

Environmental technology exports: Analyzing Swedish government and firms' initiatives

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Abstract

Some countries have historically relied to a great extent on exports as an important component of their economic system. With the current globalization trends and increased competitiveness, promoting exports has therefore become a common strategy in order to boost economic growth. Exports of environmental technologies represent a new window of opportunity for economic growth and a contribution to global sustainability. For this objective, governments provide different initiatives aimed at promoting foreign commerce among firms. The aim of this article is to assess the perception of the effectiveness of governmental initiatives for export promotion among Swedish environmental technology firms. In addition, the article addresses firms' internal initiatives to reach potential foreign markets through the use of modern communication channels. Data about 728 Swedish environmental technology companies was collected and analyzed by using a combination of desktop research and a web-based survey. The findings show a relatively high export orientation among the respondent companies. However, a majority of the respondents claim not to be aware of governmental initiatives that fit their particular needs. Those who do show a high level of participation in such initiatives, but most could not relate this participation to successful businesses abroad. From the firms' perspective, presence on the Internet was considered to be a plausible indicator of their internal initiatives to capture potential foreign customers. An analysis of the companies' web sites, their language customization options and the information they provide was undertaken. Results show that a large number of companies have functional web sites. However, the percentage of web sites with language customization options was relatively low.

The findings suggest that governmental initiatives have to consider the particular composition and needs of the environmental technology sector in order to be more effective. On the other hand, although companies show to be proactive in the use of the Internet for increasing their outreach, language customization must be addressed as an important component when using such a tool. Both governmental and firms' initiatives remain important contributions to export success. In this regard, collaboration and communication between governmental export promotion agencies and firms represents an important first step.

Keywords: *Export Promotion, Perceived Effectiveness, Firm-level analysis, Web site analysis.*

1. Environmental technology exports: Contribution and growth

Environmental protection and remediation is nowadays in the agenda of many governments, given the identification of the effects of human activities on natural systems and of possible future consequences. However, most social systems around the world are facing the conundrum of promoting economic growth, a growth mostly based on environmental degradation (extraction, consumption and pollution). There are several discussions about whether or not technology can contribute to environmental redress (since some claim that it *is* the cause, in the first place). Nevertheless, many seem to agree that a technological approach can solve many of the problems we are facing.

Having this in mind, a relatively new term has permeated many spheres of modern society: “environmental technology”. This term is used in a variety of ways (European Commission, 2004). However, for the purpose of this study we will use the Swedish Ministry of the Environment’s definition (2005): “goods, systems, processes and services that offer clear environmental advantages in relation to existing or alternative solutions, seen from an ecocycle perspective.”

As mentioned above, many governments around the world define strategies for increasing economic growth (as measured by GDP), and since in some countries local markets can be relatively small or get saturated with time, many of these strategies include increasing exports. Sweden, for instance, has had around 50% of its annual GDP based on exports during the last ten years (cf. USA around 10%, China around 30% and Germany around 43%) (World Bank, 2012). It then makes sense that the government focuses on exports for increasing GDP. Now, what to export depends on each country’s particular characteristics (e.g. natural resources, historical traditions, geographical location) and comparative advantages. In the case of Sweden, the main exporting sectors have historically been machinery, electrical devices and telephony equipment, and paper and forestry products (Exportrådet, 2011). Although this continues to be the case, the country’s government has identified the environmental technology sector as a potential sector for contributing to economic growth. Considering Sweden’s international reputation as a highly committed society to research and development (Swentec, 2008), it makes sense to aim at a market that is expected to be very profitable in the near future. As an example, its global manufacturing market is expected to rival the oil and gas equipment sector by 2015 (van der Slot and van der Berg, 2012). For technology supporters, on the other hand, environmental technology exports can also be seen from a non-economic perspective. Exporting knowledge and equipment to other countries can help alleviate the pressure on the environment that has both local and global consequences. Although some claim that this is very important for reaching sustainability in the developing world (Hoekman *et al.*, 2005), this might also be the case for the developed world, as non-existent or more efficient technologies can be developed elsewhere.

