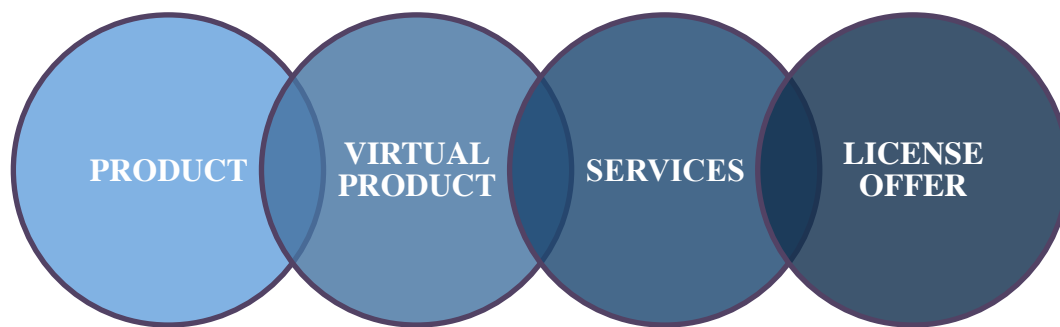


Figure 6 A conceptual framework for the ICT industry

In the ICT industry, intellectual assets can be in form of physical products such as the creation of different technology devices or components. The physical product is well known in relation to trade policy issues. Vargo and Lusch (2004) claim that it is important to understand the value in the offering. If a tangible product is part of the offering, the consumer must understand that the value potential of it. A tangible product has knowledge embedded that can be translatable to specific. The category of hardware products is the only segment that is decreasing in employment within the ICT industry in Sweden. Hardware companies typically engage in manufacturing of control and regulation equipment, equipment for measurement and calibration, alarm, lasers and sensors. Few of these companies have grown internationally in the recent years (Giertz, Levèn, Sörensson, & Lougui, 2013). More examples of these types of goods are computers, telecommunications equipment such as base stations and mobile phone devices.

A new type of product is the virtual product, which can only be developed and sold through the use of ICT. This can for example be software, music, games or applications for smart phones. This category is growing and many new and small start-up companies are being developed with business models focused around virtual products- leading to a creation of a market that did not exist a few years ago (Wu, 2007). Swedish developed companies such as *Minecraft*, *Spotify*, and *King* are all examples of firms that offer virtual products to their customers all over the world. With virtual products, a new type of product challenges the traditional marketplace. This can for example be viewed in the gaming industry, when customers start to buy in-game goods with real world money (Orescovic, 2009). Hence, virtual objects are not really objects, more seen as graphical metaphors that are packaged to further keep people interesting and engaged in something that interests them. Thus, virtual product creates real value for people.

Services are in need of communication technologies to function. Services in the ICT industry can be seen found in terms of consultants and specialists acting within a wide spectrum from technological design services to pure administrative tasks. The group of IT consultants is one of the fastest growing business segment in Sweden and has during the past five years had 40 percent employment growth (Giertz, Levèn, Sörensson, & Lougui, 2013)

Copyrights, patents and other intellectual property can be licensed out, which creates both a source of income and disseminates the technology to a wider group. The increase of different license options are becoming a generate source of royalty for firms that have started to explore and realized the benefits of that area. Given the intangible character of technology, it can have many different users simultaneously and be used in different purposes. Potentially this can become a basis to a number of related or unrelated products in a number of locations and countries. An example is the Swedish network and infrastructure provider Ericsson, that during the last five years have doubled the licensing revenues made from the IP portfolio (Ericsson).

3.3 Trade and Export Today

Export today is defined as goods and services that are sold, given away or exchanged between domestic companies and foreign companies (Statistics Sweden),

thus international trade. However, the traditional view is still mostly focused around the exchange of goods. Export can further be defined as merchandise goods leaving a statistical territory of a country. A statistical territory is according to the general trade system defined as the same as the economic territory and customs territory (OECD, 2007). Export can also take place without goods and services existing on a specific territory, this is for example when subsidiaries abroad have produced and sold goods and services and when the trade margin accrues a parent company (Statistics Sweden).

A common way to describe service trade is the one used by WTO in the service trade agreement *GATS*. WTO uses a model of four modes to describe the different views of service trade transaction. These are; cross border trade, consumption abroad, commercial presence and presence of natural persons (WTO). The most common way to deliver a service today is cross border trade and commercial presence (Kommerskollegium). When dealing with service export, there are no packages crossing the customs frontier. A service has usually been defined in terms of everything except goods. However, the definitions are not clear and internationally agreed upon. This makes the statistics about service export hard to analyze and compare. According to the Swedish National Board of Trade, service trade consists of exports and imports of financial and business services, telecommunications, computer and information services, royalties and license fees and cultural and recreation services (National Board of Trade, 2012). Though, there are insufficient agreements of what to include in the statistical treatment of services (United Nations, 2002). The System of National Standards defines services as a heterogeneous range of intangible products and activities. They are often difficult to separate from goods, since they are associated with a physical product in varying degrees. Ball et al. (2008) states that nearly all “products” can be viewed as having a combination of goods and services. Further he claims that services can be divided into hard and soft elements, and the quality of services can also have two different aspects such as technical (what the customer gets) and functional (how the customer gets it).

Depending on what kind of service that is being provided, literature agree that services face difficulty in exporting since they are in need of contractual

relationships, licensing, franchising and foreign direct investment. When dealing with information-intensive services Erramilli (1989) claim that customization and tighter control is necessary. Further, Erramilli claim that entry modes in the need of substantial resource and managerial commitment are necessary from the starting point of an establishment.

The rapid development of technology and innovations today has made the separation of goods and services hard to define. The similarities are often neglected. Both goods and services are tradable and have one provider and one customer (Parry, Newnes, & Huang, 2011). It can therefore be argued that there are few pure goods and pure services. For example, more manufacturing firms sell and export more services today than ten years ago (Kommerskollegium, 2013). This has made the share of service sales in total turnover to be raised by 25 percent in Sweden (Kommerskollegium, 2013). When firms integrate or accompanying services with existing products is called servicification (Kommerskollegium, 2012). The trend mostly observed in the manufacturing industry is also a large trend in the ICT industry where hardware products are packaged with added services and knowledge to the end user. The offer is therefore hard to separate into a pure product or service leading to difficulties when analyzing where the value of the offer lies.

With only the tangibility as a differentiator, goods and services can be seen as a spectrum starting from pure goods at one end to pure services in the other end (Meijers, Dachs, & Welfens, 2008). The classifications of goods and services gets even more complex in relation to the ICT sector and to the trade definitions described in GATS and GATT. The links between goods and services are merging since concepts like virtual products arise. Virtual Products exists as digital bits on computers and cellphones (Orescovic, 2009). Further, Virtual products are bundled with additional service components (Meijers, Dachs, & Welfens, 2008).

3.4 Business Models and Innovative Offers

ICT has opened up for new business opportunities (as described in chapter 3.2) with new ways to bundle the offer and also the possibility to reach investments in more global niche markets. Information and communication can be used in several directions and the value might differ significantly depending on where and when it

is used, as well as by whom. Petrusson and Heiden (2009) points out the importance of intangible assets that need to be objectified, evaluated, and managed in order to create value. In the ICT industry, there exist several opportunities in how to formulate a business model. Start-up firms may use subscription models in order to create a customer base. In this case, the risk of the offer lies on the firm, which benefits the customer. When the firm gets more established and “well-known” on the new market, the business model may change to include front up payments, which changes the risk and cash flow situation (Lurie, 2010).

The traditional answer to the question of how value is created is through the value chain. The concept of the value chain is widely applied and used as a framework to understand how firms manages strategies connected to a range of international entry modes (Ball, Lindsay, & Rose, 2008). Specific activities or steps in this chain can be analyzed in order to understand how firms compete. This goods-centered model assumes that the primary flow in the supply chain is physical flow and acknowledges some kind of flow of information (Vargo & Lusch, 2004). The concept of the material value chain is rooted in the industrial age (Allee, 200), and the traditional view of trade is in many ways built from this process. Further, the goods-centered model assumes that the purpose of economic activity is to make and distribute things that can be sold. For both maximum control and efficiency, the product should be standardized and produced away from the market. The good can then be stored until it is demanded and then delivered to the consumer at a profit (Vargo & Lusch, 2004).

Figure 7 illustrates the traditional focus on production activities, which starts with some kind of raw material and end up as a product and/or service. However, not all firms of today are producing physical goods. A number of companies have today shifted focus from manufacturing of products to licensing of intellectual property in the form of know-how, thus there exists other ways to vertically integrate than the traditional way. A way of looking at knowledge-based businesses is to complement the traditional material value chain with an intellectual one (Petrusson & Heiden, 2009). This is to show how intellectual assets can be added to physical products and also to illustrate new types of offerings being possible through the help of ICT.

