Master’s Thesis

Analyzing the gap between Swedish governmental export support programs and cleantech firm’s expectations

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Abstract:

Given the present situation of environmental problems, clean technologies or cleantech is considered a way of reaching global sustainability and at the same time also seen as an engine of economic growth and fulfilling commitments to social and environmental welfare. Under this background, Swedish cleantech sector have not achieved that much commercial success yet that they are supposed to be while maintaining a reputation of top technological innovative country. The Swedish cleantech sector is dominated by small medium-sized firms (SMEs) and often limited to resources at their disposition. Thus, the Swedish government has designed various policies and export support programs to promote this sector but somehow firms could not reach up to them. Hence, it has become necessary to study the Swedish cleantech firms in order to analyze the existing gap. The purpose of this study is to run an investigation about individual cleantech firms and analyze how they are experiencing Swedish governmental export support programs. On the other hand, this study has also tried to find out what firms really expect from these programs so that it will help to reduce the gap.

Based on the study of four cases and one independent interview, the study has shown two different scenarios. In one hand, micro level SMEs specially which are in initial phase of their internationalization process cannot reach up to governmental export support programs due to high acquiring cost and inflexible pre-requirements. On the other hand, small level SMEs which are in mature phase of their internationalization process have faced completely reverse experience than initial phase micro firms but not satisfied with the provided service quality. The study has also revealed that firms with relatively new technology face problems to get support from governmental agencies due to uncertain market performance. The study has further showed, this is not always the high acquiring cost and inflexible conditions, participation in governmental export support programs is also depend on firm’s owns mindset and their business strategy. So, in order to reduce the gap between Swedish governmental export support programs and cleantech firms’ expectations, the studied firms have suggested to implement a proper business model that fits into each type of firms’ needs based on their position in the internationalization process, create a separate institution or agency and Science Park that only deals with cleantech firms issues, and co-operation among the different state cleantech firms and the universities.

Key words: Cleantech, internationalization, export, market failure, SME.
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1. Introduction:

This chapter provides the overview of the entire study. It starts with the background, where the importance of cleantech export and why government intervention is required to support it will be discussed, followed by a discussion about the problems associated to the Swedish cleantech sector’s exports. After that, it discusses the purpose of the study and describes the research questions. It ends with presenting the limitations of the study.

1.1 Background:

Moving towards sustainability is the global quest at this moment in order to sustain in future. But the quest for sustainability has created new challenges, and perhaps indicates technological-change possibilities (e.g. invention, innovation and diffusion). That means it is an opportunity to create economic stability and also fulfill commitments to social and environmental welfare (Kanda et al., 2012a). Various policies and legislations are carried out by national governments to increase the awareness of environmental concerns, such as systemic pollution and climate change. Moreover, in recent years technological innovation is presumed to be a solution to environmental degradation and also a way to enhance the competitiveness of the national economy (Montalvo, 2007). Currently, emerging economies are facing massive environmental challenges in various sectors that have been long present in the West. Hence, a strong demand has been created for environmental technologies to other markets than their origin’s. Thus, successful technology transfer has been considered as a pathway to sustainability (Hoekman et al., 2005). In the same trail, a similar argument can also be made in the context of clean technologies or cleantech. However, export remains the most common mechanisms to transfer technology due to minimal resource requirement, lower risk, and the room that allows for greater structural and strategic flexibility compared to other routes, such as foreign aid and foreign direct investment (Leonidou et al., 2011).

In recent years, clean technologies have succeeded to attract good attention globally from different policies and agendas. In fact, it is considered that clean technologies will play an important role in environmental protection and sustainability in the future (Montalvo, 2007). On the other hand, it holds a great potential for economic growth and competitiveness, but only until a significant increment in the level of diffusion and exploration is reached. Unfortunately, today’s level of diffusion and exploration is significantly low (Montalvo, 2007). In the same vein, Kanda et al., (2012a) also argued that the market is not showing enough sign to diffuse such technologies. Thus, government intervention is required to mitigate market failures.

Economic theory defines market failures as a situation where free market fails to accumulate production or consumption in such a way that resource allocations become optimal (Borooah, 2003). This indicates the existence of parallel practices
through which market participants can be made better-off without making any players worse-off (Kanda et al., 2012b). Kanda et al., (2012b) further argued, in the context of exporting technologies specially which are used for protection of environmental degradation, that the flow of goods and services is too small compared to social welfare, and that such market failure could be linked to a web of multiple interconnected relations.

Kanda et al., (2012b) discussed, with the help of externalities related to foreign trade and asymmetric information, that government intervention or involvement can be justified in export promotions. Externalities directly associated with foreign market information, for example consumer behavior, business opportunities, quality and technical requirements, etc. Generally, big market players undertake such costly information by investing in foreign markets, establishing contacts, and through distribution links that benefit rivals. Besides, rivals might also get benefited through the image that is built by the market leaders. On the other hand, asymmetric information refers to the unavailability or biased information related to price, market characteristic, export potential, competitor information, etc. for a particular party (Beltzér & Zetterqvist, 2008). As a consequence, it becomes relatively difficult to make decisions or evaluate the risk entering into a foreign market. Export credits and financial guarantees from the public sector are other means to support political and economic risk associated with trading across borders (Lederman et al., 2010). While political risk occurs due to shortage of foreign currency on the importer side, events of war, civil disturbance or payment moratoriums; economic risk take places due to bankruptcy or non-payment on the customer side (Kanda et al., 2012b).

The collective effect of such market externalities is either no foreign trade across border or very lower rate of foreign trade due to underestimation or overestimation of associated benefits and risks. So, it is the governments’ responsibility to build instruments that could mitigate such failures and also create a “level playing field” for all actors in international trade (Kanda et al., 2012b).

1.2 Problem discussion:

Sweden has the reputation of having a top position in innovation, because of its high commitment to research and development and is ranked in third position in the global cleantech innovation index after Denmark and Israel but indeed, Sweden has not got that much commercial success compared to other top performers in the rank. So, a good opportunity is created for Swedish companies to export Swedish expertise.

In 2008, a task was appointed by the Swedish government to the Swedish Environmental Technology Council (Swentec) for preparing a basis or action plan for the government’s continued support for cleantech sector (Kanda et al., 2012b). Based on the resulting plan, the Swedish government has undertaken a series of activities to strengthen Sweden’s position as a world-leading supplier of environmental

1 http://www.cleantech.com/global-cleantech-100/
technology (Swentec, 2008). The main focus areas of that action plan were: political governance, competence for sustainable development, commercialization, business models and collaborations. Besides, the Swedish government allocated SEK 560 million between 2007 and 2010 and for the period of 2011-2014, an additional amount of SEK 400 million was allocated for the development and export of Swedish environmental technology (Kanda et al., 2012b).

According to Kanda et al., (2012b), export success depends on the internal capabilities of the firms in attracting and capturing the foreign business opportunities. In a recent web-based survey done by Kanda et al., (2012b), sent to 728 companies in Sweden, around 62% of the respondents indicated that they were not aware of any particular governmental export promotion program for their particular needs and the remaining 38% identified their desired programs, but a third portion of these decided not to participate in those government program. The main reasons for not participating were: difficulty to access, lack of resources, denied application and panning to participate in future. However, two third of the companies among the companies who are already participated in government programs could not relate the initiatives with their particular needs.

The survey shows there is a clear gap between the governmental supported programs with the companies. Governmental agencies try to help the companies in export but could not succeed to attract most of them. It is quite a challenge for governmental agencies to reach those companies who have no knowledge about governmental export support programs that fit into their specific export needs. It creates two dilemmas: one is whether or not the governmental initiatives that promote cleantech export could reach their formulated objectives and the second one is how the formulated objectives of governmental initiatives could reach all those companies.

So, under these circumstances, it would be really interesting to analyze the gap between Swedish governmental export support programs and the cleantech firms’ expectations.

1.3 Research purpose:

The purpose of this study is to run an investigation about individual cleantech firms, their experience with Swedish governmental export support programs and their expectations from these programs. The outcome is aimed to see the deeper picture, and analyzing the gap of this two that is came out through Kanda et al.’s (2012b) findings and also recommend ways to increase the acceptability of governmental export support programs in relation to Swedish cleantech industry.
Based on this purpose, the following research questions have been raised:

**RQ1:** What is individual cleantech firms’ experience with Swedish governmental support programs?

**RQ2:** What kind of support do cleantech firms really expect?

### 1.4 Limitations:

- The study used general export-promotion programs to understand how governments pursue their export promotional initiative programs to support export whereas it demands programs that is characterized by cleantech industry, there is no study made in this regard. Similarly, no model found that is characterized by cleantech industry to understand firm’s internationalization process. Thus, this study used one of the models of internationalization to apprehend the process of firm’s internationalization.

- The study only includes those governmental export support programs that companies made observations of, attempted to participate or had already participated in.

- The study will not measure the effectiveness of observed, attempted or participated programs based on company’s export performance. Rather, it will discuss the qualitative aspect of their experience. That means the experience of acquiring such supports and the benefits after participation.

- This study is limited to core cleantech companies, those having both product and service orientation. This due to the existing dilemma of product-service continuum\(^2\) in many industries.

- This study is also limited to core cleantech companies, those that have the intention to export or are already exporting. Locally operating firms that have no interest to export will not be part of this project.

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\(^2\) [http://www.bms.co.in/explain-the-goods-service-continuum/](http://www.bms.co.in/explain-the-goods-service-continuum/)
2. Methodology:

This chapter describes the methodological approaches used in this study. It includes research approach, research type, research strategy, data collection method, and research quality.

2.1 Research approach:

According to Reynolds (1971), there are three basic research approaches: exploratory, descriptive, and explanatory. Exploratory research is applicable where the phenomenon is completely new or unknown. In this case, the whole research is focused on a particular source or point of information. To obtain results, detailed information and investigation is required. On the other hand, descriptive research deals with multiple phenomena. The problem is known and structured. Empirical generalization is used to develop theory. Finally, the explanatory research has the opposite approach of the descriptive research. In this case, a developed theoretical model is used to explain empirical generalizations. Hypotheses are formulated and tested empirically.

Deductive and inductive are two other approaches similar to descriptive and explanatory approaches, respectively. In deductive approach, the conclusion is drawn from theory and general principles. On the other hand, in inductive approach, theory is built from observation. While deductive approach works from general to specific, inductive approach works the other way around (Trochim, 2006). To differentiate, deductive approach generates general rules but inductive approach utilizes these general rules to draw final conclusions (Ghauri et al., 1995).

The construction of the research questions in this study indicates that it clearly demands either a descriptive or an inductive approach. Because both research questions were built in such a way that findings will help to reduce the gap between Swedish governmental export support programs and cleantech firms’ expectations, which means the study involves the possibility of theory building through empirical generalization.

2.2 Research investigation type:

In research studies, qualitative and quantitative methods are two widely used investigation types. Qualitative methods are performed on the basis of non-numerical explanations of the examination and interpretation of an observed phenomenon related to identifying meanings or relationships (Dantzker & Hunter, 2012). In this case, researchers have freedom to interpret and express their own views rather than using numerical assessments. Besides, researchers can also give their insights where numerical measurement does not do so. On the other hand, quantitative methods are used to explain a phenomenon with numerical data using mathematical or statistical
modeling (Muijs, 2004). In this case researchers are limited to provide only numerical assessment. However, the applicability of qualitative and quantitative method depends on the demand of the generated research questions (Kvale, 1996).

This study, for its investigation, seeks knowledge that interprets and analyzes both cleantech firms’ experience and expectations from Swedish governmental export support programs. To conduct the investigation, qualitative method has been chosen but quantitative method (e.g. survey or statistical analysis) can also be used.