Even if Sweden is considered to be a top innovator within the sector (Cleantech group, 2012), reality has shown that having knowledge and built capacity does not guarantee commercial success. Apart from exports from large energy companies, other areas’ contribution remains comparatively small, although believed to have great potential (e.g. waste management, wastewater treatment, noise control) (SCB, 2011a). If we use the same logic as above (exports as a share of total GDP), we can find that exports within the environmental technology sector represented around 16% of the total sector’s turnover in 2010 (SCB, 2011b), which gives a sign of the potential of this sector to achieve a higher export rate (cf. 50% share of exports of GDP). In general, the industrial sector in Sweden is mainly composed of small and medium-sized enterprises (SMEs) (SCB, 2011c), which is also the case for the environmental technology sector (ITPS, 2008). This is an important factor to have in mind when designing strategies for promoting exports. It is common that large companies have more

resources and can therefore afford exploring different markets and acquiring knowledge and experience that facilitate their entry.

There are different mechanisms through which governments promote export growth in general and for some particular sectors (Kanda *et al.*, 2012). In the case of Sweden, for example, the government entrusted the Swedish Environmental Technology Council (Swentec) – now inactive – with the analysis of the sector and the preparation of a basis for continued governmental support and for increasing exports. Part of this information resulted in the formulation of a strategy for the development and export of environmental technology 2011-2014 (The Swedish Government, 2011), which highlighted potential and priority markets, defined action and follow-up plans and allocated a budget.

On the individual firms' side, export success is also linked to the internal capabilities of the firms in attracting and capturing foreign business opportunities. Such capabilities are in part mirrored by the way they make use of tools that can help them to increase their outreach to foreign markets. Such tools can be of different nature (i.e. technological, managerial, institutional and/or financial) and are adopted and used differently by each individual firm. However, some particular tools seem to be appreciated by various firms. Communication tools such as the Internet enjoy common usage among firms due to their efficiency and relatively low cost (Hoffman and Novak, 1996).

Given the characteristics of this sector in Sweden (i.e. SME dominated), the target recipients of the abovementioned support initiatives might encounter hindrances such as the high cost of accessing support and the difficulty of getting clear and useful information (see Kanda *et al.*, 2012). It would be therefore interesting to analyze the perceived effectiveness of the mentioned governmental initiatives (i.e. from the firm's perspective). In addition, the individual firms' usage of communication channels such as the Internet can provide a fair insight of their interest in reaching foreign markets. Such assessment would be useful in order to understand the companies' perspective and provide inputs that can be helpful for the improvement of both the government and the local companies.

The study is focused on the firm level and has the aim of assessing different strategies that the government and individual firms use for increasing exports. In doing so, we seek to answer the following research questions:

- Do companies in the environmental technology sector participate in fitting governmental export initiatives? If so, what is their perception on these initiatives' effectiveness?
- Are Swedish environmental technology firms making use of the Internet as a way of expanding their outreach to potential foreign markets?

The paper is developed in the following way: section two presents the background to this study. Environmental technology export promotion is discussed from a broad perspective and a deeper analysis of the Swedish case is put forward. In addition, Internet is analyzed as a tool to reach out to potential foreign customers. The scope of the study is also described in this section. Section three describes the methodology and tools used for the study. Section four shows the results obtained, while section five discusses and analyses these results. Section six finalizes with some additional remarks and suggestions for further research.

2. Environmental technology export promotion

Having in mind the previous discussions, the scope of this study can be depicted as in Figure 1. The study was developed in the Swedish context. It focuses on governmental initiatives for increasing exports by addressing awareness, participation and perceived effectiveness among firms within the environmental technology sector. In addition, it addresses the firms' use of the Internet as a communication channel for providing and getting information to and from potential foreign markets.

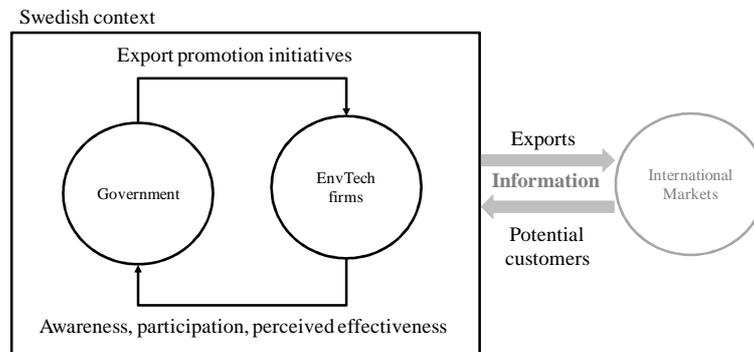


Figure 1: Relevant elements and their relationships.