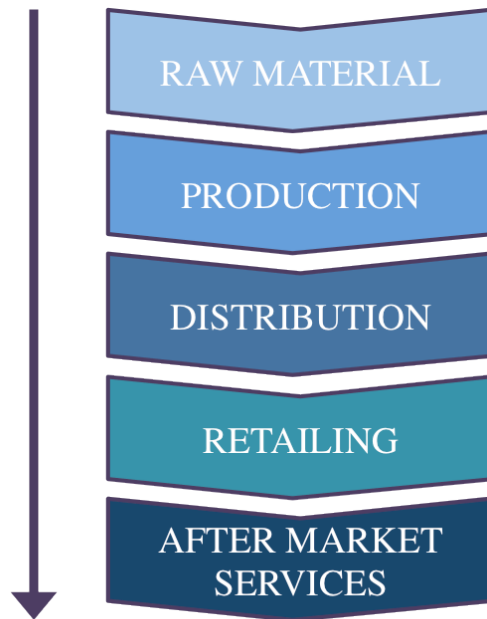


Figure 7 The Material Value Chain

The intellectual value chain includes a broader range of offerings, which is important to analyze when choosing an optimal business model. Petrusson and Heiden (2009) claims that a challenge is to understand these opportunities derived from the new way of viewing the value chain. Similar to this view is the service-centered view that is grounded in a resource advantage theory mixed with theory about core competencies. The first step in the service-centered view is to identify and develop core competencies where the competitive advantage is represented by knowledge and skills (Vargo & Lusch, 2004). Today and in the future, the actors who best recognize potential strategic options and understand how to manage the opportunities and threats with innovative offers and business models, will obtain competitive advantages (Department of Trade and Industry).

3.5 The Traditional Firm and Market

Today, companies starts to invest heavily in gathering and storing knowledge and information and less in machinery and equipment. This transformation can be linked to the evolution of mass consumer markets, the introduction of ICT, and the spread of higher education providing an increase in well-qualified labor and the opening of global markets (Brinkley, The Work Foundation). The use of the concept “Knowledge Economy” has made fundamentally challenge to traditional theories about how to define a firm and a market (Cranfield, 2009). The movement towards the knowledge-driven economy has changed how firms compete in international

markets. Information technology decreases the gap to international markets since an effective use of Internet may serve as a “gateway” to other markets and a way to overcome barriers that is typically experienced by firms (Hamill, 1997). The product life cycles are shorter and the ability for firms to grow fast in an international marketplace is important. Fewer roles in manufacturing are within production and people are instead engaged in service activities aiming to adapt the offer to the specific customer (Brinkley, The Work Foundation, 2006).

Literature points out the emerging trend amongst SMEs to compete on an international market before having established a solid home market (Moen, Gavlen, & Endresen, 2004). Many ICT firms are called *born global*, which means that they are of international character right from the start. There also exist several more names of the same type of phenomenon such as infant multinationals or international new ventures (INV) (Moen, Gavlen, & Endresen, 2004). Challenges faced by these firms are often related to the creation of intellectual property rather than choosing what geographical market to strive for. ICT firms are attracted to go international by various motives such as a market exploiting nature. Cost advantages are the most important driver of internationalization but are not the only determinant. Aspirations are also to expand sales and to open new markets. Further, firms tend to follow their domestic customers that make the path towards establishing on the international arena more natural. R&D has been the activity where firms maintain their market base. However, patent analysis has shown that alliances or R&D investments abroad have increased during the years (Meijers, Dachs, & Welfens, 2008). Literature also point out the importance of using network in the information intensive service industry and that a foreign market entry decision often is connected with the action of a client or by following customers overseas. Ball et al. (2008) claims that firms that want to internationalize can try to leverage on intra-industry networks to a greater extent to provide an alternative to, or supplement, local presence overseas. Further Ball et al. says that by using networks and using partners to undertake functions such as information gathering and delivery, a firm can to larger extent maintain the production function at the home market.

4 Tariffs, Regulations, and Standards

The country borders become less important as the information and communication technology offers digitalization of assets, which can be distributed in new ways without need for physical transportation. However, Hermelin et al (2011) points out that national borders still serve an important role in the global economy. States are political territories where governments can restrict ways of doing business. They also claim that important aspects in qualitative interactions of business abroad are the norms and values in the country, which can differ significantly between nations. Further, internationalization is today described more as gradual development often in terms of movement where firms expect to progressively target more distant markets (Moen, Gavlen, & Endresen, 2004). Thus, the importance of regulations can have effects.

Obvious barriers when dealing with trade are tariffs. A tariff is a tax imposed by a government on either export or imports. Other governmental policies that are designed to affect the volume or composition of a country's international trade are the non-tariff barriers (Husted & Melvin, 1995). Non-tariff barriers (NTB) are restrictions that refer to prohibitions, conditions or specific market requirements that make import and export difficult for firms (Trade Barriers Org). Examples of this are regulations and standards that lie behind the customs borders, such as customs delay, subsidies or different systems that are preventing trade. Technical regulations and product standards vary by country and are rules and guidelines that have to apply to products and manufacturing procedures (Trade, 2013). However, unlike tariffs, regulations cannot easily be removed, their existence has a purpose such as safeguarding and country security issues (Kommerskollegium, 2012). Thus, regulations are driven by differences by geography, language, preferences, culture or history (Berden, Francois, Thelle, Wymenga, & Tamminen, 2007).

Besides barriers that are linked to specific countries and regions, there exist other barriers to trade that are more organizational specific. Larger companies can in various ways overcome barriers by diversifying operations. Examples of this are to create economies of scale and put resources into lobbying for favorable laws and regulations (Fliess & Busquets, 2006). However, SMEs may be more vulnerable to

trade barriers than larger companies. This due to financial and human resource constraints, and lack of interest in trade policy issues are factors addressing problems for smaller companies. With limited resources and lower thresholds to absorb risks in their internationalization efforts, trade policy lobbying is rarely something SMEs focus on. Smaller firms tend to allocate funds in ways to get bigger and quicker returns (Fliess & Busquets, 2006). However, Bhide (1994) points out that in the world of SMEs, the impact of Internet is interesting to consider when discussing barriers to enter. Since SMEs resources usually are scarce and therefore tend to seek solutions to problems where entry barriers are low. Hamill and Gregory (1997) points out ways to overcome some entry barriers with the use of information technology. Barriers that are psychological can be overcome with the use of Internet to access information sources and increase the confidence of the small firm. The operational barrier is simplified through simplification of export documentation and electronic data transfers and payments. Organizational barriers are also improved with the use of Internet that provides low cost market research, international knowledge and reduced dependence on international intermediaries. The last barrier that is brought up is the market barrier where information technology can facilitate client feedback and allow for an adoption of a global niche strategy instead of a country-centered strategy.

A way for Governments to address trade barriers by trying to minimize them is to be active in multilateral and bilateral trade negotiations. A trade agreement lets member countries trade freely with each other, while non-members have to pay tariffs and overcome other kinds of barriers. An agreement normally covers different sectors and often has a timetable for individual tariff reductions (European Commission, 2013). Trade agreements usually involve cooperative research and developments, lowered taxes or import duties and other advantages to its members (Chron). Trade blocs are relationships between countries often in the same region that have formed trade agreements. Examples of well-known trade blocs are the North American Free Trade Agreement (NAFTA) and the European Union (EU). Free trade among the members in the European Union was one of the founding principles and today EU has developed a market where products, services, capital and people can freely move within the borders.

The World Trade Organization (WTO) lays down fundamental rules for world trade. The organization has established a regulatory framework that both covers trade in goods (GATT), trade in services (GATS) and trade-related intellectual property issues.

5 Reaching the US Market

It is predicted that 90 percent of the demand of goods and services will in 10-15 years be generated in markets outside of the EU (Kommerskollegium). As mentioned earlier, trade in services is increasing and the ICT sector implies to become an important part of future trade. With an aim to reach and try out the big US market, the Government wants to encourage Swedish businesses to trade more. With the US as a trendsetting country for the ICT industry, there exists tight links between the Swedish ICT sector and the US market. How these links will and can be affected may relate to the TTIP agreement and its potential outcomes.

5.1 The Growth of the Swedish ICT Sector

Sweden is considered a strong player in relation to knowledge-intensive products and services. Foreign trade within the industry is growing and the aggregated export in goods in ICT was 15 percent of the total export of goods in 2011 (Giertz, Levèn, Sörensson, & Lougui, 2013). Since 2008, the ICT sector has grown by 16 percent in Sweden (Sweden.se, 2014). The growth is connected to the fact that IT and telecommunication has enabled services to be more tradable, mainly through the introduction of the Internet. The ICT sector in Sweden is dominated by a few big companies, such as Ericsson, but is mostly characterized by many small businesses (Sweden, 2013). Firms doing business only related to ICT are a natural backbone of the ICT sector. However, parts of organizations included into other sectors can also be doing business solely within the ICT area without being counted as a part of the sector. An example of that is Volvo IT that solely is doing ICT related work but are included into the manufacturing sector.