2.3 Research strategy:

According to Yin (1994), there are five research strategies in research field to pursue a research: experiments, surveys, archival analysis, histories and case studies. A case study is an empirical method that investigates a phenomenon in-depth in a real-life context where the relationships between phenomenon and context are not clearly visible (Woodside, 2010). Green (2011) stated that a case study helps to understand such processes through unveiling a context for learning the characteristics of a particular problem being studied. Moreover, the case study methodology is accurate because it conducts with experience and also creates roots with the context. Siggelkow (2007) argued that the case study methodology holds the ability to provide a closer prospective of theoretical construction to the researchers. Even more, it provides a platform to perform casual argumentation on the basis of theoretical construction (Siggelkow, 2007).

This study uses the case study methodology for its investigation. The depth of this case study is focused and related to a particular area of interest. As a research strategy, multiple case studies are pursued. The reason is that it helps to increase the validity of the results of the study. Furthermore, similarities and differences among cases also help to provide a solid conclusion. For multiple case studies, selection of four to ten cases is recommended. Because with fewer than four cases, theory is difficult to build; and with more than ten cases, the quantity of data is difficult to handle (Eisenhardt, 1991). For this study four cases are selected. Details about cases will be given in later sections.

2.4 Data collection method:

2.4.1 Literature review:

The literature review started with a study done by Kanda et al. (2012a), related to governmental Environmental Technology (ET) export promotion initiatives in different countries. For this thesis, the scope was limited to the Swedish context. The electronic library of Linköping University was used to perform the search of relevant papers. In addition, Linköping University library databases: Scopus, Business Source Premier, Sciencedirect and Jstor were also used to find relevant sources. After initial searches, a reference list from selected sources was also used to find more relevant literatures. Besides Linköping University databases, “Google Scholar” was also used
to find information associated to the Swedish cleantech industry and governmental ET export promotion initiatives.

Initially, around 150 research papers were collected in the area of “Internationalization”, “Cleantech”, “Environmental Technology”, “Governmental Initiatives” and “Born-Globals”. After the preliminary report and a long discussion, the research area was narrowed down on “Cleantech” and “Governmental Initiatives” and for that around 25 papers were used in this report.

2.4.2 Primary data:

In this study, personal interviews were used to collect primary data. Collecting the firms’ perception of governmental support and their expectations is crucial for this research. The interview was kept open for face-to-face, video conference and telephone interview according to the convenience of the respondent interviewees. Additional care was given to maintain the authenticity of the collected data.

There are generally three methods to conduct an interview: structured, semi-structured and open-ended (Bryman & Bell, 2007). A structured interview is predefined and provides little room for discussion, whereas an open-ended interview gives flexibility to discussions and counterarguments between the interviewer and the interviewee. The semi-structured interview comes in between; it is predefined but can be conducted flexibly.

For this study, semi-structured interviews (check Appendix A) were designed based on both open ended and focused discussions. Initially, a general discussion took place, followed by a deeper examination of areas of interest, based on the responses of the interviewees. Interviews were scheduled for maximum one and half hours. The target respondents were CEOs, founders and managers as they are the key decision-makers for participating in governmental supported programs. In fact, they are normally the participants and evaluators of the effectiveness of the programs in which the company has participated. Interviews were recorded and written with prior permission from the interviewees and transcriptions were sent for approval.

2.4.3 Secondary data:

In this study, secondary data was used for two reasons. First, company websites were used to describe the case. Secondly, different government agency websites were reviewed to gather information about their export support activities. Finally, gathered information was used during the interviews and discussions.

2.4.4 Sample selection:

To select the sample, a database provided by the division of Environmental Technology and Management at Linköping University was used. This database contained information about more than 800 Swedish cleantech companies, related to
their field of work, sub field, company name, product or service, operating location, website address and contact information.

The initial selection criteria were the following:

- Companies of Swedish origin
- Companies can have both product and/or service orientation
- Operating location could be anywhere within Sweden, but preference was given to the county of Östergötland

Based on the above criteria, companies were initially shorted and listed from the mentioned database, and approached through e-mail. Seven companies responded and showed their interest in the interview. Companies were further confirmed based upon following specific criteria:

- At least one involvement in governmental support program
- Companies who want to export or are already exporting

Among seven responded companies, two companies were unable to attend the interviews due to lack of time and one company was not considered for the study due to respondent’s irrelevant experience. In the end, four cases were selected for this study.

A fifth independent company (i.e. Swedaccess) interview was also included in this study, although it did not meet the above criteria. Swedaccess is an export consultancy firm operating in Linköping. The interview was considered important in order to have a more general view of both Swedish governmental export support programs and cleantech firms’ behavior regarding participation in such programs. In the following there are some short descriptions of all the selected companies presented based on interview and website information:

**Perpetuum Automobile AB**

Perpetuum Automobile AB is a Swedish innovative company that provides efficient sustainable energy solutions for businesses, households and farmers. It was founded by Mr. Andreas Molin in 2001 at Glashuset, in Stockholm. At the moment, the company is attached with a development project with Tillväxtverket (Swedish Agency for Economic and Regional Growth) to combine solar photo-type modules with air heating. During the interview, Mr. Andreas Molin described his company’s current situation and expressed his impression about governmental export supports programs. The company is currently trying to build their reputation through different projects and in the future, get involved with exports.

**Promessa Organic AB**

Promessa Organic AB is a company that is developing and offering a new method of laying the dead to rest, which is an environmentally friendly form of burial that takes
full consideration of the biological realities of corpses and has low impact on environmental resources like water, air and soil. The interview was carried out with Mrs. Susanne Wiigh-Mäsak, who is a biologist specialized in marine biology and the founder of the company. In the interview Mrs. Susanne Wiigh-Mäsak expressed her experience, expectation and recommended some improvements for Swedish governmental export support programs.

**Hybricon**

Hybricon is a company with base in Umeå, which develops sustainable transport solutions, like conversion of vehicles into electric drive. Hybricon was founded in November, 2009; by Boh Westerlund. The interview was carried out with Edith Sundqvist, who is the CEO. This company is involved with export in a small scale, but they have the intention to grow.

**S-Solar**

S-Solar is a Swedish solar energy company, extremely experienced in developing solar thermal systems and technology for heating and cooling. They have more than 50% share of large solar installations use in EU. The interview was carried out with Klas Ståhl who is the Managing Director of the company and overall responsible for the group. He is a former member of OMX AB (Swedish-Finnish financial services company) and responsible for the global technology operation and also a senior partner at “Accenture” (a global management consulting, technology consulting and technology outsourcing company).

**Swedaccess**

Swedaccess is a consultancy firm in international business development for Swedish and international customers, combining professional expertise with international experience in the establishment and development of business in Spain, Peru and in other Spanish-speaking countries in Latin America. The interview was carried out with Mr. Guillermo Muñoz, who is the founder of the company, with nineteen years of experience in intercultural encounters.

The nature of selected case firms is SME³. Where Perpetuum Automobile AB, Promessa Organic AB and Hybricon are falling under micro firm category, S-Solar is small.

**2.5 Data analysis method:**

Qualitative data can be analyzed through within-case or cross-case methodologies, regardless of one’s general approach to qualitative data (Barker et al., 2000). While a within-case analysis helps to understand the features of a single case, a cross-case analysis helps to identify the common aspects that are shared among cases (Barker et

A cross-case analysis also explains why one case is different or similar than other and it is useful to address unique results (Khan & VanWynsberghe, 2008). This study will combine within-case and cross-case analysis together on empirical data based on theoretical constructions.

### 2.6 Quality of the research:

#### 2.6.1 Reliability:

Reliability concerns whether the results of the research can be replicated with the same tools or measurement procedures, if others want to obtain the same conclusions (Daymon & Holloway, 2002). But the world and studying phenomenon is continuously changing. So, it is virtually impossible to obtain the same exact results. Thus, to solve this issue, Merriam’s (1998) recommendation is to justify the link between collected data and conclusions.

To guarantee the reliability of this study, it has to look at from two perspectives: short and long term. From a short-term perspective this study is highly reliable because governmental support policies for export will remain more or less same. That means the companies’ experience and expectation from governmental support will also remain same. So, it can be strongly said that this study’s results would be replicable from a short-term perspective. However, from a long-term perspective, the reliability of this study might be reduced due to the fact that changes occur in governmental export support policies. This will eventually bring changes in the companies’ experience and expectation from governmental support, which makes it difficult to replicate the same study results from a long-term perspective.

Furthermore, to conduct this study five interviews and different companies’ or governmental agencies’ websites were visited in order to collect primary and secondary data. So, it can also be said that primary data from the interviews and secondary data from the websites could also serve as reliable information for this study. Besides, the end result is highly consistent with the empirical findings, as it will be described in the result section.

#### 2.6.2 Validity:

Validity refers to a mechanism that examines how the investigation will be pursued. Furthermore, validity also deals with the actuality and accuracy of the research statements (Kvale, 1996). According to Daymon and Holloway (2002), there are two types of validity: internal validity and external validity. Internal validity deals with whether the findings of the research match the reality or not. On the other hand, external validity deals with the applicability of the final results in other situations or contexts.

For internal validity, this study used multiple sources both in primary and secondary nature while conducting the research. Then sources were complemented and
scrutinized with thesis supervisor and some of the interviewed respondents. In addition, to further enhance the validity, a copy of empirical findings sent to some the primary sources to identify the findings are plausible and of the highest quality. That is how the risk of biased and incorrect information was minimized in order to bridge the validity with reliability, because, a high reliability ensures a high validity. These applied procedures are well accepted in academic research studies. So, it can be said that the result is true and correct to the best of the gained knowledge.

When it comes to external validity, this study tried to understand the gap between cleantech firms and Swedish governmental export support programs through multiple case studies. Multiple case studies actually helped to draw more generalize conclusions and recommendations from this study which, would be able to provide more inside view of Swedish cleantech firm’s problems of participating in governmental export support programs and their expectations to the respective concerns (e.g. Swedish government and export policy makers).
3. Frame of Reference:

This chapter starts with a brief discussion about the concept of cleantech and its characteristics, followed by a discussion about firm’s internationalization process. It continues with a description of why and how governments provide export support programs in order to help firms. It also gives a brief description about existing Swedish export support programs, as this study is conducted in the context of Sweden. Finally, it presents the analytical framework for this study.

3.1 The concept of cleantech:

The concept of “cleantech” is continuously evolved in different academic literatures. Maybe the compelling definitions are those which include both environmentally improved technical solutions and particularities related to its business applications (Frankelius et al., 2011). For instance, according to Joel Makower, a fellow of University of Virginia Darden Business school defined cleantech as “a diverse range of products, services and processes that harness renewable materials and energy sources and substantially reduce the use of all resources and dramatically cut or eliminate emissions and waste” (Pernick & Wilde, 2006), whereas Burtis et al., (2004) defined cleantech as “products and services that use technology to compete favorably on price and performance while reducing pollution, waste, and use of natural resources”. Since the term “cleantech” combines both environmental and economic benefits through innovation, it can also be related with product, process and service innovation where resource input and waste output of a system are both reduced (Irwin & Hooper, 1992).

Cleantech symbolizes a wide range of products, services, and processes that provide superior performance at low cost reduces negative ecological impacts and improves the exploration of natural resource. It covers a wide range of industry segments, for instance energy generation, energy storage, energy efficiency, water and wastewater, air and wind, solar, advanced materials, agriculture and forestry, transportation and so on.

The cleantech industry is considered as a growth vehicle and also as a path to improve the natural environment (Frankelius et al., 2011). As a growth vehicle, it is to some extent related to export. In the Swedish context, although cleantech companies are excellent at technological innovation, they have failed to export it (Frankelius et al., 2011). This is labeled by some as “the Swedish cleantech mystery” (e.g. Frankelius, 2011) and clearly points at some issues which are holding back Swedish cleantech’s potentiality to go beyond borders. This study will try to address these issues through its investigation.