The following sections explain in more detail the components depicted.

2.1. Governmental initiatives

For environmental technologies to be effective in environmental protection, they need a high market penetration and a widespread geographic distribution (see e.g. del Río González, 2009; Jänicke, 2008). However markets are unable to create sufficient demand for such technologies inherently. Hence governmental intervention is necessary to stimulate environmental technology dissemination (Jänicke, 2008). Many governments thus intervene through a variety of environmental technology export promotion initiatives (Kanda *et al.*, 2012).

From a broad onset, previous studies have focused on national export promotion programs in general and from two major perspectives: the provider and/or the receiver (e.g. Kumcu *et al.*, 1995; Beltzér and Zetterqvist, 2008; Lederman *et al.*, 2010; Leonidou *et al.*, 2011). From the provider perspective, previous studies cover formulation mechanisms, structure, delivery channels and methods for evaluating the effectiveness of such programs. On the receiver side, focus has been on awareness, participation, and effectiveness of such programs among firms (Leonidou *et al.*, 2011). Scientific research on governmental initiatives to promote environmental technology export in particular is rather scanty (Kanda *et al.*, 2012). In their study, Kanda *et al.*, (2012) answer the questions *why* and *how* governments intervene to promote environmental technology export using examples from a selected number of countries. The study highlights the existence of a variety of strategies organized by one or a combination of the following: prioritized target countries (e.g. matured markets, emerging economies etc.); prioritized environmental technologies (e.g. wind turbines, biofuels etc.); alternative services (e.g. information, financial, training and education, trade and mobility related programs etc.); firm size (large vs. small); and firm stage in internationalization (e.g. irregular exporters, export via agents etc.).

The economic justification for government involvement in export promotion is grounded on the theory of externalities and other market failures associated with export (Lederman *et al.*, 2010). In foreign trade there exist potential positive spillovers regarding gathering foreign market information related to consumer preferences, laws and regulations, business opportunities, etc. Private exporters would hesitate to solely undertake such market research knowing very well the cost involved and that benefits could be absorbed by competitors. Pace setters in export who make ground breaking investments to open foreign markets, establish contacts, distributions links and other costly undertakings which could be beneficial to their rivals also face a similar dilemma (Lederman *et al.*, 2010). Another source of market failure in export is information asymmetry among market players (Beltzér and Zetterqvist, 2008). In such a situation, market players could be oblivious of or miscalculate the risks and possibilities in export. As a result, trade might occur at levels different from the ‘‘optimal’’. The uncertainty introduced by the levels of political and economic risks associated with export has also been used as another justifier for export credits and guarantees financed by the public sector (Lederman *et al.*, 2010). In the face of such market failures, governments’ concern is to design and implement strategies which aim to correct such irregularities and create a ‘‘level playing field’’.

2.1.1 Governmental initiatives in Sweden

The Swedish Environmental Technology Council (Swentec) was tasked by the government in 2008 to develop a comprehensive strategy with a vision to supply world leading solutions. The resulting action plan anchors around Swedish companies, universities and state actors. It proposed 82 measures within five strategic areas. The initiatives directly related to export promotion stipulate a need for more commercialisation; new business models and coordination among export promoters and their initiatives.

Sweden commits a lot of resources to research and development and thus remains a top international innovator. However, Sweden has not enjoyed much commercial success compared to other top innovators, thus the need for more commercialization, both home and abroad. For an international outlook the measures suggest stimulating and utilising ideas with commercial potential and strengthening the linkage to the markets’ demands. Consistent with export promotion the measures call for more financing for demonstration projects and commercialisation of new technology and systems solutions.

The relatively small domestic market in Sweden makes export a unique opportunity for further growth and expansion. Nonetheless, the domestic market is central to many companies in finding a platform to develop from. The action plan stipulates firms in the environmental technology sector to develop business models that respond to opportunities in different geographic markets for both products and services. The SME dominated characteristics of the sector stipulates for business models that build upon collaborative networks with clearly defined roles that deliver system solutions. Implementation measures coherent with export promotion include support channels for companies in finding collaboration partners; enhancing the market analysis function of state actors; and stimulating large companies that can act as leaders in the international markets while pulling along smaller firms.