Software has been the fastest growing component of ICT investments in Sweden (OECD Fact book, 2007). The ICT industry in Sweden is also characterized by the fact that small innovative firms are often quickly being bought by foreign investors (Giertz, Levèn, Sörensson, & Lougui, 2013). Entrepreneurs within the ICT sector often see Sweden as a test market for new products and services, a result of the strong interest of the Swedish population to become early adopters. A reason for

this can be led to the advancement of the infrastructure that makes the population of Sweden highly connected³.

Sweden is considered to be a nation worth trust, both in politics and business relations (Nilsson, 2014). United States is often the first market that many ICT-firms want to expand to, both with product export and service export. The US is especially important in terms of technology and trends. Roughly 75 percent of the world's largest software companies have their roots in the US and many industry leaders are US-based firms such as eBay, Apple, Microsoft, AT&T, Cisco and Google. The ICT sector can be seen as international-friendly since it is characterized by foreign ownership. 40 percent of the employees in the Swedish ICT sector are working in a foreign owned company. Foreign investors owned 42 percent of software companies in Sweden. The acquisition of these companies have been done in the early expansion period of the companies were often the goal from the start of the company has been to reach an exit in form of a venture capitals (Giertz, Levèn, Sörensson, & Lougui, 2013)

5.2 TTIP – A Potential Bridge Between the EU and the US

Several studies have been made to see the potential opportunities and risks with TTIP. Most of these studies are made in macroeconomic terms and do not address the firms' specific interest or gains in the free trade agreement, in particularly not the smaller ones. Large multinational corporations seems to be more involved in the negotiations, since more effort and financial gains can be made on larger quantities of trade in goods. However, a future TTIP agreement will have unforeseen effects on SME firms in regards to different aspects to trade with the US which makes the negotiations important in the matter of future regulations of trade.

Since the global financial crisis 2008-2009, both the US and EU economies have been stuck in a state of stagnation with no robust growth expected anytime soon without major changes (Smith & Workman, 2013). Together, the US and the EU accounts for almost half of the world GDP - as well as 30 percent of the global trade. The two economies have invested more than 3.7 trillion USD in each other. A

³ Mauro Gozzo, Business Sweden, 6th of March 2014

High Level Working Group, with experts from both continents, concluded that a comprehensive trade and investment agreement between the two economies could stimulate jobs, growth, economic gains and competitiveness (High Level Working Group, 2013). By removing barriers to trade, it is believed that economic gains would come from the elimination of contradictory standards, greater regulatory alignment and increased access to services and government procurement markets. By streamlining the two regions' regulatory regimes, a strengthened world economy is also expected (Barker, Collett, & Workman, 2013).

The WTO has tried to achieve a multilateral trade agreement between its members. The last attempt to encourage the member states to agree in such a matter started in 2001 and is named the Doha Development Agenda. The negotiations stalled due to the fact that 159 members with different conditions in terms of culture, religion, geography, history, and economic power have problems to align together and reach common goals. The slow pace in the Doha round is one reason why the two world leading economies took matters into their own hands. The TTIP negotiations started in July 2013 in Washington DC (Smith & Workman, 2013).

The European commission leads the TTIP negotiations but each EU country strives to influence the commission in order to ensure that their national interests are taken in consideration. In Sweden, 18 working groups are designated to represent Swedish interests. It is said that the Swedish culture is adaptable and Sweden has realized the benefits with free trade a long time ago, by the creation of the National Board of Trade.

5.3 TTIP as a *Golden Standard*

TTIP is more than just a FTA, it aims to serve as a partnership between the worlds' two leading economies. It will strengthen the relationship between the two economies and also create the world's largest free trade arena. TTIP is the first negotiation between two equal partners in terms of size as well as economic development. Historically, the US and EU have focused their free trade agreements with small and/or developing nations. The negotiations must be ambitious and comprehensive to cover all sectors. Thus, issues regarding data protection and privacy are considered difficult to negotiate in terms of the NSA scandal. Another

topic brought up by politicians and experts is the issue about genetically modified organism and hormone treated agricultural products that differ between the regions⁴.

It is debated whether it is optimal that two economies get the opportunity to set a framework for the whole world. Analytics claim that the emerging markets will have to subscribe to a completely different economic model, for better or worse. Often mentioned in the discussions of TTIP is the future aim to serve as a golden standard to which other countries can connect. Optimistic experts around TTIP conclude that it will benefit third parties by making it possible to trade with both the EU and the US on the same terms without need of adaptations. Another positive aspect is the increased competition within the free trade area, which intensifies the innovative climate as well as creates stronger products and services.

⁴ SNS-Seminar, 30th of January 2014

6 Factors Affecting Trade – The Interview Series

The trade barriers presented so far in this report are of general character and so is most of the input for the TTIP negotiations. Interviews done in this study have provided information regarding how Key Persons, Supporting Actors, and Entrepreneurs see the US market and the ICT sector, both in terms of risks and possibilities.

The barriers have been categorized into Tariffs, Non-Tariff Barriers, and Perceived/Mental Barriers. The categories have been elaborated with in relation to the type of offer provided by the firm experiencing them. The difference in thoughts and opinions between the three interview blocks have been divided into information, knowledge, and interest trying to break down the cause of origin to the dissimilarity.

6.1 Tariffs

The Swedish ICT SMEs do not think much about the extra burden tariffs may have to their organization. When dividing the offer into product, virtual product, service, and licensee-offer, only product related goods are objects for tariffs. This means that a large part of ICT firms do not have to consider tariffs at all.

If the firm is developing some kind of physical product, their offer is according to the manager often so specialized that the customers cannot find another option and thereby pay to get the product imported. This mainly happens when the transaction is business to business (B2B) and the customer is a large company depending on a specialized solution.

If the product instead is sold directly to the end customer, tariffs needs to be considered, but are still low. The ICT firms often combine a product with some kind of virtual product and/or service. This means that the product in itself do not stand for the whole value of the offer. The entrepreneurs with a physical product in the offer see the value of their offer in the intangible assets. However, one entrepreneur claims that it is the physical product that makes the offer different from the company's competitors. A large share of the value often lies in the intangible assets,

which are not objects for tariffs. Thus, tariffs only need to be paid on part of the offer, and as mentioned before, tariffs between Sweden and the US are in general considered low.

6.2 Non-Tariff

Non-Tariff Barriers (NTBs) are mostly characterized by standards and regulations that a firm has to adapt to in order to establish on a new market. For Swedish ICT firms, the issues of NTBs in relation to the US market have been categorized into Regulatory Issues, The Offer Provided, and Preparations.

6.2.1 Regulatory Issues

All interviewees tend to have some kind of preconception of the American bureaucracy. Some exaggerates the significance, which makes them afraid of the US marketplace and has in some cases led to a rejection of the opportunity. However, the opposite also exist, where one underestimates the time and money needed to handle these matters. There exist three main regulatory issues often discussed during the interview series. They have been categorized into the following; Product Liability, Intellectual Property Rights, and Visas. How applicable and severe these three categories are, have been led to what type of offer the firm provides. Figure 9 below illustrates the bureaucratic issues linked to the components in the offer.

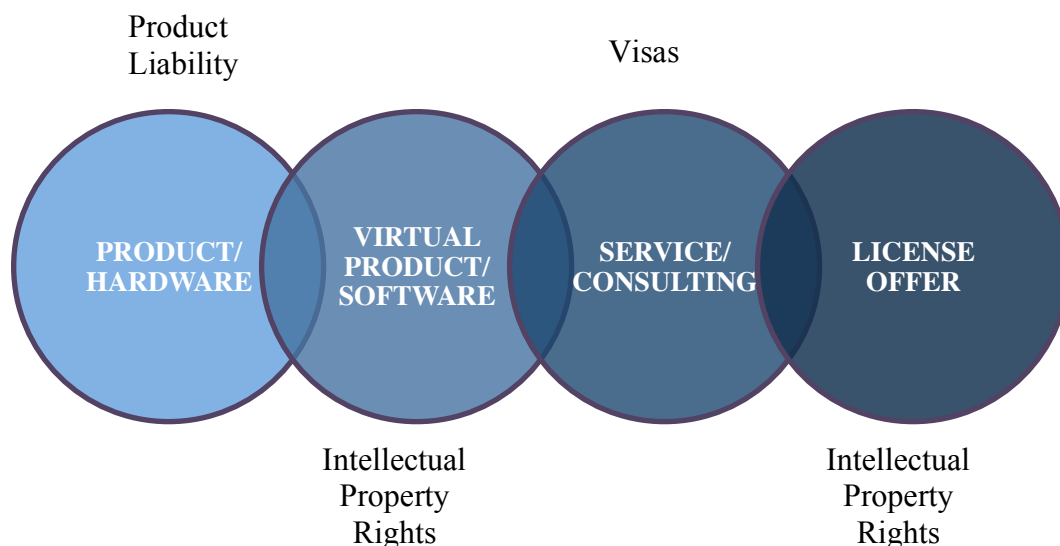


Figure 8 Categorization of regulatory issues linked to the components in the offer

The bureaucratic issue in terms of the use of lawyers, costs and lawsuits was often the first barrier the entrepreneurs mentioned during the interview series. The regulatory issues are of high relevance in relation to the US market since the judicial climate is aggressive. This can be seen in the high number of lawyers active in the country, which results in a high number of lawsuits often in relation to one of the three regulatory issues. Most interviewees have heard stories about firms that encountered expensive and protracted lawsuits. The results of such a process can either be a ban from selling or working in the US market, but even worse, it could lead to bankruptcy. Stories like this affects the firms view of establishing in the US since they are scared that they will encounter the same destiny. Supporting Actors still believe that all that is needed to avoid this is throughout preparations, which they claim they can provide the firms with.