4 http://www.cleantech.com/about-cleantech-group/what-is-cleantech/
3.2 Firm’s internationalization process:

Since this study involves export related difficulties of Swedish cleantech industry, before going into other details, it is important to understand how firms internationalize? This study has used Cavusgil’s (1980) innovation-related internationalization model (i.e. I-model) to understand firm’s internationalization process because this model specially holds for SMEs and is capable to explain their different activities and resource requirements that are required during different internationalization stages (Collinson & Houlden, 2005; Gankema et al., 2000). Cavusgil’s I-model (1980) consists of five stages (Gankema et al., 2000): domestic market, pre-export, experimental-export involvement, active-involvement, and committed-involvement. Below Figure 1 that explains different stages of SME internationalization process.

**Figure 1**: Firms internationalization stages. Adopted from (Gankema et al., 2000)

The first stage is domestic market which describes the situation where firms only focus on domestic or local markets. Firms are too busy and involved within their own activities to gain success in the local market. In fact they do not have enough resources or capabilities to handle international orders. That is why firms are not interested or willing to take any steps towards Internationalization (Gankema et al., 2000). In this situation, firms are needed to inform about the new market possibilities, opportunities and benefits that might be obtained through internationalization, so that they can gain the required knowledge and create the desire to go beyond their domestic or local boundaries (Nogales & Pettersson, 2001).

The second stage is pre-export which describes the situation where firms have made their decision to go abroad but not in a deterministic manner. During this stage, firms seek information and evaluate the feasibility of going abroad (Gankema et al., 2000).

The third stage is experimental-involvement. During this phase firms start exporting but at very small scale to check whether everything works according to later stage plans (Gankema et al., 2000; Nogales & Pettersson, 2001). That means firms develop
their export activities by focusing on one market through the best possible ways (Nogales & Pettersson, 2001). In this phase, firms seek more information about the market such as business culture, logistics etc. Such information will eventually help and encourage firms to do better performance abroad in later stages (Nogales & Pettersson, 2001).

The fourth stage is active-involvement which describes a situation where firm’s first attempt of export has already achieved a success. Firms get encouraged and put extra efforts to establish their presence abroad. During this phase, firms try to develop organizational structure or resources (e.g. finance, human and allies) according to their new market requirements (Gankema et al., 2000; Leonidou & Katsikeas, 1996). Hence, firms need more specific information that might help them to support and develop their international establishments (Nogales & Pettersson, 2001). In fact, in this stage firms also seek information about other markets or contacts in other countries so that they can further expand their international operations (Gankema et al., 2000).

The last stage is committed-involvement. During this phase firms are highly experienced (Leonidou & Katsikeas, 1996) and strongly dependent on foreign market sales. Hence, firms continuously struggle to allocate their limited resources between domestic and international markets. In fact, firms in this stage change their mode from export and engage to other long-term commitments such as licensing arrangements or foreign direct Investments etc. to a specific market (Gankema et al., 2000). However, they still need guidance and information to support their strategic decisions but more specific and in an isolated manner (Nogales & Pettersson, 2001).

3.3 Why governmental support is required to improve export?

As already stated before that government intervention is required to mitigate market failure, meaning to overcome a situation where market fails such a way that resource allocation becomes optimal (Borooah, 2003). Government intervention helps firms to function well and be competitive in the international market (Beltzér & Zetterqvist, 2008). Countries like Sweden which has a very high dependency on trade; government intervention plays a vital role to increase export and international trade that are the central components of economic growth (Beltzér & Zetterqvist, 2008). However, Kanda et al., (2012b) justified government intervention for two reasons: externalities and asymmetric information.

3.3.1 Positive externalities:

Beltzér & Zetterqvist (2008) argued that when a company does business in foreign market, it just not only make profit rather, a different type of benefit arises as a consequences of the knowledge and information about their product. Eventually, it helps to increase the possibility of expanding businesses and receive more business opportunities abroad. This benefit is not company specific however, it helps to build country’s image and creates opportunities for other companies to take their product
beyond the local borders. So, there are positive externalities in export and government intervention can enhance it through direct support or by increasing co-ordination among companies (Beltzér & Zetterqvist, 2008).

3.3.2 Asymmetric information:

Asymmetric information refers imperfect or biased information about available information related to price, market characteristic, export potential, the counterparty in business etc. in indulgence of a particular party (Beltzér & Zetterqvist, 2008). Beltzér & Zetterqvist (2008) argued that due to asymmetric information, it becomes difficult to evaluate the risks and possibilities related to foreign trade. As a consequence, the total trade becomes below the level that is ideal from a social point of view. In this situation, government can step in and provide required information to promote trade. The form of information can either be general (e.g. information about country, customs, market features, etc.) or firm specific that is suitable to get into a new export market (Beltzér & Zetterqvist, 2008).

Apart from positive externalities and asymmetric information, government can also promote export by direct financing to the exporting firms because in most cases firms do not have sufficient financial resource to support their export business (Beltzér & Zetterqvist, 2008). Now why there is a shortage of capital at the first place that reason may be manifold, but it may be consequence of market failure due to imperfect information or restrictions and regulations imposed on the capital market (Beltzér & Zetterqvist, 2008).

3.4 Governmental export support programs:

Traditionally, exports are one of the most popular ways to enter international markets because they involve lower risks, minimal resources, and give greater structural and strategic flexibility (Kanda et al., 2012b). But Kanda et al., (2012b) also mentioned that it is not always easy to gain success in export due to numerous difficulties such as procedural, governmental and environmental obstacles that appear in various frequencies and intensities. Such barriers are blamed for preventing exporters from engaging in export operations, interrupting the new exporters from continuing foreign business activities, obstructing the established exporters from their operating performance and also limiting the mature exporters from further expansion to more advanced forms of company internationalization (Leonidou & Katsikeas, 1996).

To overcome the impact of export-related hurdles, many governments support their private sector firms through a wide range of export support programs (Leonidou et al., 2011). According to Kanda et al., (2012b), export support programs are unique in relation to the economic, cultural, legal and political idiosyncrasies in every country. Apart from providing level playground to both exporters and non-exporters in a foreign market, governmental support programs are also aimed to develop the firms’ access to resources and capabilities in four areas, which are usually: information, finance, human resources and capability of analyzing market information and
opportunity, building relationships and adoptability (Leonidou et al., 2011). Governmental support programs can be categorized into four distinct program areas: information-related programs; financial aid-related programs; education and training-related programs; and lastly, trade mobility-related programs (Leonidou et al., 2011). Table 1 gives a summary of all types of export support programs and the activities that governments generally undertake to support firms.

In following there is a brief description of all the governmental support programs:

3.4.1 Information-related Programs:

Information-related programs involve with the government initiatives related to information about foreign market opportunities, specific information about doing business with a particular firm, general information about doing business in specific countries, provision of marketing information, export publication and general literature about how to export (Leonidou et al., 2011). According to Crick et al. (1995) many exporters do not have the ability for acquiring foreign market information because they are not aware of particular sources from which information can be extracted, do not have the required knowledge to identify or analyze export markets and have difficulties for utilizing collected information. To overcome this constrains, a wide range of export-promotion programs provide useful information support to individual firms, focused on foreign country profiles, international business practice and contacts with possible foreign partners.

Foreign-market opportunities deal with market profiles that identify particular possibilities for sales in overseas markets, and give an overview of the features and requirements of target export markets and the major opportunities in them. Specific information about doing business with a particular firm provide the information about its history, structure, the profile of its managers, the company’s reputation, etc., as well as financial information (e.g. sales volume, market share and profitability) of potential foreign partners (Leonidou et al., 2011).

General information about business in a particular country gives a widespread analysis of the important features of a specific market for a selected product sector, such as economic conditions, political aspects, the sociocultural environment, and business norms and practices. Provision of marketing information provides information for foreign-market entry, positioning and handling of marketing-mix elements. Meanwhile, the provision of marketing information provides information regarding overseas market entry, positioning and handling of market-mix element. And lastly, general literature gives the information about export documentation handling, international credit and payment terms and shipping requirements (Leonidou et al., 2011).
3.4.2 Financial aid-related programs:

According to Kanda et al., (2012a), financial aid-related programs are considered one of the most common government initiatives among all surveyed countries, i.e. there is at least one government initiative which is related to financial-aid programs in every country included in their study. Kanda et al., (2012a) also mentioned that those government initiatives usually cover the political and economic risks of buyer non-payment in an export transaction, as the private sector is reluctant to cover those areas because of the high risks involved. To manage firms’ operations in foreign markets more efficiently, exporters usually take financial support from government, such as accommodating foreign exchange risk, transferring money, and dealing with working capital problems (Singer & Czinkota, 1994).

Often, financial aid-related programs involve with the government initiatives related to funds transferring, export-credit guarantees and export loans. Among those programs, funds-transferring programs help exporters to transfer the payment to foreign customer in the case of hard currency crisis or volatile exchange rates. The export credit guarantee programs compensate the exporter for the damages caused by unexpected commercial and political instability in overseas markets. In addition, there are also export loans programs that give exporters loans at a lower interest rate and are associated with particular foreign markets (Leonidou et al., 2011).

3.4.3 Education and training-related programs:

According to Kanda et al., (2012a), international marketing is more complicated than marketing in domestic markets. For the guidance of the firms’ journey of internationalization, some governments provide education and training. According to Leonidou et al., (2011), governments offer several educational schemes, such as training in seminars, assistance with export procedures and the counseling to help firms to solve the problems. The programs aim to create positive attitudes among business managers toward profit, and create opportunities toward internationalization.

As therefore, the programs minimize the negativity about risks, costs and complexities associated with exporting.

Usually, education and training-related programs represent common government initiatives related to organization of export seminars/conferences, training on export specializing and export documentation, provision of counseling advice on export business and foreign language support (Leonidou et al., 2011). Generally, export seminars deal with export planning, foreign market identification and export logistics. Training programs specializing in exporting also give training on specific exporting issues, such as running an export department, servicing foreign customers, managing relationships with export sales representatives and training on the handling of documentation related to exporting, such as bill of landing, letter of credits, and shipping insurance. Similarly, foreign language support provides some intensive
course to learn foreign languages as well as provide translation and interpreting services (Leonidou et al., 2011).

Table 1: Governmental export support programs

<table>
<thead>
<tr>
<th>Type of export support programs</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information-related Programs</td>
<td>Information about foreign market opportunities</td>
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<td></td>
<td>Information about doing business in a particular country</td>
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<tr>
<td></td>
<td>Provision of marketing information</td>
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<td></td>
<td>Specific information about doing business with a particular firm</td>
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<td></td>
<td>Export publications</td>
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<tr>
<td>Financial Aid-related Programs</td>
<td>Export loans</td>
</tr>
<tr>
<td></td>
<td>Fund transfers</td>
</tr>
<tr>
<td></td>
<td>Export credit guarantees</td>
</tr>
<tr>
<td>Education and Training-related Programs</td>
<td>Organization of export seminars, conferences</td>
</tr>
<tr>
<td></td>
<td>Training programs</td>
</tr>
<tr>
<td></td>
<td>Provision of counseling advice</td>
</tr>
<tr>
<td></td>
<td>Foreign language support</td>
</tr>
<tr>
<td>Trade Mobility-related Programs</td>
<td>Assistance in participation in trade shows and exhibitions</td>
</tr>
<tr>
<td></td>
<td>Participation in trade missions in foreign markets</td>
</tr>
<tr>
<td></td>
<td>Support of trade offices abroad</td>
</tr>
</tbody>
</table>

3.4.4 Trade mobility-related programs:

Trade mobility-related programs interact to a large extent with initiatives on information provision, dealing with the support offered by the government to environmental technology firms to assist, participate and organize trade fairs and exhibitions (Kanda et al., 2012a). According to Leonidou et al., (2011), government action can help exporters to improve their export capabilities through various trade-mobility programs, such as individual trips abroad, taking part in foreign-trade missions and participating in international trade exhibitions.