The action plan recognises the fact that there is a surge in agencies promoting environmental technology development and export. This could be confusing, especially for SMEs, specifically for those with limited financial and human resources, and export experience. In order to achieve a more effective support system, the plan calls for efforts to enhance coordination between the different actors

and their initiatives. This collaboration should be dynamic and easy to change in accordance to changing market circumstances. The measures call for increased transparency in the operations of environmental technology promoters to enable firms to seek for the appropriate help. In addition, help should be among other things focused on companies that want to grow.

Recently, follow-ups to the action plan have emerged. Among them is the Swedish government's environmental technology strategy presented for the period 2011- 2014. The strategy builds further on the investments in environmental technology and the promotion of Swedish exports. It also spans both the short and long term targeting from research and development to increased exports. The government will invest SEK 400 million in environmental technology over this period. Finally, it outlines 12 proposed initiatives to boost the Swedish environmental technology sector. These include steps to intensify research and innovation, initiatives aimed at facilitating financing and business development at an early commercial stage, support and assistance with market start-ups in export markets for small and medium enterprises, and measures to improve coordination among government and other actors relevant for the development of the sector.

2.2. Individual firms' initiatives

Export success is also linked to the internal capabilities of the firm in attracting and capturing foreign business opportunities. This is, at least in part, influenced by the use they make of tools that can increase their outreach to foreign markets.

Accessibility to customers for enquiries and placing orders, among other things, has been highlighted as an important prerequisite when making export business. An apparently efficient and relatively cheap way of improving such accessibility is through the use of communication technologies such as the Internet. Internet users are estimated to be roughly 2.3 billion, with a growth of around 530% from 2000 to 2011 (Internet World Stats, 2012). Dickinger and Bauernfeind (2009) mention different levels in which the relationship with customers is built through the internet: provision of information (including contact information), collection of data and identification of customer preferences, website personalization and the creation of long-term relationships. Subsequently, the proper creation of a functional website has become of great importance for international commerce. Heuchan *et al.* (2001) identified the importance of not only having a website, but also providing electronic contact details and having a functioning email address, web-based forms that do not crash and the proper language and page layout. Rangaswamy *et al.* (2009) found that the business relation is facilitated when the proper information is provided and easily accessible through the internet. Not only potential customers find what they are looking for, but any contacted company can find useful information about the potential customer's reputation or presence in a given market.

When planning to enter international markets, it is important to make – at least basic – information available, understandable and accessible for visitors that could represent future businesses for the company. This is particularly important, as Ellis (2000), Leonidou (1995) and Liang (1995) claim, since it is frequent that the potential buyer or importer is the one who establishes the connection between a local market need and some foreign-sourced product. In line with this, it might be difficult for a given potential customer to look for information about a product or service that is not readily available in a language that she/he understands. Hsu *et al.* (2008) mention that web pages that allow language customization enhance their appeal to visitors, eliminate the need of intermediaries and facilitate and improve the customer's experience through easily accessible information.

3. Methodology

The empirical study was composed of three parts: database building and depuration; a survey and the firms' websites analysis. The first part consisted of the creation of a database. Through governmental and private information on the internet, personal contacts and industrial clusters, information about environmental technology providers operating in Sweden was collected, recorded and classified in a database. This information included data about each company's field (e.g. energy, air and water), the area (e.g. energy efficiency, biofuels, solar), products or services provided, location within Sweden, web site address (if available) and electronic contact information. In total, the database consisted of 1020 records. However, some records were repeated, due to the fact that some companies can belong to two or more areas (e.g. a company producing equipment for biofuels production and chemical supplies for the production process).

Around 300 records were eliminated because they were repeated (as explained above) or because they belonged to the following areas:

- Investment: investment companies included in the database explicitly express their interest in the environmental technology field. However, they do not directly participate in a given company's export activities.
- Public: there is an ongoing debate in Sweden about whether or not municipalities can export their technology, so these companies were omitted. By law, public companies are not allowed to risk public funds in foreign markets.
- Committees, marketing and other: some industrial associations have the task of promoting environmental technology exports but do not export, so they were not considered.

The final list consisted of 728 records.