Product Liability

If the offer includes some kind of product, there is a need for product insurances to make sure that the firm will not be responsible for any customer injury. The knowledge about product liability seems to be low. One Supporting Actor made the connection between low knowledge and the age of the entrepreneur claiming that young talents tend to not think about the consequences at all in the beginning of a market entry. One interviewee claim that the product insurance for the United States costs as much as it does in total for the rest of the world for the company product, which have led to export to other markets instead. Several Supporting Actors on the other hand claim that entrepreneurs tend to forget to put this cost in relation to the possible gain in customers and financial benefits. It is often easy to focus on a high upfront payment and forget about what the investment can generate in the long run.

Intellectual Property Rights

Intellectual Property Rights are a complicated matter, which many Entrepreneurs tend to outsource to lawyers who charge, according to interviewees, expensive fees. Most interviewees tend to understand that the intellectual property rights are an important issue to handle before entering the US market, but they do not have knowledge or enough interest in handling the issues themselves. Most of the ICT firms included in the interview series do not have any IP protection at all on the US market. The reason for this is mainly that they believe that the business would not

survive a lawsuit whether they had a patent or not. Instead, they chose to take the large risk related to entering the US market without any protection of their intellectual assets.

Intellectual property rights are not only important in the matter of being protected from lawsuits. When applying for some kind of fund or investment, the actor or Venture Capitalist most often require some kind of patent or other protection of the assets in order to secure the loan, grant, or investment. In these cases, some interviewees say that it is often enough to claim that “a patent is pending”; even if they know or assume that it will never get approved. The question only arises in the early stage and related questions afterwards usually do not come.

The knowledge and understanding of the Entrepreneurs and those Supporting Actors that work with establishment in the United States is low when discussing the difference between patent systems in the EU versus the US. Knowledge about how to protect software in different ways is unexplored and virtual products are often not protected in the US market since the entrepreneurs tend to not see an option of how to protect them. Supporting Actors claim it is important that the IP matter is taken care of before considering a foreign establishment. However, the Supporting Actors are often not able to provide any help with IP issues, thus they tend to recommend connected lawyers to their organization and in some cases other American lawyers with a Swedish connection to get it solved.

Visas

Obtaining a Visa tend to be a big issue, especially when the firm provides services. A service business is highly dependent on experts in different areas and the human resources must therefore be transferable. Before being able to send an employee to the US, visas have taken a lot of time and effort from other business related duties. The process is time consuming and Entrepreneurs expressed that they do not have the time or money to go through this process.

Entrepreneurs have low knowledge of which kind of Visa that is needed and have in some cases been held back to travel to the United States since they have exceeded the maximum days of their temporary Visa or ESTA. When a firm is established in

the US and wants to hire employees, it can be hard to choose Swedish citizens because of the Visa situations. They therefore choose to hire US citizens instead. This becomes a problem when the needed competence is possessed by a Swede and is not easily transferable.

6.2.2 The Offer Provided

Most interviewees seem to agree that the most important factor to analyze before entering the US market is who the actual customer is. What type of customer the firm sells to is highly related to the type of offer provided. In this study, the offer has been divided in terms of whether it includes a product, virtual product, service, and/or license-offer described in chapter 3. The offer is connected to the business model. Hence, a great proportion of intellectual assets in the complete offer give room for more flexibility and opportunities to create the business model.

It can be hard to find the customer within the ICT sector, since one can often sell to several different customers on different levels. For example, software could be integrated in the operating system, sold to companies, or directly to the end user. The end user can still be the same but can be reached by, and provided with different offers. The Entrepreneurs claim that they often easily understand who the end user is, but the complicated part is to find what channels to use in order to leverage the business. Finding out what channels to use, and also how to best bundle the offer, has been done by trial and error. Often, it is not possible to analyze beforehand what channels can be used and/or is the most profitable one, the Entrepreneurs claim.

The more specialized offer, the easier it is to find the end user. When the firm provides a specialized product, the Entrepreneur tends not to see the need for help from Supporting Actors. The reason is that they believe it takes too long for the Supporting Actor to understand the underlying technology, and that they can not provide useful help without understanding this. Supporting Actors on the other hand implicate that they do not need to understand the technology in order to provide help since it is the market knowledge that provides value for the Entrepreneur.

Firms with well-defined customers tend not to need help with analysis of the market, however funds and networking are two areas they still need help with in order to establish themselves on the US market. Firms with a wide range of customers, and thus provides more of a horizontally integrated offer, has a need for market analysis and often find the US market hard to grasp.

How to bundle the offer, and what customers to sell to, might differ significantly between the Swedish and the US market. There is a need of both industry and market knowledge in order to fully understand which path to choose. Entrepreneurs tend to have overconfidence in their offer and sometimes thinks that they only need to know the customer on the US market. They believe that the rest will be solved automatically.

The Business Model

Firms tend to use different business models in Sweden compared to the US. This seems to be dependent upon factors such as which the customer and end-users are, regulations and standards on the market. Also how established and well known the firm is on the different markets. The Entrepreneurs claim that the only way to understand what business model will work on the US market is by trial and error. The Supporting Actors on the other hand states that market analysis is of great help since it increases the chances of succeeding on the first try. Some Entrepreneurs express that what was of great value to analyze beforehand was the competition and the price point on the US market. This helped them to be able to think strategically in how to position the company in relation to the existing competition.

6.2.3 Preparation

When expanding a business to the US market, preparations are needed in order to make a successful enter. Here, preparation refers to how well analyzed the market is, potential financial risks and gains, and a mapping of the future customers. The main issue from Supporting Actors seems to be that the Entrepreneurs are not prepared enough. Though, the opposite also exists when companies prepare too much rather than acting. Within the ICT sector, acting fast might be the key to success according to one Supporting Actor. One of the interviewed Supporting Actors stresses the importance of finding a balance between analyzing and acting.

SECTION II – EMPIRICAL FINDINGS

Successful entrepreneurs tend to explain the company journey as if the managers of the firm were not thinking about how to succeed in beforehand. They acted and followed the customer to the US market where and when to establish. For firms with software and services the trend of acting fast and without too much planning seems to be common.

Entering the US market, most entrepreneurs often had help from several Supporting Actors and/or Networks. Information and support that exists in the region of Gothenburg is fairly simple to access and get, but there seems to be a problem in understanding when one should ask for help, and from whom. Often, Entrepreneurs find a need for one actor that is providing funds, one who helps analyzing the market opportunities, and another providing a professional network. The Entrepreneurs tend to choose the first actor who offers help, or one it have some kind of connection to, for example based on recommendations or the actor who have been marketing itself the best. This problem tends to be of the same character as choosing a distributor/partner, which is a well-understood issue that some Supporting Actors are trying hard to prevent by pressing the importance of making demands and establish stable relationships.

Entrepreneurs do not know whether their needs are related to export or not. It is even harder for the entrepreneurs to understand if their needs are related to funds, market analysis, or networks. When asking the Entrepreneurs, that have entered the US market, what they would have done differently if starting over again with the establishment, they claim they should have been more prepared or they should have acted faster and more aggressively. If asking them what was harder or easier than they had expected, most reply that to start a business was easier but to administrate it was the harder part. Supporting Actors claims that common mistakes Entrepreneurs do when entering the US market are the following:

- *Underestimating the time it takes*
- *Should have been more physically active*
- *Should have set higher requirements on partner/distributor*
- *It cost more than what you think, both in terms of money and time*
- *Should have been more prepared in all areas*

6.3 Perceived/Mental Barriers

In addition to tariffs and nontariff barriers, other important barriers to consider are the perceived or mental obstacles. The mental barriers are characterized by being related to cultural differences, and are not standards and regulations. Some perceived barriers prevent the Entrepreneurs from moving forward in preparing an establishment since they already have made a decision. The decision is based on a feeling rather than facts and could therefore be based on false grounds. The problems with these feelings are that they occur before the Supporting Actors are connected and can provide facts and specific recommendations to overcome these barriers. The perceived barriers can also occur during the process of establishment in terms of cultural differences.

6.3.1 Prejudices of the US market

When it comes to decide whether to go or no go on the US market, there seem to exist some prejudices which are so strong they might stop the Entrepreneurs from even analysing the market opportunity in the United States. The interviewees tend to mainly be afraid of expensive lawsuits and the fact that the US is such a large country that cannot be grasped. The prejudices tend to be looked upon differently depending on the phase of the firm and the age and experience of the entrepreneur.