Often, trade-mobility related programs involve with the government initiatives related to assistance in participating in trade shows/exhibitions, participation in trade missions in foreign markets and support by trade offices abroad. Among those programs, assistance in participating in trade shows/exhibitions programs provides or decorates a space to display the products in international trade fairs. Participation in trade missions in foreign markets open the opportunity for exporters to facilitate with financial assistance as inviting foreign business people, reporters and others or visiting foreign markets to enhance marketing efforts and improve the product’s potentiality abroad. Support programs by trade offices abroad deal with establishing
initial contacts with potential customers, make preparation with foreign personnel visits and follow up on trade leads in foreign markets (Leonidou et al., 2011).

3.5 Existing governmental export supports programs in Sweden:

The current Swedish governmental export supports programs, which are giving the support to the Swedish firms and companies in the different four areas (mentioned before) are briefed in the following:

3.5.1 Information-related government initiatives:

In March 1972, the Swedish government made a proposal to form a council that would plan, coordinate and implement measures to promote Swedish exports together with Swedish businesses. The Swedish Trade Council (Exportrådet) was created to help Swedish companies to identify, understand, export and establish themselves in new markets. The Swedish Trade Council developed the “Payment Guide”, which is a web service that contains information about suitable forms of payment, the scope for obtaining credit insurances, financing options and debt collection procedures, etc. about more than sixty countries. They also developed a finance guide, which provides information about alternating funding arrangements and funding sources, both in Sweden and internationally. “International trade, payment and financing” is another guide that provides information about risk management, foreign exchange and payment, financing, etc. for the firms to start export business and become successful in international markets. The National Board of Trade hosts the secretariat for Swedish Trade Procedures Council to bring together all companies willing to export or those are already exporting for discussions and for sharing information on trade facilitation. The National Board of Trade also works to simplify, harmonize and eventually eliminate unnecessary procedures and flows of information in international trade.

3.5.2 Financial aid-related government initiatives:

Almi (Företagspartner) is a governmental agency that has been commissioned by the government to promote the development of competitive small and medium-sized business as well as to encourage new enterprises for creating growth and innovation in Swedish business life by covering the whole processes, from ideas to successful businesses. Almi offers export loans, generally designed for small and medium-sized enterprises, as an opportunity to become involved in international markets. Export-

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5 http://www.swedishtrade.se/sv/exportfakta/handbocker-och-guider/betalningsguider/in-english/
6 http://www.swedishtrade.se/sv/exportfakta/betalning-finansiering-upphandlingar/informationskallor/
7 http://www.kommers.se/SWEPRO/In-English/SWEPRO-in-brief/
8 http://www.kommers.se/In-English/Trade-Facilitation/
9 http://www.almi.se/Finansiering/vad-kan-almi-finansiera/
loan is the result of the collaboration between Almi, the Swedish Export Credits Guarantee Board, Swedfund and the Swedish Trade Council\(^\text{10}\).

Another agency involved in these activities is VINNOVA, the Swedish Governmental Agency for Innovation Systems, which works under the Ministry of Enterprise, Energy and Communications and acts as a national contact agency for the EU Framework Program for R&D and also promotes sustainable growth by improving the conditions for innovations, as well as funding needs-driven research\(^\text{11}\). EKN or The Swedish Export Credits Guarantee Board (Exportkreditnämnden) is another government agency that has been commissioned by the government to promote Swedish exports and the internationalization of Swedish companies. Their main task is insuring export companies and banks against the risk of non-payment in export transactions and therefore assisting them to conduct more secure export transactions. EKN’s activities are financed by the guarantee holders’ premiums\(^\text{12}\). The Swedish Trade Council also offers services with a financial aid to the Swedish firms who want to be involved in international business\(^\text{13}\). SEK or The Swedish Export Credit Corporation is another governmental agency with the main task to secure access to financial solutions on a commercial basis for the Swedish export economy. The primary aim of SEK is to provide financial solutions to support Swedish industries as well as to offer them competitive direct lending and structured lending\(^\text{14}\).

3.5.3 *Trade mobility-related government initiatives:*

The National Board of Trade is the Swedish governmental agency that deals mainly with foreign trade and trade policy. They provide the Swedish government with analyses and recommendations on trade policy matters, they are considered as a contact or an inquiry point for business and citizens for problem solving and information seeking, they apply their expertise in trade-related capacity-building, and in development cooperation\(^\text{15}\). The National Board of Trade has produced two different international training programs on trade. One is “Rules of Origin” and another one is “Trade facilitation”. The aim of these international training programs is to contribute to capacity development and processes of change in developing countries, by offering key persons training programs in subject areas where Swedish expertise is in demand, and also to support development and change within the participants’ own organization, branch, and etc.\(^\text{16}\). A trade facilitation forum SWEPRO or Swedish Trade Procedures Council is hosted by the National Board of

\(^{10}\) http://www.almi.se/Finansiering/vara-finansieringsformer/export/
\(^{11}\) http://www.vinnova.se/en/About-VINNOVA/
\(^{12}\) http://www.ekn.se/en/Om-EKN/Our-business/
\(^{13}\) http://www.ekn.se/en/Om-EKN/Other-export-promoters/
\(^{14}\) http://www.sek.se/en/About-SEK/Our-mission/
\(^{15}\) http://www.kommers.se/upload/EXTRAN%C3%A4T/Projectplace%20TP%20ROO%202011-12/Documents/Workshop%20PPP%20TProO%20och%20TPTF%20MASTER.pdf
\(^{16}\) http://www.kommers.se/In-English/Training-Programmes-TP/
Trade, which brings together the relevant stakeholders for information sharing and discussion on trade facilitation\textsuperscript{17}.

### 3.5.4 Education and training-related governmental initiatives:

The Swedish Trade Council offers a range of services to Swedish firms that want to engage in export business. The trade council offers a number of different business development programs, which include training and guidance for small and medium-sizes enterprises\textsuperscript{18}. They arrange a range of technical seminars in international business.

In the following Table 2 all the Swedish governmental agencies involved in export support are structured in the four different areas:

**Table 2: Swedish governmental export support agencies and their structure**

<table>
<thead>
<tr>
<th>Type of export support programs</th>
<th>Governmental agencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information-related Programs</td>
<td>Swedish Trade Council</td>
</tr>
<tr>
<td></td>
<td>SWEPRO</td>
</tr>
<tr>
<td></td>
<td>National Board of Trade</td>
</tr>
<tr>
<td>Financial Aid-related Programs</td>
<td>VINNOVA</td>
</tr>
<tr>
<td></td>
<td>National Board of Trade</td>
</tr>
<tr>
<td></td>
<td>Swedfund</td>
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<tr>
<td></td>
<td>EKN</td>
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<tr>
<td></td>
<td>Almi</td>
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<tr>
<td></td>
<td>SEK</td>
</tr>
<tr>
<td>Education and Training-related Programs</td>
<td>Swedish Trade Council</td>
</tr>
<tr>
<td></td>
<td>EKN</td>
</tr>
<tr>
<td>Trade and Mobility-related Programs</td>
<td>National Board of Trade</td>
</tr>
<tr>
<td></td>
<td>SWEPRO</td>
</tr>
</tbody>
</table>

### 3.6 Analytical framework:

This study will investigate cleantech firm’s experience and their expectation from Swedish governmental export support programs in the four areas discussed above. The experience would reflect the firms’ overall impression, and the difficulties and benefits that they have experienced when making part of governmental export support programs in the context of their internationalization stages.

The obtained result will be used to construct a suggestion list that would recommend how Swedish governmental export support programs would be more accessible to the cleantech firms as the intention of this study is to help in reducing the gap between governmental export support programs and company’s expectation.

The purpose of Table 3 is to provide a framework to collect data for the companies included in this study and the subsequent analysis of their experiences with each

\textsuperscript{17} http://www.kommers.se/SWEPRO/In-English/SWEPRO-in-brief/

\textsuperscript{18} http://www.ekn.se/en/Om-EKN/Other-export-promoters/
category of programs in the context of their internationalization stages. Finally, an empirical analysis will be provided in order to reach the final conclusions.

**Table 3**: Analytical framework for analyzing the gap between Swedish governmental export support programs and firms’ expectation

<table>
<thead>
<tr>
<th>Swedish cleantech industry</th>
<th>Governmental export support programs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Firm’s internationalization stages</strong></td>
<td><strong>Information-related Programs</strong></td>
</tr>
<tr>
<td>Domestic market</td>
<td>Financial Aid-related Programs</td>
</tr>
<tr>
<td>Pre-export</td>
<td>Education and Training-related Programs</td>
</tr>
<tr>
<td>Experimental involvement</td>
<td>Trade and Mobility-related Programs</td>
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<tr>
<td>Active involvement</td>
<td></td>
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<tr>
<td>Committed involvement</td>
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</table>

**Swedish governmental export support agencies**
4. Results:

This chapter describes all five cases and presents data that were collected through the interviews.

4.1 Perpetuum Automobile AB:

Perpetuum Automobile AB is a Swedish innovative company that provides area-efficient, sustainable energy solutions for businesses, households and farms. The company started in 2002 as a personal venture but the main inspiration came through a project conducted by the founder of the company Mr. Andreas Molin in 2001, at Glashuset in Stockholm. Glashuset is a centre for the exhibition of environmentally friendly technology, or more specifically, of how future energy systems would look like with solar cells, electrolyzers, hydrogen storage and fuel cells. In 2009, the company initiated a pilot project to make an energy-efficient house or a “plus-energy house”. Different energy systems and insulation techniques were tried in the house to make it comply with passive house standards. After the company’s success in the pilot project, in 2010 the company reformed and turned into a corporation. Initially, the price for solar panel was high, but with times, it decreased and helped the company expand locally. In 2011, Perpetuum Automobile AB had a turnover of SEK 2.8 million and the following year grew to SEK 8 million.

Mr. Molin mentioned that PPAM has intention to grow internationally, but first, they need sufficient resources to take that big step. He also mentioned that it takes a long time to get involved with exports and sometimes it is risky as well. For this reason, it is not a good idea for a firm to borrow large amounts of money. However, although there is no certainty, with a loan and few resources, firms can initiate their international expansion and achieve success, according to Mr. Molin. Furthermore, he appreciates financial subsidies for acquiring resources but he thinks SMEs are not ready to take them, saying:

“It’s very long time before you get accepted in export. Maybe we could need more resources in that, but also you have a feeling that you don’t want to borrow a lot of money like that before because you see there is a real risk to just go exporting. Anyway, so you want to kind of... okay take this on the very risky account and try some with very small resources to get there and then in the end maybe you succeed. Subsidies might be good with resources but as a small SME you are not really ready to borrow money.”

For the company’s international expansion, Mr. Molin is seeking information about interesting markets and manufacturing possibilities in countries that have plenty of sunlight. That means that an eventual manufacturing site would be built in such a way that it would bring marketing benefits for the company. Mr. Molin further argued that a manufacturing project like this requires a large working capital, saying, “You must
know that you really have a market before it and that’s why you must build a lot before you (sic) going to the manufacturing projects.” However, Mr. Molin is not interested in taking part of any governmental support initiative that is offered by different agencies to fetch market information. As a reason, he mentioned the high cost of getting such information. Companies have to pay a lot even before they are not in a state of making profits. Mr. Molin argued that the business model for Swedish Trade Council’s aid is not suitable for small companies because paying third of the total cost without knowing the benefits of acquired services is not fair. Mr. Molin also blamed the cumbersomeness of business opportunity related programs for not taking governmental support. He further argued that applying for a large loan is cumbersome enough. Rather, he prefers to try to sell products to the customer on his own. Mr. Molin believes that a company should go for subsidies only after creating a stable position in the market.