The second part consisted on sending a web-based survey to these companies. Both email and pre-defined electronic forms were used, regardless of whether or not the website had language options. The survey was held anonymously and took place during May, 2012. The questionnaire was designed to be answered in a short time (around 5 minutes) and was written in Swedish, with the intention of reaching a higher response rate. The shortest path consisted of three questions, while the longest path consisted of six questions, all revolving around the topic of exports and governmental promotion initiatives. Two questions were open (i.e. free text) and all were of obligatory nature, except the last one which was left for additional, voluntary comments on the topic. More details about the questions can be found in the results section below.

Initially, many emails bounced, mainly due to outdated contact information. In these cases, we updated the contact information and sent the emails once again. Other emails bounced because of automatic replies due to absence of the respondents. In some of these cases, another contact person was provided with the automatic reply. In the case of pre-defined forms, only few companies replied with an automatic confirmation message of receipt. In addition, 35 records did not include electronic contact information (i.e. only telephone numbers or physical addresses). Even after updating the contact information and resending emails that bounced, some of them kept bouncing. A shallow research on some of these companies led to the conclusion that they had been acquired by other companies, or had gone bankrupt since the database was originally built. Two reminders were sent with two weeks interval to all records in the database. This was done with the intention of increasing the response rate.

Survey results were analyzed both through the survey tool (for the case of numeric data) and manually. Open-text responses were grouped in different categories. We registered how many companies mentioned one particular type of support program and whether or not they could relate it to successful businesses. Once the data was organized and figures computed, a group discussion took place in order to decide what and how information would be presented. A cross-referencing of the major findings was made in some cases with previous similar studies to highlight similarities and differences and put the study in context.

Finally, the third part consisted of an analysis of all the firms’ websites. We registered: 1) whether or not they had their own, operational websites; 2) whether or not they had customizable language options (i.e. apart from Swedish); and 3) whether or not they had electronic contact information. For this analysis, we calculated their percentages of availability after registering the information in a spreadsheet. Additional cross-analyses were built by using these data.

4. Results

4.1. Survey

After a month and two reminders to all respondents, we collected the results from the survey. A total of 172 companies answered the survey, representing a response rate of approximately 25%.

The first question aimed at better understanding the current export activities of the different companies identified within the environmental technology sector. A total of 136 respondents (79%) indicated that they were currently exporting or thinking of exporting in the near future, while 17% of the respondents were not exporting or thinking of doing it. The remaining 4% were indecisive. The main reasons for not exporting (as expressed by the respondents) were: a) newly established companies; b) local niche market; c) exports are not included in the business idea or exports are not their core business (e.g. they are suppliers to a bigger company); and d) limited capacity or limited resources (e.g. small companies, no financial resources or lack of contacts).

The next two questions aimed at finding about the awareness of governmental initiatives that could fit each company’s activities and interests and whether or not companies were taking part of them. Figure 2 summarizes the results.

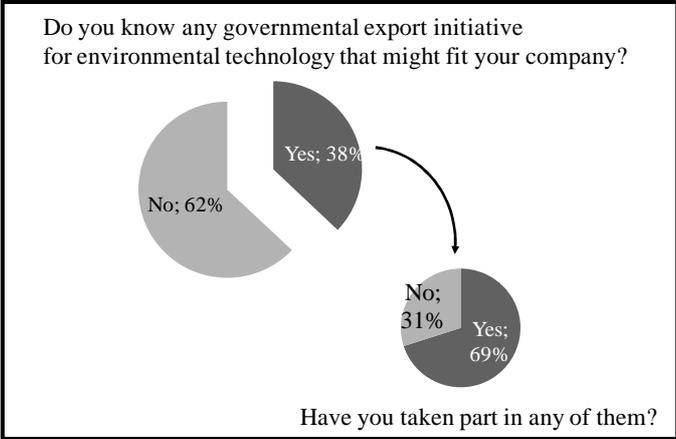


Figure 2: Awareness of export-fitting governmental initiatives and company participation.

62% of the respondents claimed they were not aware of governmental export promotion programs that were in line with their particular needs. The remaining 38% identified fitting programs, but a third part of these decided not to participate in them. The reasons given by these companies not to participate were: a) difficulty to access (e.g. inefficient, expensive, unclear benefits, too bureaucratic for small companies); b) lack of resources (e.g. time, staff); c) denied application (e.g. financial support); and d) they were planning to take part in the future.