Some young entrepreneurs have the attitude that everything is easy and the preparations takes to much unnecessary time, which might be crucial in the ICT industry. On the other hand, older entrepreneurs tend to be more cautious and thoughtful. The experience of the entrepreneurs also tends to affect the prejudices of the US market. Thought, their view is highly dependent upon how their previous contact and trading issue with the US went.

How Entrepreneurs see the US market are dependent on what other markets they have been active on. Some companies tend to enter the Canadian market first and then aim for the US market, that some Supporting Actors claim is a wise and clever path. A firm that has a customer value that lies in a virtual product or a service believes that the linkage to the US market is tight and wants to start with United States first. Firms with this character further believe that the American market is a place for inspiration and a place to learn. Since the US market large and where big

brands and potential customers are most active. However, Entrepreneurs with an offer that is mainly provided with a product have often started with the European market first. The US market is further away and often the last step when they become experienced and more confident in the export of their business.

6.3.2 Cultural Differences

Swedish entrepreneurs tend to underestimate the difference between the Swedish and the American culture. Entrepreneurs feel they are familiar with the language and are grown up surrounded by American movies, TV-shows, and music etc.

The US market represents a high risk of entering compared to closer markets, but some Entrepreneurs know a high possible gain can be reached. Several Supporting Actors and Entrepreneurs in the US market conclude that American people in general are more risk averse than Swedes. This is something that Swedish Entrepreneurs tend not to understand or even think about before entering the market. A concept frequently discussed during the interview sessions with Supporting Actors was the “engineering Swede” in relation to the “selling American”. Swedish Entrepreneurs tend to believe that a great offer sells itself while Americans usually requires a more aggressive sales technique. While Swedish Entrepreneurs put in a lot of effort in developing a great offer, the American VCs tend to look at four factors in the following order:

1. *The Entrepreneur*
2. *The Team*
3. *The Business Model*
4. *The Offer*

Looking at the list above, it is obvious that there is a different focus over the Atlantic compared to the Swedish view that often puts the offer as number one. Supporting Actors explain this by the fact that the Americans are more educated in presenting skills and that they have English as their native language. Combined, these two factors make an American much stronger in negotiation than a Swede.

7 Information, Knowledge, and Interest – How it Differs Between the Interview Blocks

Key Persons, Supporting Actors, and Entrepreneurs differ in their view of trade and possibilities of how to grow in the US market. A gap of information, knowledge, and interest exists and the difference in opinions can explain what kind of information that reaches the stakeholders and what obstacles that can be better understood.

Key Persons

The Key Persons possess great knowledge in macroeconomic matters and the importance of providing support for SMEs when they are about to establish in new markets. The interviewed Key Persons shows interest in understanding the everyday issues of the Entrepreneurs, but they do not have the information or knowledge needed. Often, Key Persons get information from Supporting Actors, which seem to often be the link in providing information.

Decisions made by Key Persons are often based on statistics, which in the case of trade, maybe not explain the reality of the fast change and pace in the ICT industry. Statistics displays what happened in an earlier period. In the knowledge-intensive ICT sector, firms must be innovative to survive in the competition. This includes being innovative in creating business models, which do not fit in the traditional statistical measures and are hard to understand or even discover in existing frameworks.

Supporting Actors

The Supporting Actors stresses the importance of preparing before entering the US market. The preparation is also the phase where several Supporting Actors are involved in an establishment abroad.

Supporting Actors believe that what is helpful for Entrepreneurs is mainly market analysis and help with other preparations before entering the US market.

Entrepreneurs on the other hand tend to see most value in administrative help and access to office space and a billing address abroad.

When looking for a partner/distributor in the US market, Supporting Actors emphasizes the importance of setting up clear requirements and choose the partner carefully, instead of letting the partner choose the firm. What Supporting Actors does not seem to understand is that the same mindset applies when a firm chooses a Supporting Actor to collaborate with. The match and common understanding between the two actors need to be evaluated in depth.

Many Supporting Actors claim that networking is important in order to get in contact with decision-makers and in order to close deals and negotiations. This is something Entrepreneurs in the US market not see as important. On the other hand, some Entrepreneurs tend to think that professional networks are more useful from a personal perspective if an Entrepreneur is new in a place. They claim that if providing a specialized product/service, they often already know who the important competitors, partner, and customers are.

Entrepreneurs

The Entrepreneurs are offered export support by several different actors, which make it hard for them to understand the difference and choose the most suitable one. The Entrepreneurs tend to be overwhelmed in information about what actors that can help in different matters. The information overload tend to minimize the interest and create mental barriers when the Entrepreneurs understand the time and effort required before even being able to obtain support in the internationalization process.

As the some Key Persons tend to strive for Swedish ownership, the Entrepreneurs many times look for a viable future exit. This can sometimes create different objective functions between the Key Persons/Supporting Actors and Entrepreneurs.

7.1 What Support Attracts Entrepreneurs

What seems to attract Entrepreneurs wanting help from a Supporting Actor is the fact that the contact person can speak their language and understand the specific

issues they face. This means that they need to get a feeling that the contact person has experience from the specific industry. When the first contact is a market expert rather than industry specialist, some Entrepreneurs tend to lose their confidence in that they will actually provide useful advice and help.

What seem to have great influence for Entrepreneurs in which Supporting Actors to contact is recommendations, especially by inspiring successful entrepreneurs giving lectures at for example schools and Start-up communities. However, a drawback with this, lies in the fact that successful Entrepreneurs tend to remember their journey as no help where needed, which might not always be the truth.

7.2 Decreasing, Stable, and Increasing Barriers

Some barriers to trade are stable or decreasing due to for example FTAs and other Export Supporting Activities. Some barriers are instead increasing or even occurring as the business climate changes.

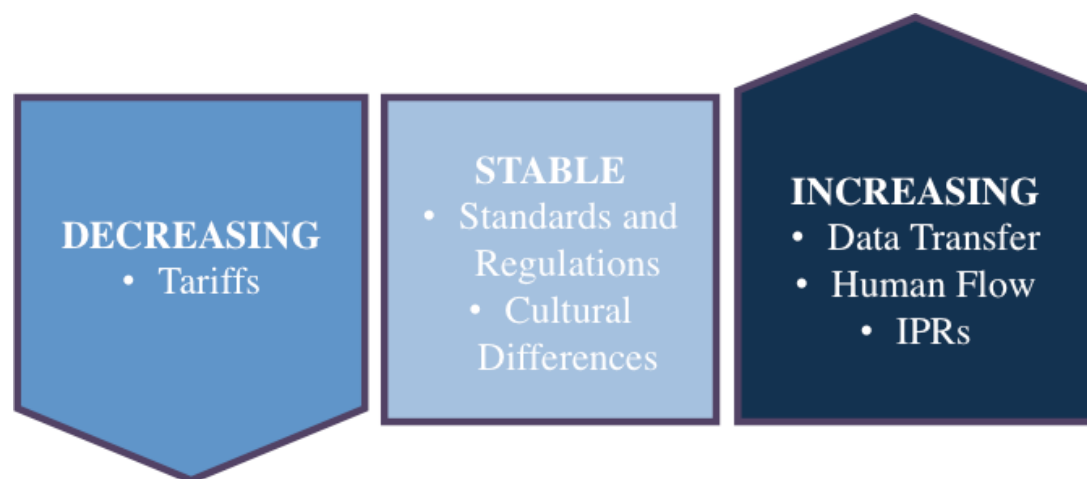


Figure 9 Barriers to Trade in relation to the Future, divided into Decreasing, Stable, and Increasing

Figure 9 above illustrates barriers to trade collected from the interview series put in relation to the future. Some barriers will decrease, while others will be stable or even increase. Tariffs don't seem to be much of an obstacle today for Swedish ICT firm. As the assets turn more intellectual, the tariffs lessen in importance. At the same time, tariffs are the easiest type of barriers to remove with FTAs.

Stable barriers include standards and regulations as well as cultural differences. Old ones might lose its importance at the same time as new ones arise. Standards and

regulations can apply on both tangible and intangible assets. These types of barriers are hard to reduce with FTAs since they are built up of social constructions. TTIP aims to reduce the transatlantic differences in standards and regulations, but at the same time, a free trade agreement could be seen as a new type of regulation that replaces the old ones. Cultural differences might lessen in the future when the geographical distances seem less important in relation to the use of Internet, where information and trends become international.

In the future, restrictions on data transfer, visa, and IPR seems to be increasing in importance. These three barriers are tightly linked to intellectual assets and this is the main reason why their importance will be greater in the knowledge economy.

The Entrepreneurs included in the interview series provide different types of offers, which can be seen in figure 10 below. As some barriers increase in the knowledge economy, a trend can be seen that firms engage in providing offers that almost always includes virtual products and/or services.