Currently, PPAM is busy with a development project with Tillväxtverket (The Swedish Agency for Economic and Regional Growth). The aim of the project is to combine normal solar photo type modules with air heating. Mr. Molin really appreciated such development project and thinks it was not cumbersome to pursue this particular project. Regarding export regulation and procedures, tax and transportation information, Mr. Molin is not extremely knowledgeable, but sometimes he looks for EPC-related programs and will take part in governmental support if any project demands it in the future.

Mr. Molin prefers to use independent agents for their international expansion because, according to him, independent agencies work as commission based and never costs money before hand until the project get matured. Mr. Molin expects this kind of cash flow for his company right now and it is working with independent agencies. Currently, Perpetuum Automobile AB has one 1.5 MW-plant contract in The Middle East and they prefer to build their own reputation by different projects in the market rather than investing money on inaccurate market information from governmental agencies. Mr. Molin made numerous contacts, especially in China, USA and Lithuania through a European sales network. He built these contacts mostly with his personal effort, but he also built some of these contacts through delegation trips. He also thinks these kinds of trips are helpful for meeting new contacts and finding new opportunities. Mr. Molin participated in a delegation trip to Mexico in 2011.

PPAM is not willing to take loans from the government until they can operate in a convenient scale. In addition, the company wants to see how its businesses will work out before taking any financial loan. However, they will seek financial support if it is really required in the future. Regarding human resources, Mr. Molin has a different idea. According to him, there are numerous companies who help students to find jobs (e.g. Academic Work). If they can provide the required manpower for a project, they can get a commission at the end. That is how the company operations (i.e. PPAM) do not have to pay at the beginning, but just when the project shows to be successful. Mr.
Molin thinks that if such companies can work in this way then, it will be really helpful for the SMEs.

To express his expectation from governmental support, Mr. Molin mentioned that governmental agencies should have a business model where companies have to pay less initially for their services and these services could become more expensive once the project has become successful. In other way, governmental agencies (e.g. The Swedish Trade Council) can work based on commissions over the companies’ sales when the project becomes a reality. Mr. Molin finished by saying that help is widely available from the government’s side, but a company cannot grow as fast as the government wants them to; companies must grow in a pace easy to handle.

4.2 Promessa Organic AB:

Promessa Organic AB is a Swedish innovative company that was established with a visionary dream by Mrs. Susanne Wiigh-Mäsak. The company offers a new way of environmentally-friendly burial method that was invented considering the biological realities to which a corpse is subject and has less impact on environmental services, such as water, air and soil. The main goal behind this ecological burial form is to transform the corpse into an organic, odorless and hygienic powder through a developed systematic process that separates contaminants that are extremely harmful for the environment (e.g. mercury, smoke, etc.). 20 years ago, Mrs. Wiigh-Mäsak was thinking about the organic burial method, and in 2000 she received its first positive feedback from some small groups. The first official announcement came the following year through a press conference. Today, Promessa is the first facility that offers ecological burials and has received important attention for their innovation from over sixty countries around the world.

Despite the great interest received from around the world, Mrs. Wiigh-Mäsak thinks that the government is not helpful enough to uphold Promessa, at least not to the level they should be. Mrs. Wiigh-Mäsak had the chance to express her concerns to the Minister of Trade, Mrs. Ewa Björling, in several occasions: “I don’t understand why I can’t see that reaction from the government in Sweden. Why don’t you do the wave? Promessa is really going to give you everything you need of export in the future and still we don’t see any official statement from the government.” Although Mrs. Wiigh-Mäsak got appreciation from the Minister of Trade, she still thinks, “When it comes to regulation and governmental support officially we do not see any kind of help.” And it is not only the case of Promessa, all the innovative companies who want to export experience the same problem, according to Mrs. Wiigh-Mäsak. However, she added that to clarify the governments’ position, Mrs. Björling said, “There are already instruments in the society who should take care of this.”, to which Mrs. Wiigh-Mäsak completely agreed; there are multiple organizations who should do their jobs and support companies like Promessa but they do not in reality, she added.
Today, Promessa managed to gather partners and shareholders to solve its financial requirements and reached a state where they are capable to produce export products without taking any governmental support. But to do this, they had to sacrifice a lot and also had to face lot of hurdles in their way. There was a time when they were really looking for some loan from the government. They were expecting EURO 5-6 million for their company. In Mrs. Wiigh-Mäsak words, “If that should have happen 5 years ago or 6 years ago, it should have made my life much less complicated. We should have been up and running as an export company.” Mrs. Wiigh-Mäsak also mentioned, “What makes me very upset that, those sacrifices that we have made in our family is not what you should force to do. You should definitely have a totally different way of handling innovations and especially those who have potential to be export products.” Promessa would appreciate if they received a loan for all those running facilities (e.g. education material, skilled human resources etc.) other than machinery that is required for an export company.

Promessa initially approached Almi to get a loan for their project. Their reaction, according to Mrs. Wiigh-Mäsak was: “This is probably the biggest things that ever happen to Sweden.” But later, Almi rejected to support the project because they felt; Promessa’s method is too innovative that they will not able to create any demand for their invented method in the market. That means no probable future for Promessa. But Mrs. Wiigh-Mäsak argued that if that was true, then how come they have received interest in their method from so many countries around the world. However, last year when Promessa approached Almi to get financial support for the second time, they were willing to provide a loan with 10% interest, and wanted also a shareholder agreement that would allow corner-position owners to sell the company whenever they wanted to, even though Promessa did not agree to. At the end, Mrs. Wiigh-Mäsak refused the support offered by Almi. She also approached SEK for financial support, but they also rejected her because they saw that Promessa was a small company. However, Mrs. Wiigh-Mäsak has a very positive view about EKN and Promessa will accept financial support from them. In her opinion, an important consideration is that EKN must change their approach. Although they promise 50% financial support, in reality they only provide 25%, as they only receive 25% from the government. According to Mrs. Wiigh-M’sak, their commitment should be clearer. To describe the overall impression on governmental agencies, Mrs. Susanne Wiigh-Mäsak said, “There are too many different varieties of trench, institutions who are supposed to support and if you go to any of them you are either too short, too long, too big, too small, too late, too early....whatever you are never fitting into their system.”

Promessa has made very strong contacts and created an international network over the years by the complete conjunction of their own effort and managerial skills. They have been invited by many countries around the world to endorse their innovation and they have made very good allies. Each day they get five to ten new contacts and they have even maintained contacts who reached them in as soon as 2001. Today, they
have 107 shareholders and topnotch owners who are skilled in different areas of society. Last year, Promessa had a turnover of between Euro 300,000 and 600,000. Promessa made their first licensee in 2006 in South Korea, their second in the UK, the third one in South Africa, their fourth in German-speaking mid-Europe (South Germany, Liechtenstein, German-speaking Switzerland and Austria) and the fifth one will be in Spain. While Promessa was opening their branch office in Seoul, South Korea they worked with the Swedish Trade Council. They got their own translator and it was very helpful that time. Promessa also attended a delegation trip to Mexico in 2011, invited by the Minister of Trade. After joining the trip, they felt like they were not supposed to attend, as it was not very helpful for them. The Minister of Trade was however very proud, since many small companies were given a platform to grow, but according to Mrs. Wiigh-Mäsak, “All of the other companies that were joining this trip maybe except for one, was very tiny little companies with no big future.”

Promessa participated in a four-month long export training program with the Swedish Trade Council in 2011. However, the company has expanded their knowledge and skills through their experience over the years. Besides, they use sub-contractors to fulfill their human resources requirements. In the current situation, Mrs. Wiigh-Mäsak thinks this the best way of handling human resources, instead of employing them.

To express the expectation from governmental support, Mrs. Wiigh-Mäsak said: “A decent loan of EURO 5 million with a decent interest” and should give an opportunity to pay it back when the company is up and running. Second, governmental agencies should address all kinds of innovations, not only those which are only based on established technologies. She further argued, in the context of Promessa, that their innovation is a bit unusual and that is why natural reactions have come from agencies like ALMI, i.e. that they should not be “too innovative.” That would mean that institutions only want to address those innovations that they have prior knowledge of or that they can recognize. But Mrs. Wiigh-Mäsak thinks that unusualities fall under the definition of innovation, so governmental agencies should recognize and support all innovations even if it is not usual.

4.3 Hybricon:

Hybricon is company based in Umeå that develops sustainable transport (i.e. they convert petrol-driven vehicles into electric). Hybricon has recently started their own production of electric buses – Hybricon Arctic Whisper (HAW). The company was founded in November 2009 by Boh Westerlund who by then, together with Peter Åstrand from Linköping, had converted their first Toyota Prius into a plugin hybrid (PHEV). At the end of the year, the Municipality of Umeå and Hybricon came together for a joint development project to develop, test and evaluate ultra-fast rechargeable electric buses with hybrid backup for city traffic in the city. During the early spring of 2011, three employees of Hybricon spent several months in Holland where they, together with E-Traction, built the first two fast-charge “elbussarna”
which were then shipped to Umeå. Hybricon received the Future Transport Award at Elmia in Jönköping in October 2011 for their innovative work and ideas. Hybricon has partnerships with various companies. The most important partners are e-Traction in Holland, which contributes with the driveline for the buses, and the Spanish company Opbrid, which contributes with the charging stations’ main parts. In 2012, Hybricon was fully occupied by planning for the start of both Prius conversions and the production of their “Arctic Whisper” buses, which will be built in cooperation with one or more European bus manufacturers.

Edith Sundqvist, who is the Vice CEO of Hybricon commented about the exporting of the products:

"We have so many customers who are asking us for the product from abroad. So actually we don’t have any problem for exporting. We have actually the problem that we have to deliver products in a short time. And that one is the main problem because delivery time for the pieces of our bus system takes few months. Pretty many customers don’t understand that these are new products."

She also mentioned their plan to sign an order with another country, but they are still receiving a lot of questions from around the world regarding their bus system. She said that, it is different to run and try to sell this kind of product, which is very expensive and is a new technology, compared to products that are mature and running in the market and might be less expensive. She also mentioned that for solving the labor issues, as they do not have a lot of skilled labor for this particular product and they cannot do actually too much as this is a new product. They are working with the components that take time to produce. This depends also on the volume. There is also price problem: customers feel sometimes it is an expensive product and is not willing to pay the price, because they do not understand that this is not the regular bus they are buying.

According to Mrs. Sundqvist, Hybricon built their business network outside Sweden through their own connections and relationships. Sometimes things happen as a coincidence. Hybricon comes to the market and tries to see who are working with this kind of product, and then they choose the one that could be a good partner and proceed with the negotiation. There are very few companies working in the west Europe with that kind of similar technology and revolutionary product, which makes it easy to find them. E-Traction, from Holland, is one the core partners of Hybricon. They also work with this kind of technology and they have also the ownership of Hybricon Regarding Hybricon’s participation in any government-supported program to build networks, Mrs. Edith Sundqvist said, they did not participate directly to any governmental programs. Because she observed that the support from the governmental agencies for building networks are not very specific for the Hybrid kind of company since the support is general for the all kind of companies in Sweden.
She also mentioned that she had taken a diploma as an international trade specialist from the Swedish Trade Council. This diploma helped her to build information and resource knowledge. She was very happy to get this support from the government, saying:

“I am actually very grateful because Sweden has these kinds of supports. Because in other countries you don't have this kind of support from the government. This is very good that Sweden can offer this kind of help for the companies. As far as I know, there is not anything similar in different countries for their own markets.”