The last question aimed at knowing which types of governmental programs were chosen by companies and whether or not these companies experienced a direct link between such programs and a successful business abroad. Out of those participating in governmental programs, 32% of the respondents mentioned that they could relate the initiative(s) in which they participated to a successful export business while 68% said they could not. Several respondents participated in two or more programs, which makes it difficult to link success/failure to a particular one. However, a trend can be seen when analyzed in detail, as shown in table 1: participation in financial-aid related programs is the only category with an apparent overall positive effect on exports.

Table 1: Companies linking programs in which they participated to successful export business per each initiative category.

	Yes	No
Financial aid	8	2
Information	6	15
Education/Training	2	7
Trade & mobility	5	11
International aid programs	0	2

4.2. Firms' web sites

For the Internet usage analysis, 728 records were analyzed. 663 (i.e. 91%) companies had their own functioning website at the time of the study. The remaining 9% was composed of records that: a) did not have their own webpages (e.g. basic information is found in yellow pages or magazines); b) the webpage was under construction; c) the webpage redirected to another webpage; d) they had been acquired by another company; or e) the company had gone bankrupt since the creation of the database.

On the other hand, out of those companies that had their own website, 65% provided language customization options (i.e. any language different from Swedish). The most common languages available were English, German, Norwegian and Danish or combinations of them. However, other languages such as Chinese, Spanish and Finnish appeared sporadically. It is worth mentioning that most of these websites seemed to be translated by the company, while few used embedded tools like Google translator to provide language options. 99% of all companies' websites provided electronic contact information; the remainder provided just physical addresses and telephone numbers.

As mentioned in the methodology section, records were classified by area and field. Table 2 shows the percentage of companies that have their own website by field and their frequency distribution. In addition, the table shows the percentage of websites that allow language customization within each field.

Table 2. Companies with their own functioning website by field and language customization availability within each field.

Field	Number of companies	Distribution	Have language option
Energy	216	33%	59%
Consultancy	104	16%	59%
Water management	90	14%	74%
Other	81	12%	70%
Waste management	76	11%	67%
Air	40	6%	78%
Sustainable building	35	5%	74%
Soil	13	2%	31%
Noise	8	1%	75%
TOTAL	663	100%	

5. Analysis and discussion

5.1. Awareness, participation and perceived effectiveness

From the survey results, we consider the response rate as acceptable for these kinds of studies. We understand the remaining (non-response) surveys as the possible effect of:

- out of date contact information;
- a dynamic sector, in which large actors acquire small actors (thus changing contact information);
- a highly risky sector, where companies go bankrupt or merge in order to survive (thus changing or eliminating contact information);
- lack of interest in the survey as such. Since the subject was “survey about environmental technology export”, companies that are not exporting might have interpreted it as not of their concern (as indicated by e-mail by some of the contacted companies);
- not having an efficient process for handling messages sent to the provided contacts or through their system (e.g. predesigned electronic forms).

Already from the first stream of answers a dominant pattern emerged and remained unchanged. The response rate for the first stream was about 11%, it increased to around 18% and reached a final 25% after the first and second reminders were sent, respectively.

Within the respondents, a high rate of export activity (79%) was expressed. This is a good sign of the engagement of these companies in foreign markets. It does not however indicate export volumes or revenues, which is what really interests the government and what its initiatives are focused on. Nevertheless, a high share of respondent companies is not aware of suiting governmental initiatives (62%). Reasons for this might be: a) communication channels are not being effective at reaching the targets or clear about the content and scope of the offerings; b) programs are not properly designed to meet the actual needs of entrepreneurs; or c) the sector is highly diverse and complex for the government to design suitable or customized options. Kumcu *et al.* (1995) mentioned similar reasons for a limited effectiveness of governmental export promotion initiatives. Given the characteristics of this sector (i.e. SMEs dominated), such variables should be properly addressed by the government, as

mentioned in the European Commission's report on supporting the internationalization of SMEs (2007).

On the other hand, 69% of those companies that find suitable programs decide to take part in governmental programs. This might be a sign of the trust of the entrepreneurs in governmental initiatives. However, this participation is not always considered as a catalyst for successful businesses abroad, as expressed by the respondents (i.e. 68% cannot relate initiatives to successful businesses). Having in mind that the respondents show a high foreign-market interest and claim to have participated in programs that were seen as fitting their needs, this result sends a strong signal regarding their perception of the effectiveness of such programs.