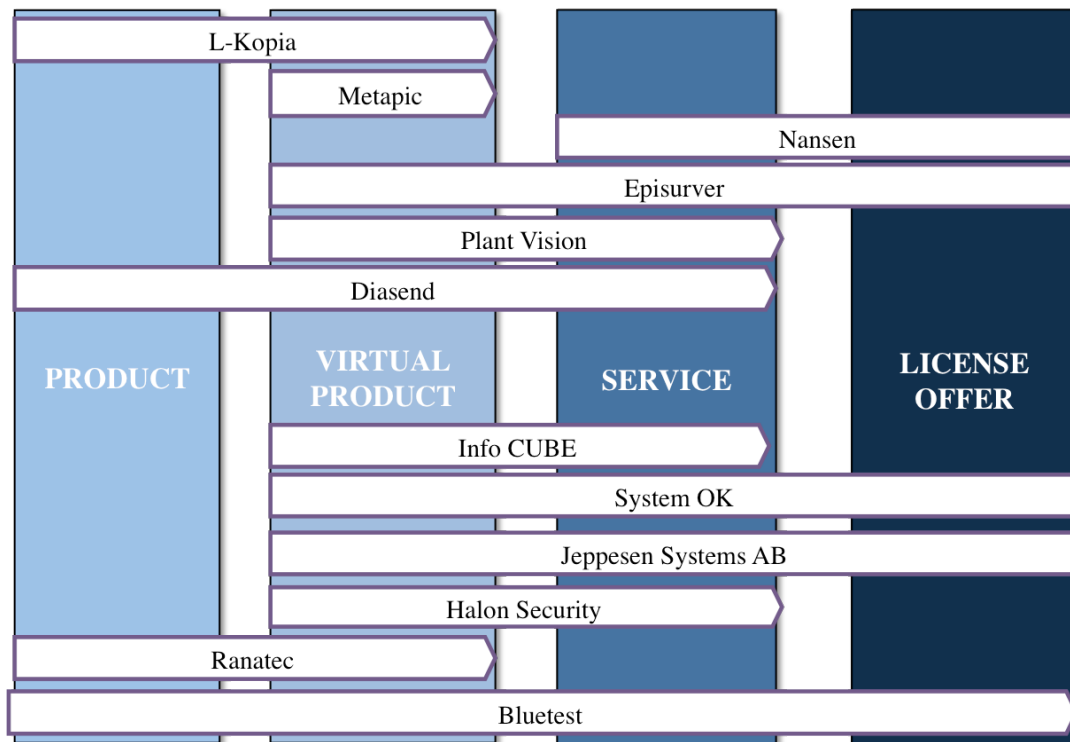


Figure 10 The span of the Offer of interviewed Entrepreneurs

8 TTIP and Its Affect on Trade

It is debated both *when* and *if* the TTIP will apply. Whether it will apply or not seems to be looked at differently between stakeholders in Sweden and in the US. In Sweden, a more positive attitude can be found and people tend to refer to *when* TTIP applies while Americans tend to discuss more *if* the agreement ever takes effect. With TTIP, the traditional view of trade is in focus. However, there are other aspects that need to be considered when trying to facilitate trade with a trade agreement for the Swedish ICT sector.

8.1 The European Union and TTIP - What is the Difference?

In an international venture, there exist several uncertainties related to the market, the exchanges rate, and the ability to exact money. These uncertainties are considered low when trading with the US market, in relation to other foreign markets. Even though the EU and the US systems are considered in many ways to serve the same purpose, it is a significantly lower risk related to trading within EU compared to over the Atlantic. The European Union is a free trade bloc where harmonized standards and regulations have led to increased trade. The European Union is more than a traditional free trade arena, it also stands for a common currency between nations, free flow of people, and it has also started to build a more joint system for managing intellectual property rights. It is hard to say what part of the EU collaboration that has contributed with the largest increase in trade, and what increased trade has led to most jobs, wealth, and growth. But when relating the questions to the empirical findings of this study, what seems to be of great importance for Swedish ICT firms is the free flow of people and the joint intellectual property rights.

Overall, both sides of the Atlantic use different standards and regulations that often serve the same purpose. It seems like the agreement in itself might not be the most important part. Rather the fact that the EU and the US are looking into each other's systems and realizing errors and obstacles in their own markets. It has been pointed out both by industry experts and key persons that the benefits of the agreement for the ICT industry as an individual sector may not be significant. However, the line between the ICT sector and other sectors are hard to draw, leading to some interesting issues and perspectives. The sector interlinkages are important and

spillover effects from other industries might lead to a boost for ICT firms that acts as subcontractors to other companies.

8.2 Management and Protection of Knowledge Intensive Assets

For a small firm acting in an industry in the forefront of the technology - the process of acting first and thinking later seems to be more a general phenomenon than an exception. But it is important to be prepared before entering the US market to decrease risks of loosing both time, money, and control of valuable assets.

Firms providing a physical product as their main offer may be helped by TTIP giving the opportunity to compete in price with their US competitors, based on the same conditions. As mentioned before, tariffs seem to be a minor obstacle in trading with the US. But it is important to realize that trade related costs only are a part of a firm's total production cost for a goods or service, especially if the good is knowledge intense and requires a large investments in research and development. Thus, a tariff reduction may give some financial boost to companies' export of physical products in order to stimulate the export to the US, however the impact it will have for ICT entrepreneurs to change mindset or get more stimulated because of this seems to be dependent on the increased opportunities to manage and protect knowledge intensive assets.

The significance of the IP issue is larger in relation to ICT firms compared to more traditional businesses. In the future, IP is predicted to have even greater importance since sectors other than the ICT industry also tend to be more knowledge based. While bigger companies can afford to relocate units and have specialized departments for this type of matter, SME firms do not, and the IP related issues seems to be low-priority. The importance of IP is often neglected from entrepreneurs that do not have enough knowledge and often connects IP with more company costs. With the short lifecycles of the products and the bigger importance of R&D activities that can be transferred and lead to geographical offshoring, TTIP needs to stimulate and motivate firms to protect their products. The packaging of the offer when entering or trading with the US can be changed with the help of the right intellectual protection. Realizing and understanding this seems to be important and crucial in order to compete in the future in the sector. Entrepreneurs often know

where the real value of the product or services lies and with the help of Supporting Actors with specialized knowledge in the US law, a TTIP agreement can benefit the time and streamline the rules. It can potentially lead to a more positive view of IPR and decrease a barrier that seems to be vital in order to survive.

In a global marketplace, knowledge within IPR will play a bigger importance in order to survive - no matter how good the technology or R&D is in the company. By having control, the financial risk of entering the US market can be reduced. If TTIP could enable that SMEs felt more safe in regards to IP and the risk connected to financial losses in lawsuits, it could lead to a better bait than the actual cost cuts off, for example tariffs.

In the TTIP negotiations, it is not yet set whether an IP-chapter will be included or not or what kind of intellectual property rights that will be discussed. Shareholders have different opinions, where as some claim that an IP-chapter would not change much for the transatlantic since the legal systems are to similar to each other and good as they are. Others are afraid that an IP-chapter in TTIP would be no difference from the Anti-Counterfeiting Trade Agreement (ACTA)⁵. It is also said that regulating IP over the Atlantic would be the most complex part of the whole TTIP agreement, and that it could challenge the whole TTIP if starting negotiations that wont end with consensus. From the perspective of the Swedish ICT firms, to be able to manage and protect knowledge intensive assets is a crucial part and as also other sectors are turning more intellectual, it might be of great importance to start today with streamlining and harmonizing the systems over the Atlantic.

8.3 Moving Intellectual Assets – Equal to Moving People?

In the world where firms are “born global” and of international character from the beginning, the issue of being present in markets seems to be less important. The customers can be reached via digital distribution channels, which open up for the opportunity to trade with customers from geographical far distances. With the increase of virtual products and companies that earn more money on license offers than their actual products, one can ask why presence in a foreign market at all

⁵ An international agreement that aims to create international standards on intellectual property rights enforcement. It became highly criticized and neglected by the European Parliament in 2012.

SECTION III - ANALYSIS/CONCLUSION

matters. To be seen as an engaged and serious company, the presence might be important. This is especially important for service companies engaged in technical improvement and design, where a large share of the value lies in knowledge possessed by employees. Adapting the offer for specific customers increases the knowledge transfer. This is done in collaboration with the user and requires geographical proximity. But in this case, what is transferred is not a physical product but rather individuals who possess important knowledge. Since exporting a product creates the need of using several services in the process, also the export of products will benefit from a simplified Visa situation.

In the knowledge economy, access to the world's best workers, researchers, innovators, and visitors is one of the strongest competitive advantages a nation can possess. Human capital creates research and development, which is the foundation for innovation. Transatlantic mobility could be one of the greatest catalysts to strengthen the collaboration, innovation, and economic growth. If TTIP could make it easier to apply for, and obtain Visas, this might bring large effects towards an increasing in trade. The ability both to recognize and be able to utilize skills and knowledge is crucial. Today, recognize is easier than utilize since it is not always possible to choose human capital freely. Clear examples of this are international firms who want to utilize their internal competence effectively, but often have to adapt to the specific Visa situation situations. This makes the nationality of the worker affect the transfer, rather than who is best suited for the role.