About managing finances for exporting from government-supported agencies, according to Mrs. Edith Sundqvist, governmental agencies needs to have an owner payment at the beginning of a project and for that a partner is required who will invest 50% of the project money. She was not satisfied with this requirement when getting financial support. She wants more financial support, as she believes finance is the main problem for a company like Hybricon right now. The reason is that the current market situation in Europe, as well as worldwide, gives signals of a beginning of the next crisis, similar to 2008 and 2009. In this kind of situation, it is very difficult to find new owners willing to provide 50% of the project money for the company to get further support from government by their agencies. A small amount of money (e.g. SEK 500,000) is easy to get, however, when talking about larger amounts (e.g. SEK 10-60 million) getting 50% of the money from a private person and owner for the business becomes more difficult. When Mrs. Edith Sundqvist meets the Swedish Minister of trade in Mexico, the minister was already aware about the fact that this is a huge problem for small and medium business. Mrs. Sundqvist said in this regard:

"We get some kind of project money from the energy authorities in Sweden, but this (sic) is the development money. When you need the money for the development of your company, for example (sic) going for marketing and going for yourself (sic), then you don't need any kind of owner support even (sic) if you don't have 50% of your own but still (sic) you can get that money. But for small and medium companies who have a new product or project (sic) then almost all of the institutions in Sweden ask for 50% of the owners’ money, and this is unreasonable."

She also mentioned that most of the times governmental agencies give money to the big companies that are established in a market. But if a new company approaches with a new product, then it is considered as a risky product because there is always risk involved with new a product, as it is not familiar to that market. So for the small and medium size companies it is really difficult to get financial support from those governmental-supported agencies.

At the end, Mrs. Sundqvist raised a very important issue. She said she is quite surprised to see that there is no special section in governmental export support agencies that deal with environmental issues. Green technology has its own characteristics and there are always different business strategies and opportunities
involved with it. So, Mrs. Sundqvist thinks that governmental agencies should have specific sections or there should be a separate institution to deal with environmental technology products and/or services, and then the collaboration would be much more productive and time-efficient.

4.4 S-Solar:

S-Solar is a solar energy company, highly experienced in developing solar thermal systems and technology for heating and cooling. The journey of S-solar started as Sunstrip AB with a project called Sunstrip during the oil crisis during the 1970s. Their technology was first patented in 1980. S-solar has a very strong collaboration with the Uppsala University on selective surface, which was started in 1989. In 2007, Sunstrip AB was acquired by an investment company called Earthsun Technology with a vision to build a company competitive internationally. To do this, a series of investments and efforts were made on new technology, product expansion, improved production and delivery capacity, and international sales. In 2009 the company was given a new platform under the brand name S-Solar for its expansion. Today, 95% of S-Solar’s revenue comes from exports and the technology has been used in more than twenty countries around the world.

Mr. Klas Ståhl, the Managing Director of S-Solar said, “There is a tradition in the company to work with several cultures”. The company has for a long time worked with Turkish, Iranians, Canadians and Europeans. However, regarding the Swedish Trade Council, Mr. Ståhl said that he found the area of competence of providing business culture information very difficult. For this reason, the company tries to look for relevant information through local advisers and some of the Invest Sweden (an agency reporting to the Foreign Ministry) agencies, which have very strong connections with local people. For example, Mr. Ståhl mentioned they used some of these Invest Sweden agencies in Korea and India and they were very useful. Furthermore, Mr. Ståhl has been involved with the financial industry, which is of use when gathering information through different customers. Having said that, Mr. Ståhl mentioned that Swedish people always approach other countries with the best practices of Swedish culture. That implies humbleness and securing the interest of the customers in the business, but he thinks, however, that Swedish governmental agencies should be far more developed when it comes to providing business-culture information. S-Solar also used EKN to gather information related to export procedures, tax regulations, transportation and monetary policies. Mr. Ståhl also mentioned that the company has a very long history of selling products in international markets, so they are well aware of different tax regulations, and key harbors and their restrictions. However, sometimes information about tax regulations is hard to find or understand. He mentioned for example about Chile’s import tax regulations – which changes every year – and South Africa’s VAT regulations – which is very hard to understand. In both cases, they use their auditors and their local networks to fill the information gap. Mr. Ståhl thinks that the market analysis capabilities of the Swedish Trade Council are weak and not well-structured. On the
other hand, also mentioned that the Swedish Trade Council pays attention to the
criticism that they receive from companies and they are continuously working to
improve their competences.

Mr. Ståhl mentioned that S-Solar is a privately-owned company associated with some
seasoned British businessmen. They generally manage their finances on their own
through good payment schedules from their customers and partners. For this reason,
the company always strives for good financial payment terms. Apart from their own
finances, S-Solar often uses EKN credit lines to support their financial requirements.
Mr. Ståhl also appreciated Swedfund’s forgiven loan (a loan that is reduced or
given based on company’s performance) that they are going to have in South
Africa. However, in order to get a loan from state agencies, companies have to
arrange a good proportion of the money they are applying for on their own first. Mr.
Ståhl argued, “The problem we have is not the state, but Swedish banks.” He also
criticized Swedfund’s schemes for the loans they provide (up to a few millions), since
they want an ownership position in return without having good terms of withdrawal
from that ownership. That is why Mr. Ståhl found this scheme unattractive. Moreover,
in comparison with Swedish banks, Mr. Ståhl has found that banks in the US, the UK
and China show a better attitude to providing export loans. Summarizing, Swedish
banks have incredibly less knowledge about export business, according to Mr. Ståhl.

Furthermore, Mr. Ståhl mentioned that they “Work extensively with the Swedish Trade
Council for finding customers and joint-venture partners.” There are several projects
for instance in Chile, Poland, France, Australia and New Zealand. S-Solar made use
of the Swedish Trade Council’s support to expand their business. Besides, they also
used the advisory services of Invest Sweden for market establishment and for finding
business partners, especially in China and India. While expanding into new
international markets, S-Solar acts as a key technology provider and then the newly
formed partners are allowed to create their own distribution channels. There are two
different types of partner co-operation: a royalty-based tie, where S-Solar gets money
based on sales volume (e.g. the company’s partnership in Chile), and an ownership
tie, where S-Solar keeps 33% stakes from the joint venture company (e.g. the
company’s partnership in South Africa). Today, S-Solar has a more than one hundred
international customers, mostly within the European Union, mostly built on their own.
To describe the solar industry Mr. Ståhl said, “The solar industry is sometimes a club
for admiration.” This is a sign that the company is well aware of who will buy its
products. The way S-Solar is now expanding their business into international markets
is as follows: they do a proper market analysis on special market segments with the
help of hired agencies and then they directly approach the selected customers with
local, native speakers, as is the case in China. Mr. Ståhl further mentioned that they
have participated in several seminars and meetings arranged by different
governmental agencies. However, he felt like these seminars and meetings are
pursued either participation with very high-level personnel (e.g. state Ministers or
government high officials) or wrong customer segments that did not suit their interests.

To express his expectations from governmental support systems, Mr. Ståhl said that they would appreciate if the government could provide export credit lines with reasonable terms of conditions, which would make it easier for them to invest in other areas and create a larger customer base. He also suggests more forgiven loans in those markets where companies are required to perform. These loans are very good tools to support companies establishing abroad. He continues saying that the Swedish Trade Council should hire the best, local people in respective countries instead of hiring inexperienced Swedish people. Because Mr. Ståhl believes there are numerous senior citizens and seasoned businessmen who have very good knowledge and networks in local markets, and who can act as advisors and can also provide the right support to Swedish companies. Mr. Ståhl thinks that building networks is far more important than providing Swedish companies with cultural information and training, as they could manage these kinds of issues on their own. Mr. Ståhl also thinks that the general training that cleantech Östergötland provides is good, but it is not practical enough because sharing knowledge is good, but Swedish companies are not interested to share their secrets, often because of pride issues. The Swedish Trade Council should have better and faster match-making capabilities between Swedish companies and those from the country where they are exporting to. Mr. Ståhl further believes that the Swedish government should build an Industrial Science Park similar to those in the western part of United States and those in Shanghai, which will be considered as tax-free zones for companies. Enough infrastructures will be provided according to the necessity of the industrial cluster. In addition, the government should invest money not only in administrative issues, but also in high-value training, procedures and also in guidelines for the development of export businesses. Finally, Mr. Ståhl said that currently, the cleantech sector in different states in Sweden is working differently. He thinks that instead of competing with each other, they should share a common interest. He also thinks that since all the developments are happening around the universities, they should also reach out to the industries for developments.

4.5 Swedaccess – Consultancy firm:

Swedaccess is a consulting company that helps Swedish companies to establish and develop their business in Latin America and Spain. The company was formed about 4 years ago by Mr. Guillermo Muñoz. He has been living in Sweden for nearly 20 years, studied International Economics and was also trained as an export manager at the Swedish Trade Council. Mr. Muñoz helps Swedish firms with market research, network information and potential foreign agents. He also provides his support through intercultural communication, translations and interpreter services. Being a consultant, Mr. Muñoz had the opportunity to observe different Swedish export-interested firms and Swedish governmental agencies over time. So, in this particular interview we are only going to reflect different Swedish firms’ general impression
about Swedish governmental export support system through Mr. Muñoz’s observations.

Mr. Muñoz said that when it comes to exports, different companies have different needs. For instance, some are looking for information and some are looking for networks; some are seeking finance and some are looking for education or training programs. One important observation by Mr. Muñoz is that most of these companies do not have a proper organization. To address this problem, about 10 years ago the Swedish Trade Council trained export managers during a period of 5 to 6 years to help Swedish firms. Most of these export managers were not Swedes. Mr. Muñoz further argued that whether or not the company will seek governmental support depends on the size of the company. Generally, large and middle size companies are quite well off to fulfill their needs by their own and seek very little support from the government. On the other hand, most of the small companies suffer from resource scarcity, so they need support. Mr. Muñoz also said that although Swedish governmental export support programs (e.g. the Swedish Trade Council’s supports), are good and they have all the required resources to support companies, small companies cannot afford them due to their high cost. Companies complain that the Swedish Trade Council’s support is directed only at large and middle size companies. Mr. Muñoz believes that the Swedish Trade Council is bringing changes into their policies in order to help small firms more. Other governmental agencies (e.g. Almi) are also trying to coordinate with them.

Mr. Muñoz made another interesting observation. He believes that companies do not take governmental support due to the mindset of their leaders (i.e CEOs or founders) or simply due to their business strategy, which does not demand any governmental support. Some leaders think they can manage all their needs to evolve as an export company on their own or sometimes they want to grow slowly. Sometimes, it takes time to make the decision to take governmental support. Mr. Muñoz further said that sometimes companies do not feel that their product is competitive abroad, because maybe they are just working as a supplier for some local companies and completely unaware of the demand for their product abroad, until they see a big company (for which they are suppliers?) that is going to a particular market. Mr. Muñoz also mentioned that Swedish companies developed a business culture that complements the business culture especially in Europe, UK and USA. That is why Swedish companies have better export business in Europe and the far West compared to Latin America, Africa and Asia. Apart from the business culture, language is another obstacle that is stopping Swedish companies to initiate export business in Latin America, Africa and Asia, according to him.

Another interesting observation made by Mr. Muñoz is that the participation rate of Swedish companies in different seminars and meetings is low, even they do not have any cost. That also raises the question of whether or not these seminars or meetings are actually attracting Swedish companies. Moreover, the small number of companies participating in the seminars or meetings is not that enthusiastic when it comes to
asking questions and gathering information. Mr. Muñoz believes that has to do with the Swedish culture and their over-confident mentality in these situations. Furthermore, he mentioned that lower sales volumes is one of the main reasons for not getting financial aids from governmental agencies, even if the product is of good quality.