For TTIP to have great effect in transatlantic collaboration and innovation, the flow of people must be simplified. Increased collaboration and innovation opens up for increased trade and creates a lot of job opportunities, which is the aim of the TTIP agreement. Thus, creating a simplified visa system has strong effects on trade, but the effects are indirect which might be a reason why the problem is not in focus in the negotiations. Another reason might also be that the American Government today strongly restricts the visa situation, which makes many stakeholders doubt that it is possible to solve the issue in the near future.

8.4 Viable Exits versus Keeping the Ownership within Sweden

Some ICT firms are looking for a viable exit on the US market. Thus, it seems that Supporting Actors and Key Persons need to adapt and understand that change of business climate. For the ICT industry, TTIP may boost the easiness for firms to be bought. It is important for supporting organizations to understand that more firms are aiming for an exit on the US- market, with the potential to get high revenue from the buying company or Venture Capitalist. This is the kind of “end” that an entrepreneur in the ICT sector may want for its firm instead of the traditional company growth. With a better and easier way of keeping control of the IP, and making the business climate become more transparent and easy to understand, this could have impact on SMEs.

It seems that the challenges that Swedish ICT firms face exists in other areas than those that a free trade agreement can conclude. A trade agreement cannot help firms to actually sell their product or find the right customer, which are important factors to succeed. Finding the right customers may not be the most critical issue since they often know their specific market and actors involved in it. However, TTIP may expand the market horizon and make the small knowledge intensive niche markets bigger, more reachable and unveil more actors in other segments. The disclosure of a wider market gives opportunities to innovate with their business model and this knowledge is something that should be elaborated with further in order to interest managers of various kind. By thinking in terms of a larger market, such as the EU-US marketplace, firms can be able to see their offer in other ways, for example by having a product in Sweden and choose to have a license offer in the United States, instead of having the same offer in both continents. To be able to license-out technology it is important, or even necessary, to claim ownership of it.

9 Challenges in the ICT Sector in Relation to the Knowledge Economy

It is debated whether or not the ICT industry should be defined as an own sector or not. Information and communication technologies often serve as support functions of internal processes for firms operating in all types of industries. An effective use of ICT might often be one of the most important competitive advantages a company can keep. In the fast changing world of today, possessing well functioning internal processes is important to be able to catch up, or win, the battle of customers. The technology is moving 2-5 times faster than the management and the importance of structuring the ICT solutions becomes crucial.

9.1 Yesterday – Today: The Fast Phase of the ICT Industry

The law most often lags the technology. Laws and regulations are often based on what happened yesterday, while the technology is already heading for the society of tomorrow. The ICT sector is already global and the question to ask is; whether it is even possible or not to facilitate regulations to a sector that is growing incredibly fast and almost has no limits to what it is able to perform.

The use of Internet and other IT-solutions are generating large amounts of data, including information linked to private persons. A fear of many governments is how this type of data is being used and stored. The aim with FTAs is to harmonize the trade climate between two regions. But as tariffs are eliminated, and standards and regulations are being harmonized, big data transfer is becoming more restricted. A lot of value lies in big data, especially when companies to a larger extent adapts and sometime connects the offer to the customer and thus need this personal information. In the future, restrictions on big data transfer might be one of the most severe trade barriers for the ICT industry. In this case, the barrier would be defined as a regulation or non-tariff barrier. But if governments start to see the gain in controlling the flow of data, they could not only restrict, but also charge per transaction. If charging the flow of data, the barrier could be seen as a new type way for governments to control and gain money on trade, replacing the old one, which is focused only on physical goods.

9.2 Internationalization and Free Trade Agreements

The ICT industry has the same technology all over the world. It is a scalable industry that is a basic ingredient of the knowledge economy. Firms within the industry are born global from the beginning and the border of a country does not matter to the same extent today as it have done in the past and will not have a big importance in the future. The difference between “traditional trade” for companies or doing “regular business” seems to diminish with offers that are globalized. It makes it harder to separate when a firm is “trading” or not. Firms in the ICT industry already think of a global customer and market, thus the location of the consumers is less important. When firms are highly specialized there is a growing need for a larger market to act on. Trade defined as a pure product or a service being transferred between borders will be hard to control when firms in the knowledge economy develops and makes business in a way that can not be counted in statistics. If Swedish companies are offering licenses to US companies, questions regarding whether it should be defined as export, foreign investments or something else will be raised. Companies like Google are even harder to include in the statistics since they offer a virtual product that the end customer do not pay for in order to use it.

The trend of more transparent land borders is seen in the ICT industry when managers do not see only one market and one country. If companies find an important customer, it does not matter where it operates geographically. An important factor shaping international trade today and in the future will be the global value creation and establishment. The global value creations also link the nations together and make them more interdependent of each other. An example from the ICT industry is the trend that can be seen where firms use the US as inspiration, performs research and development in Sweden, and further begins to sell the offer and ideas to Asia. This internationalization process actually makes the FTAs serve an important purpose in making international trade possible and/or working smoothly.

Governments create barriers to trade in order to protect their nation from foreign competition. Then the governments take part in FTA negotiations in order to decrease the level of trade barriers. The trend is to open up for international trade, and FTAs are being negotiated between many parties worldwide. As FTAs are

being formulated, land borders are becoming less important, but the question is of it goes fast enough.

Standards and Regulations are social constructions built up dependent on culture, religion, and geographical region just to mention some of them. These factors are hard to break down and replace since the whole society depends on them to function. When creating a FTA, the non-tariff barriers, i.e. standards and regulations, are most important but also most complex areas to solve. Just as standards and regulations are social constructions, a free trade agreement on top of other existing regulations is also, per definition, a social construction. The problem is that in FTAs, national standards and regulations are not erased and replaced. The national systems are still there, the FTAs aim for the parties to acknowledge each other's regulations. This means that when applying a FTA, there will be more rules to follow for firms operating in the affected regions since some rules are just stating that others should be excluded in specific situations. As the society continues to get more complex, the risk for new global financial crises tends to increase. Both in relation to the complex international trade regulations but also based on the immaterial values of new types of businesses derived from the ICT sector.

9.3 Business Model versus Value Chain

Traditionally, export-supporting activities tend to have been focused around optimizing the value chain. In the future, especially in the ICT sector, to be innovative in formulating the business model seems to be more important. The value chain is based around manufacturing and selling physical goods. In the knowledge-based society, there exist more offers that might not include all traditional steps but instead new ways of doing business.

ICT firms providing high technology products can create value from optimizing the value chain. When looking into firms that instead are providing some kind of virtual product or service, great value can be created by providing an old fashioned product/service, but sold through an innovative business model. When creating immaterial value, questions to be raised are where most of the value lies in terms of the being creative in developing an offer. Also, where, when and what kind of transactions that will flow between different parties is of great interest. In a world

where data transfer is restricted and maybe even charged, being innovative in the process of transactions in terms of both information and money will be highly important.

When using knowledge assets internationally, the financial and personal risk taking is a large factor in when and where the entrepreneurs decide to take the international step. To be able to exploit the new business opportunities that the knowledge economy provides, managers must possess an entrepreneurial mindset and the ability to be creative and think outside of the box. This requires interpersonal skills like creativity and flexibility, as well as the courage to take risks.

9.4 The Future Role of Supporting Actors

As firms become more internationalized and many are “born global”, they often have customers all over the world. Instead of establishing in one country at the time, firms tend to export or establish themselves in many regions from the start. Firms providing highly specialized offers often have a few larger and more dependable customers in each country. Also, R&D, raw material, production, distribution, and the end customer may be done in different parts of the world. It is important that the supporting actors understand the situations that these firms live in. The specific industry and the global value chains related to it are important parts of choosing not only which countries to establish in, but also how to optimize the process of transactions of both information and money.

10 Key Findings

Export is today measured in sales of product and services. This is a very simplified view since business offers include more knowledge and advanced technology. It is often hard to separate a product from a service since everything is bundled together to create maximal value. Exporting an offer creates a need for several services in terms of for example logistics, distribution, financial services, and aftermarket.

ICT makes it possible for companies to differentiate, not only within the sector itself but also in all other sectors that are dependent on these technologies to function. When specializing in a specific area, a larger market is needed to act on. Often, the differentiation makes it easier to know who the customer really is, since the offer is adapted for a specific customer.

It is of great importance to understand who the actual customer is, before establishing on the US market or formulating an offer. There is an important separation to be done between the end user and the paying customer. It is important to put resources in developing the business model since it exists several options in who and when customers pay for the offer.

To choose the right Supporting Actors in order to get help with Funds, Market Analysis, and/or Networks is complex. There exist several organizations, which are constructed differently and therefore not easily compared. In these situations, firms tend to go for recommendations or choose the organizations to which they have some kind of connection and maybe not the most suitable. Another important choice is what distributor/partner to co-operate with. In these situations, firms often like to have help by Supporting Actors.

In general, ICT SME company management has not heard very little about TTIP and do not understand how it could affect their business in the future. The lack of interest and knowledge seem to be linked to the low impact it will on the sector with already many international standards.

11 Conclusion

For ICT firms, there seems to be no difference between international trade and regular business since many ICT firms are “born global”. Depending on the level of vertical integration, firms tend to look for specific customers rather than a geographical market. What characterizes ICT firms is the trend where they tend to serve and adapt to a smaller number of larger customers within a wide range of geographical markets and not only the US market.

When and if TTIP applies, the impact it will have on Swedish ICT firms is predicted to be low. Even if TTIP involves chapters aimed to decrease barriers to trade within the ICT sector, these chapters are based on what happened yesterday while the businesses are already headed for tomorrow and even beyond that. The issues that are found to have the largest effect and impact on the ICT sector are areas including the human flow and IPR. The IPR matter is complex even within a nation that plays under the same rules, thus this will still be a barrier to trade for ICT firms even if the rules are harmonized.

As trade with services continues to increase in the world, the Visa issue is one of the main barriers to trade today and in the future. In the Knowledge Economy, people with specialized knowledge tend to flow between borders and focus is switched from products and manufacturing to human resources and immaterial value.

In the knowledge economy, ICT firms have an increased need for support and to quickly be able to have an address and office space in the US. Relationships become more important and can be seen as knowledge assets for companies. Thus, it is important to not underestimate the value of establish and maintaining the different relations. Firms are also in great need of help with administrative issues, which takes time to familiarize on a new geographical market. In relation to market analysis, what is important to focus on is creating innovative business models and to optimize the flow of transactions of both information and money. Since the IPR matter affects the formation of the offer provided by the ICT firms, there is an increased need for Supporting Actors to understand how to create and adapt business opportunities in relation to IPR.

12 Recommendations

The recommendations are aimed for Business Sweden in their work to continuing help and support Swedish ICT firms in their international expansion.

- The first contact with Business Sweden should be an industry expert, later the ICT firm should be channeled to the geographical market experts
- Focus in innovative business models/the flow of transactions of both information and money instead of the material value chain
- Expand knowledge in IPR
- Expand knowledge in Visas
- Facilitate more office space – assessable, quick and temporarily

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Appendix I

Interviewees Key Persons

Anna Folkesson - National Board of Trade
Niklas Bergström - Svenskt Näringsliv
Kamilla Kohn Rådberg - Chalmers School of Entrepreneurship
Malin Gunnarsson Ljungkvist - National Board of Trade
Mauro Gozzo - Business Sweden, Stockholm
Magnus Rydén - The Ministry of Foreign Affairs, Stockholm
Nils Hedberg Grimlund - The Ministry of Foreign Affairs, Stockholm
Magnus Larsson - SME-Kommittée, Svenskt Näringsliv

Interviewees Supporting Actors in Sweden

Tomas Norling - Business Sweden, Stockholm
Niklas Johnsson - Business Sweden, Stockholm
Stig Friberg - Business Sweden, Gothenburg
Jonas Englund - Business Sweden, Gothenburg
Torgny Söderlund - Business Sweden, Gothenburg
Sara Wallin - CEO, Almi
Mikael von Dorrien - Almi Invest
Johan Andinsson - Chalmers Innovation
Erik-Wilhelm Graef Behm - Area & Investment Manager ICT, Business Region
Göteborg
Karl Malmström - CEO, Connect Väst
Martin Källervald - The Swedish Export Credits Guarantee Board (EKN)
Jimmy Gustafsson - Swedish American Chamber of Commerce (SACC)

Interviewees, Supporting Actors in the US

Anders Olsson - Business Sweden, Chicago
Shaun Hundle - Business Sweden, Chicago
Asligul Sungur - Business Sweden, Chicago
Annica Carlstedt - Business Sweden, Chicago
Gunn Johnsson - Executive Administrator, Swedish American Chamber of
Commerce (SACC) Chicago

Interviewees, Entrepreneurs in Sweden

Alexander Hars - CEO, System OK, Lets Deal

Michael Brusberg - CEO, Jeppesen Systems AB

Filip Askviken - CEO, Metapic

Kjell Olovsson - CEO, Bluetest

Joakim Sundberg – Business Development Manager, Halon Security AB

Thomas Ohrnstein - CEO, Ranatec

Anders Sonesson - CEO, Diasend

Interviewees, Entrepreneurs in the US

Marty Leamy – EPIServer USA

Kirk Andersson - Bluetest USA

Lars Lundberg – CEO, L-KOPIA USA and Sweden

Marcus Thuresson - Business Development Manager, Gränges North America/Plant Vision

Jonathan Petterson - President, Nansen Inc.

Henrik Kraft – President, Nansen Inc.

Jonas Hammarberg – Previous Vice President & Creative Director, Infocube AB

Attended Seminars and Events

- SNS Seminar, 30th January 2014, Stockholm
- The America Day, Chalmers University of Technology, 27th March 2014, hosted by SACC
- Stora CONNECTVäst-Dagen - Global CONNECTIONS, The Swedish Exhibition and Congress Centre, 10th April 2014, Gothenburg
- Steps to Export, Business Sweden Gothenburg
- IT Solutions Expo 2014, The Swedish Exhibition and Congress Centre, 2th April 2014, hosted by Business Region Gothenburg

Other actors contacted by email

Heidi Lund - Nation Board of Trade

Lisette Lindahl - The Ministry of Foreign Affairs

Appendix II

Interview Template Key Persons

INTRODUCTION

- Describe your role in your organization and background?
- What is your view of trade between US and Sweden?
- With the changing environment and more focus on services and virtual products, how has this affected trade and export for Sweden?

US MARKET AND ICT INDUSTRY

- What the main differences between US and Sweden are in regards to trade and market opportunities?
- Why is trade with the US important?
- How do you think it will develop?
- What potential do you see in the US market in relation to the ICT industry?
- How well known are Swedish ICT firms in the US market?
- What is the main difference between having a company in the US compared to Sweden?
- What is the main benefit being active or trading with the US?
- What are the difficulties with reaching the US market?
- In which phase do firms become international?
- What does firms need help with?

TTIP

- How do you think the outcome of TTIP can affect trade for firms in the ICT industry?
- What do you think the companies want to see as potential outcomes?
- In your experience, do the firms know and care about TTIP?
- What types of firms tend to know more about the negotiations and are interested in TTIP?
- Will TTIP decrease the time of internationalization for firms within ICT?
- What effect can TTIP have on SMEs in the ICT sector?

Appendix III

Interview Template Supporting Actors

INTRODUCTION

- Describe your role in the organization and what kind of experience you have before entering the role?

ACTOR SPECIFIC

- Describe briefly the organization and what kind of support you are providing and to what type of companies?
- How are your organization engaged in networks?
- Would you say that firms tend to contact you the organization to get help or are you active and engaged in selling your services?
- Are you channeling firms to other actors that might be able to give better help in a specific situation?
- How has your organization adapted to the changing environment in the society?

US MARKET

- What the main differences between US and Sweden are in regards to trade and market opportunities?
- What is the main benefit being active or trading with the US?
- What are the difficulties with reaching the US market?
- In which phase do firms become international?
- What does firms need help with?

ICT SECTOR

- What makes the ICT sector to an own sector according to you?
- What are the characteristics of the ICT sector in Sweden?
- How has the sector developed?
- Do you separate between companies that produce goods and/or services – in relation to what kind of help they are offered?

TTIP

- Do you know about TTIP, and if yes are you working to promote it in any sense?
- How do you think TTIP will affect the ICT sector in trade with the US?
- In your experience, do the firms know about TTIP?
- What kind of firms tends to know more and is interested in TTIP?
- Will TTIP decrease the time of internationalization for firms within ICT?
- What effect can TTIP have on SMEs in the ICT sector?

FUTURE

- How do you see the future in regards to export and trading?
- What kind of help do you think firms will need in the future?
 - How can your organization meet those demands?

Appendix III

Interview Template Entrepreneurs

INTRODUCTION

- Describe the company and its customer value
- Describe your role within the company
- What does trade and export mean for your company?

COMPANY SPECIFIC

- How much of the trade is international today?
- Describe your export and/or establishment plans in the US?
- How do you divide the offer (product/hardware, virtual product/software, service/consulting, license-offer)?
- If several parts in the offer, where would you say most of the value lies?

US MARKET

- What do you see as the greatest potential in exporting to the US?
- What do you see as the main barriers to trade with the US?
- Have you done any business on the US market?
 - If yes, when and what type?
 - If no, why not? - No market for your product, legal aspects etc.?

SUPPORTING ACTORS AND NETWORKS

- Have you been in contact with any supporting actors when exporting?
 - If yes, which, when and in what way?
 - If no, why not?
- How would you wish to get support by an external actor and in what areas would you like the help?
- What kind of help do you want/ did you wish you had when going international?

TTIP

- Do you know about the free trade agreement that is negotiated between the EU and the US?
 - If yes, do you think it will affect your business in any sense?
- When you hear about the plans and goals with TTIP, how can it affect your business today and in the future?
- If you are already trading with the US, how would your revenue become affected by no need of adaptations of your product/service and no tariffs over the Atlantic?

- Would you trade more with the US if it were as smooth and simple as within the EU?

FUTURE

- How do you think your business will develop in 5-10 years in relation to international trade?
- What kind of future do you see for the company in a longer perspective?