Regarding solutions for filling the gap between Swedish governmental export support programs and Swedish companies’ needs, Mr. Muñoz thinks that governmental agencies should provide flexible loans to small companies and hire personnel who have the proper knowledge about different sectors of the cleantech area. He further mentioned that although governmental agencies, especially the Swedish Trade Council, have all the required services that might help Swedish companies to export, it would be better to have a separate institution devoted to help small companies and provide cheaper services for them. On the other hand Mr. Muñoz thinks that Swedish companies should also change their mindset and start asking for more support from the government.
5. Data Analysis:

This section will perform within-case and cross-case analyses on four cases, based on theoretical constructions.

5.1 Case Analysis:

For this study, the analysis is performed in two steps. First, four case are labeled into their internationalization stages based on Cavusgil’s (1980) I-model and then a within-case and cross-case analysis is performed under the headline of four governmental export support areas. Each export support areas are analyzed based upon individual firm’s experience, expectation and the context of their labeled internationalization stages. Table 4 represents a summary of within-case and cross-case analyses together based on the four cases studied.

5.1.1 Defining internationalization stages for four case firms:

PPAM is considered in their pre-export phase. This is because; they have already established their business in the domestic market, which made them confident to go abroad in future through building their own reputation. Currently, PPAM is evaluating new market opportunities and building networks through different projects. On the other hand, Promessa and Hybricon both fall under experimental-export involvement phase. Although, both of this company’s technologies are new in the market, they have succeeded to grab good customer attention, which leads them to do export in a small scale. They both are observing their current export performances and trying to commit more resources (e.g. managing finance, building networks etc.) in order to take their export business into more dedicate phase. Finally, S-Solar’s position is considered in active-export involvement phase due to their high involvement and large revenue share from their export business. Unlike other three cases, S-Solar is highly experienced in export business and continuously looking for new markets to further expand their businesses globally.

5.1.2 Studied cases vs. information-related programs:

Firm’s experience:

Although, PPAM, Promessa and Hybricon are in their early phase of internationalization (i.e. pre-export and experimental-export involvement) process, none of them chose to participate in any governmental information-related programs except S-Solar. This clearly indicates that either firms have reliable alternatives or there are obstacles to acquire such support. In one hand, where early phase internalization companies (i.e. PPAM, Promessa and Hybricon) found such governmental services are expensive, on the other hand, company like S-Solar, who is comparatively in advanced phase of internalization found such services are
inexpensive but at the same time ineffective. In fact, in some cases S-Solar experienced delay to get their acquired governmental services.

This is not always the governmental service; company’s strategy and owner’s mindset also keep companies apart from participating in governmental export support programs, that is clearly evident from PPAM’s approach. PPAM did not show interest to spend money without seeing benefits or opportunities related to those programs beforehand. Rather, the company is interested to expand their business through building their own reputation. This particular characteristic is addressed as a typical Swedish culture trait in Mr. Muñoz’s (Swedaccess) observation. In his opinion, company owners or founders have a mind set to not take any support from the government. Companies who want to grow independently, following their own strategy. However, Mr. Muñoz also agreed with the fact that most of the micro companies find governmental support programs costly, especially information-related ones.

It is interesting to mention that in all cases, a trend was observed to acquire information either by their own effort or through third parties – other than governmental agencies – because it costs less compared to governmental services, works on commissions and provides faster services.

Firm’s expectations:

None of the case companies expressed any especial expectations from governmental information-related programs, except S-solar. S-solar thinks that the Swedish Trade Council should hire more experienced personnel in overseas markets instead of Swedes, since it is difficult for a foreigner to build such knowledge base and local contacts compared to a local. Such initiatives will eventually help to provide more effective market analysis and business culture related information to the companies. Since most of the companies, especially micro firms, find governmental services costly, reasonable cost or commission-based services, as PPAM had suggested, might encourage more firms to participate in such governmental programs.

5.1.3 Studied cases vs. financial aid-related programs:

Firm’s experience:

Financial programs are considered one of the most important governmental support mechanisms for all the case companies. All the firms except PPAM either participated or attempted to participate in governmental financial-related programs. Although PPAM is in their pre-export phase but still they are not willing to take the loans from the government until they can operate in a convenient scale, even though they wanted to see how their business would work out before consider any risky financial account.

Among the remaining firms, Promessa and Hybricon both fall under experimental-export involvement phase and had faced similar kind of experience from the governmental agencies. When initially Promessa approached to Almi and SEK for the
financial support for their project; Almi refused them because of their new and risky project although they received interest for their method from so many countries around the world. On the other hand, SEK rejected them because they considered Promessa as a small company. In the similar manner, Hybricon was also considered as a risky product as it was not familiar to the market by most governmental agencies they approached. When Promessa approached to Almi in the second time, then Almi agreed to give financial support with a high interest loan and a shareholder agreement that would allow corner-position owners to sell the company whenever they wanted; whether Promessa agreed or not. Mr. Ståhl in S-Solar who are in active-export involvement phase also faced the similar kind of difficulties from Swedfund, since they wanted an ownership position in return, without having good terms of withdrawal from that ownership. Even though Mr. Ståhl found that banks in the USA, UK and China show a better attitude to providing export loans in compare to Swedish banks.

Both the firms Promessa and Hybricon faced difficulties with fulfilling the requirements of getting financial support from governmental agencies where the firm is required to invest a significant portion of the project money beforehand as owner payment. They both felt for a micro firm like them to fulfill such requirements is not feasible when the amount of required money is big for instance, SEK 10-60 million in Hybricon case. In fact, Swedish Minister of trade also agreed that it is a big problem against SME growth in Sweden.

**Firm’s expectation:**

All the companies’ personnel expressed some concrete financial expectation from governmental agencies in the context of their internationalization phase and firm size. For example, Mr. Molin and Mrs. Wiigh-Mäsak both seek for a business model where in certain project initially companies have to pay less for governmental services, while service could become expensive once the project has become successful. In addition, Mr. Molin also expects that governmental support system can run on commissions over the companies’ sales. Mr. Ståhl will appreciate the government if the agencies could provide export credit loans with reasonable terms of conditions, which could create the opportunity for investment in different areas and creation of large customer base, whereas Mrs. Wiigh-Mäsak would appreciate the government if they manage to get loan for the running facilities; e.g. educational material, skilled human resources etc., rather than the required machinery for an export company. Mrs. Edith Sundqvist expects a specific section or a separate institution in governmental agencies that only deal with environmental technology products and/or services in financial issues and she believed that collaboration would be more time-efficient and productive.
5.1.4 Studied cases vs. education and training-related programs:

Firm’s experience:

Education and training-related programs generally offer different kind of educational schemes for enriching human resources and provide counseling to help firms to solve the problems. A mix opinion is observed in between the firms either which are in early or advanced phase of their internalization process. In the both S-Solar and Promessa’s case, they participated in several seminars and meeting arranged by different governmental agencies; however they felt most of these seminars and meeting had not suit on their interests and they did not have confident on the qualification of the responsible personnel’s of those programs. In the same trial, Mr. Muñoz in his experience found that Swedish firms’ participation rate in such seminars and conferences is low. Even if Swedish firms are participating, they found less enthusiastic about the program. On the other hand, Mrs. Sundqvist of Hybricon was satisfied and grateful for the support received from the governmental agencies in education since she took a diploma from the Swedish Trade Council as an international trade specialist that helped to build her information and resource knowledge. As PPAM is in the pre-export phase, Mr. Molín had a tendency to take part in governmental support for any future project demands.

Firm’s expectation:

Among all the companies’ just few of them expressed some concrete education and training-related expectation from governmental agencies. Among them, Mr. Ståhl had the expectation from government for building an Industrial Science Park similar to those in Shanghai and in the western United States, which would be considered as tax-free zones for companies. Moreover, the government should invest money for high-value training, procedures and in guidelines for the development of export business; instead of not only invest in administrative issues. On the other hand, Mr. Molín expects that the government could work like “Academic Work” for acquiring human resources. For example, if any governmental agency can provide the required manpower for a project, they can get the commission when the project becomes successful instead of getting money at the beginning.

5.1.5 Studied cases vs. trade and mobility-related programs:

Firm’s experience:

Whether the case firms who are in early or advanced phase of their internalization process, all participated, and agreed the significance of trade and mobility-related programs although they had different experiences. For instance, PPAM is in pre-export phase, they found themselves beneficiary participating in such governmental programs which leads to build new contacts. On the other hand, company like S-Solar who are in advanced phase of internationalization had a feeling that such government
organized programs are generally conducted by either high officials or inappropriate group of customers. So, this type of initiatives generally ends up with zero contacts or customers. Promessa and Mr. Muñoz’s (Swedaccess) has also the same opinion like S-Solar about government organized trade and mobility-related programs. Ultimately, this results low participation rate of companies in such governmental initiatives.

A similar trend has also been observed like gathering market information that all case companies found to build their customer base through their own efforts and networks.

*Firm’s expectation:*

All case companies possess almost similar expectations from government that government should organize more effective trade and mobility related programs. For instance, S-solar suggested, government agencies should have better match making capability by bringing more appropriate number of participants in fairs and conferences.
Table 4: Within-case and cross-case analysis for four case companies

<table>
<thead>
<tr>
<th>Within-case analysis</th>
<th>Cross-case analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PPAM</strong></td>
<td><strong>Promessa</strong></td>
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<tr>
<td>Pre-export phase</td>
<td>Experimental-export involvement phase</td>
</tr>
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</table>

**Information-related programs**

| Experience | No participation | No participation | Experience |
| Swedish Trade Council’s information related support found costly to afford. | | | Swedish Trade Council’s market analysis found weak and unstructured |
| Expectation | Government agencies should provide services on commission based. | | Swedish Trade Council found delay to provide their services. |
| | | | EKN’s tax and VAT related information was satisfactory |
| | | | Government’s information-related services found inexpensive. |
| | | | Expectation |
| | | | Government agencies should hire more experienced local senior citizens instead Swedes. |

**Financial aid-related programs**

| No participation | Experience | Experience | Experience |
| SEK rejected to | Governmental agencies | Swefund, want an | |

Governmental agencies only consider the
<p>| | | | |</p>
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<tr>
<td>provide export credit because they consider Promessa as a small company with no future.</td>
<td>EKN promised to provide 50% of the financial support, but in reality Promessa will only get 25% of promised support.</td>
<td>ALMI agreed to provide a loan with a high interest and wanted a shareholder agreement that would allow corner-position owners to sell the company whenever they wanted.</td>
<td>Expectation Governmental agencies should provide export credit loans with reasonable terms of conditions, which could create the opportunity for investment in different areas and creation of large customer base.</td>
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<td></td>
<td>considered Hybricon as a risky venture as their technology is not familiar to the market.</td>
<td>Ownership position in return without having good terms of withdrawal</td>
<td>Government does not provide the same financial support as they promised initially.</td>
</tr>
<tr>
<td></td>
<td><strong>Expectation</strong> A specific sections or a separate institution in governmental agencies who only deal with cleantech firms.</td>
<td><strong>Expectation</strong></td>
<td>Most of the time Governmental agencies consider the new and high-tech technology as a risky product for the business and have less interest to invest money on them.</td>
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<td></td>
<td>Governmental agencies should provide export credit loans with reasonable terms of conditions, which could create the opportunity for investment in different areas and creation of large customer base.</td>
<td>For convincing a partner into a big investment and also to agree giving a certain ownership to governmental agencies is very difficult for most of the companies.</td>
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</table>
### Education and training-related programs

<table>
<thead>
<tr>
<th>Experience</th>
<th>Experience</th>
<th>Experience</th>
<th>All the companies participated in different government supported seminars and meeting, but most of them could not relate the knowledge with their company’s desire.</th>
</tr>
</thead>
<tbody>
<tr>
<td>No participation</td>
<td>Participated in a four-month long export-training program with the Swedish Trade Council in 2011</td>
<td>Achieved diploma from Swedish Trade Council that helped to build information and resource related knowledge</td>
<td>No participation</td>
</tr>
<tr>
<td>Expectation</td>
<td></td>
<td></td>
<td>Swedish Trade Council pays attention to complaints that they receive from companies.</td>
</tr>
<tr>
<td>Governmental agency should provide the required manpower for a project as a commission based method, like agency can get the commission when the project becomes successful instead of getting money at the beginning.</td>
<td></td>
<td>Expectation</td>
<td>An Industrial Science Park that will provide high level training and education to the cleantech firms to develop their export business</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>All the companies participated in different government supported seminars and meeting, but most of them could not relate the knowledge with their company’s desire.</td>
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</table>

### Trade and mobility-related programs

<table>
<thead>
<tr>
<th>Experience</th>
<th>Experience</th>
<th>No participation</th>
<th>Expectation</th>
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<tbody>
<tr>
<td>Participated in Mexico’s delegation trip in 2011 and had found effective.</td>
<td>Participated in Mexico’s delegation trip in 2011 and had not found effective as expected.</td>
<td></td>
<td>More or less all case firms had participated, and agreed the importance of trade and mobility-related programs but expect participation of more appropriate group of people that matches</td>
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<tr>
<td>Expectation</td>
<td></td>
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<tr>
<td>More delegation trips.</td>
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</tr>
<tr>
<td>Delegation trips should be organized with more appropriate group of people.</td>
<td>seminars and conferences found less effective.</td>
<td>according to their business area.</td>
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</tbody>
</table>
6. Discussion:

*This chapter will discuss the patterns analyzed in chapter 5.*

Based on patterns observed in Chapter 5, the following arguments can be drawn:

Cavusgil’s I-model (1980) suggested that firms, who are in pre-export phase or experimental-export involvement phase, generally seek information related to new market, business culture, logistic etc. in order to improve their market knowledge. But as seen in the previous chapter, firms for instance PPAM, Promessa and Hybricon which are in early stage (i.e. pre-export or experimental-export involvement) of their internationalization process, did not follow the same trend as explained in Cavusgil’s I-model (1980). In general terms, SMEs do not have enough resources to spend on government’s such costly services especially when they are in their early stage of their international process and this is clearly evident in PPAM, Promessa and Hybricon’s case. However, in Promessa and Hybricon’s case, their technology was completely new to the market. So, maybe for this reason they found more reluctant to participate in governmental information-related aids but both companies expressed their interest to participate in the future, if required. To increase the participation in such government initiatives, PPAM felt that the government should provide their information-related services on commission-based basis, so that services fees would be paid after achieving significant success, not beforehand. That is how firms, especially who are in early stage of their internationalization process, would be able to reduce initial expenses, which are normally high, and also avoid the uncertainty of acquiring governmental services.

On the other hand, Cavusgil’s I-model (1980) also explained, firms which are in active-export involvement phase, continuously seek for new market opportunities and need more specific information about market. S-Solar, being in active-involvement phase, followed the similar trend and that is why they seemed enthusiastic to participate in several governmental-information related programs. Unlike, other three case companies, S-Solar has been involved in export for a long time and financially mature enough to acquire such services that others cannot. But still S-Solar felt, if government agencies would hire more local people overseas instead of Swedes, as they have more knowledge and access to contacts that would eventually help Swedish governmental agencies to improve the overall quality of their services. S-Solar also felt, knowledge sharing is important because it is directly related with positive externalities. With the help of positive externalities, firms can use the positive image to go abroad that is built by other firms in the international market already (Beltzér & Zetterqvist, 2008).

Gankema et al., (2000), mentioned earlier that in pre-export stage companies usually take the decision to go abroad not in deterministic manner and in that period firms evaluate
the feasibility of going abroad. Therefore PPAM was not willing to consider any risky financial account from the government in their pre-export phase until they can operate in an expedient scale. For them information related support is much more important than financial support in their current situation. Cavusgil’s (1980), I-model suggested that, firms who are in experimental involvement stage want to develop their export activities by focusing on one market through in a best possible ways and start exporting at very small scale to check their planning working or not. A similar trend was observed in Hybricon but not with Promessa as both the firms are in experimental-export involvement stage. Promessa had the intension to full-scale expansion of their new method in overseas. But both firms face similar kinds of problems when they approached the governmental agencies for financial support, since most of the governmental agencies consider their products new and risky for the current market and made a hard requirement to give the finance. Therefore, Promessa and Hybricon found it very hard in their experimental-export stage to fulfill requirements like initial investment of half of the project money, high interest loan and a shareholder agreement. However according to Leonidou et al., (2011), government usually intervene export loans programs at a lower interest rate which is convenient for the SME firms and are associated with particular foreign markets. But in reality that was not found within the case studies. Even though for convincing a partner into a huge investment and also to agree giving a certain ownership to governmental agency is very difficult for most SMEs. Even after fulfilling the requirement in some cases, companies did not receive the required amount of financial support from the government as they were initially promised. On the other hand, S-Solar who are in are in active-export involvement phase did not face so many hard requirements when they sought for finance, although when they approached Swedfund, they wanted an ownership position in return. Except that one, the other requirement does not seems hard for S-Solar as they are quite established in the market to effort that kind of financial deal.

Among all case studies, it was showed that governmental agencies only consider mature companies (i.e. in this study small level SMEs) that are already established in a particular market regarding financial support, not the micro level SMEs, which are considered sometimes as being very high tech and risky investment. Whether it is a micro or small or a medium-sized firm, all seek financial support with reasonable conditions. A recent study by Kanda et al., (2012b) showed that participation in financial aid-related programs brought higher success in the export businesses. Micro firms (e.g. PPAM or Promessa) expect loan or credit conditions in which they do not have to collect a good share of the expected money beforehand to get loans, whereas small firm like S-Solar expects more performance-based forgiven loans to further expand their businesses. However, firms would also appreciate if governmental agencies could make clearer statements about their offered loans because in some cases e.g. Promessa, they deliver a different type of support than the one initially offered.
Mixed experiences were found from the studied companies about education and training related programs which have no connection to whether they are in an early or in an advanced phase of their internalization process. Both S-Solar and Promessa felt, from the seminars and meeting they participated that they could not relate their interest with the knowledge, and moreover they have less faith on the knowledge of the responsible personnel’s of those activities. However on the other hand, Hybricon was satisfied with the support received from the government to build their information and resource knowledge. In general, the case companies have a low participation rate in different seminars and meetings organized by governmental agencies, even if they do not have any cost. According to Mr. Munoz, a possible explanation for this behavior can be tied to the Swedish culture and their over-confident mentality in these situations, as they always want to act independently without accepting external support. But a high level of training, procedures and guidelines to develop export businesses provided by the governmental agencies could attract the companies like S-Solar and Promessa; as Leonidou et al., (2011) also mentioned that governments should offer several educational schemes, such as training in seminars, assistance with export procedures and the counseling to help firms to solve the problems.

A general consensus was found among almost all studied cases that trade and mobility-related programs help to increase sale and build new contacts (Leonidou et al., 2011). A good example would be S-Solar who made lot of customers and contacts through participating in such governmental initiatives over the years. But firms lose their faith when such government initiatives do not serve their needs. Companies like S-Solar and Promessa felt that the government should have better match making capabilities and try to bring more appropriate groups of people in international trade and mobility related programs. One way of doing this would be focusing a particular area of technology at a time in international trade exhibitions and fairs so that government can care the particular needs of participating companies.
7. Conclusion:

This chapter will answer the research questions, followed by concluding remarks and future research.

The purpose of this study was to run an investigation to analyze the gap between Swedish governmental export support programs and cleantech firms’ expectation, and finally provide some suggestions that might help to reduce the existing gap. With this goal, two research questions were raised and can be answered as follows based on the conducted study:

What is individual cleantech firms experience with Swedish governmental support programs?

- The studied companies showed that Swedish governmental export support programs (e.g. information and finance) are mainly reachable to the small level SME like S-Solar who are in advanced stage of their export business and to some extent these supports are fulfilling S-Solar’s needs. On the other hand, micro level SMEs like PPAM, Promessa and Hybricon which are in initial phase, outreached due to the high costs of acquisition.
- Based on Promessa and Hybricon’s experiences, this study found a trend among governmental export support agencies that they feel insecure especially when it comes to provide financial aids to the cleantech companies who tries to bring comparatively new technology in the market.
- Most of the companies in this study could not relate their interest with education, and trade and mobility-related programs.

What kind of support do cleantech firms really expect?

The companies studied mentioned the following support to increase export:

- A business model that serves each type of firms (i.e. micro, small or medium-sized) according to their interests (e.g. finance, market information, networking etc.) who are in early phase and advanced stage of their export business.
- A separate institution or agency with cleantech expertise personnel who will only serve cleantech firms’ issues to provide the best services and ensure cleantech industrial growth.
- Export loans with reasonable terms and conditions accounted by Governmental agencies, which will give a clear chance to micro and small level firms with their new green products that could create the opportunity; for investment in different areas and creation of large customer base.
• An Industrial Science Park which is capable to provide enough infrastructural support to the development of cleantech industry with the co-operation of cleantech firms in different states and the universities.

Concluding remarks and future research:

The findings of this study will help to understand the existing problem of cleantech firms for acquiring governmental export support deeply by different stakeholders including cleantech firms, government export support agencies and academic groups. While other cleantech firms can take lessons from difficulties experienced by studied firms and make their own strategy or follow studied firms’ strategy to fulfill their export resource (e.g. finance, information, business contacts etc.) requirements, government agencies will learn about the areas that need to be improved so that export support can reach to all firms. It is also important to mention that firms might think that export business will increase if the government would fulfill all their needs or vice versa. In reality, it is highly contextual of business environment and government cannot guarantee definite success of their support.

This study only illustrated gaps of governmental export support programs from firm’s point of view but for more concrete argumentation and deeper understanding, the government’s point of view should also include in further research. This study involved cases from different phases of their internationalization process and that might be considered as limitation from generalization perspective. So in further research, it is suggested to choose cases which are in similar phase of their internalization process to draw more general conclusions. In fact, separate research might be conducted from micro, small and medium-sized firm’s perspective to get deeper picture of the problem.
8. Reference:


Nogales, N.G. & Pettersson, J., 2001. How to Improve Export Promotion towards SMEs, with Focus on Information Provision and Network of Main Actors.


9. Appendix:

9.1 Appendix A:

Date: ___/___/___ (dd/mm/yyyy)

Interview duration: 90 minutes (max)

Interview Guide

Topic: Analyzing the gap between Swedish governmental export support programs and cleantech firms’ expectations.

Company:
Name of the interviewee:
Designation of the interviewee:
Name of the Interviewer(s): Ahmed Fazle Rabbi & Rubayet Hossain.
Interview structure: Semi-structured.

Questions

Q1. Give as a brief description about your company.

Q2. Please describe your experience with governmental export support programs that you might have participated, observed, or attempted to participate in the following area:

- Acquiring market information – Tax, VAT, export procedure, transportation etc.
- Acquiring export loans or credits.
- Increase sales volumes or building contacts through International exhibition or trade fairs, delegation trips etc.
- Education and training

Q3. If you do not find any useful governmental export support programs that you might have participated, observed, or attempted to participate in the mentioned areas of Q2 then please explain why it did not work and what can be done to improve it?

Q4. Have you used any alternative sources to seek help of the mentioned areas in Q2? If yes then please explain why and what was your experience?

Q5. What are your expectations from governmental export support programs?
Q6. Do you have any suggestions for the better growth of cleantech industry?

Note:
* All information will be handled with strict confidentiality.
* Supplementary questions will be asked based on interviewee’s response.