Another interpretation of these results can be brought forward by analyzing the different types of programs mentioned by the respondents. Many of the respondents that reported having participated in only one governmental program could not link it to a successful business abroad. However, those that had taken part in two or more programs reported better results (especially when financial support was included), which was also found by Volpe and Carballo (2010) in their study about governmental export promotion initiatives. They concluded that bundled services reach better results than isolated assistance actions. When analyzing individual programs, we can see that respondents who have participated in financial-aid related programs report a higher success rate in percentage terms (please refer to table 1). In contrast, less than half the respondents could relate their participation in programs like information provision, education and trade missions to successful businesses abroad. It is clear that financial support is an effective means that is appreciated by entrepreneurs. However, governmental initiatives should continue providing additional resources for the development of internal capabilities, such as managerial skills for internationalization and the provision of useful information about markets, trends and actors. Kanda *et al.* (2012) and the European Commission (2007) mention the usefulness of these programs for addressing the effects of failures in export markets.

5.2. Internet usage analysis

Internet is a widespread marketing tool within the environmental technology sector in Sweden. This can be seen from the high percentage of companies with a functioning website (91%). Many companies employ this tool as a way of gaining visibility and of interacting with their current and potential customers, both locally and abroad. Hoffman and Novak (1996) and Dickinger and Bauernfeind (2009) support this claim in their studies by emphasizing the usefulness of a functioning website in reaching stronger relationships with a company's customers. Nevertheless, our findings suggest that a relatively large share of companies (i.e. 35%) are not providing language customization options apart from the local language (i.e. Swedish), which could hinder the companies' possibilities of reaching foreign customers. Heuchan *et al.* (2001) and Hsu *et al.* (2008) highlight the importance of such options for improving the customers' experience when looking for information about the company and its products/services. Internet visibility and language customization is considered as one plausible indicator of the sector's preparedness to export. From the results, it is not possible to conclude regarding this subject. This is due to the fact that the language-option share (65%) refers to the initial database (728 companies), while the export participation or interest (79%) only refers to those who answered the survey (172 companies). These sets do not necessarily intersect, which hinders a possible conclusion. We still believe, however, that those companies that are not using these

tools might be missing out opportunities for further market expansion and doing new businesses (even if they are already exporting).

When analyzing the share of language customization option within each field, we found that most fields have a relatively high share of customizable websites (i.e. 60% to 80%), with the exception of the “soil” field. Particularly, we realized that those fields with the highest percentage are those in which Sweden has developed a lot of expertise over the years and do not currently represent significant problems within Sweden, where the market might be saturated (e.g. sustainable building, air pollution and water management), which is a logical sign of the need to look for foreign customers.

6. Final remarks

Swedish companies included in this study show a clear interest in participating in export activities. This is a sign for the governmental agencies involved in export promotion. It also poses challenges like the need of reaching those companies that claim that they have no knowledge about governmental export programs which fit their specific export needs. For example, many export initiatives are canalized through regular export promotion agencies, which could confuse small companies that have very specific needs. Since there are clear plans for the promotion of environmental technology in particular (e.g. The Swedish Government, 2011), one might wonder if there is a need for a specialized agency for this sector. Questions of how the particular characteristics of environmental technology should influence export promotion strategies have been raised as consideration points for such governmental agencies.

From the firms’ website analysis, a clear message emerges: there is widespread internet usage among Swedish environmental technology firms. This practice potentially increases their accessibility to foreign customers searching for information on the internet. However, the availability of a functioning website alone does not execute the outreach function effectively. Up to 35% of companies do not provide language options apart from Swedish. These firms could be missing out on opportunities to expand their customer base. In retrospect, website analysis using language options does not give an exhaustive understanding into firms’ efforts to boost exports. A deeper understanding on the internal characteristics and capabilities of both failed and successful environmental technology exporting firms will be needed to make a robust argument.

On the other hand, a deeper understanding of each type of governmental initiative and their effectiveness in actually reaching successful businesses abroad is needed in order to redefine current strategies and reach a wider audience. Further research could focus on finding reliable information that could lead to conclusions about the best combinations and ways of addressing different needs among the interested parties. This includes the betterment of resource allocation by the government and hopefully the improvement in export performance of the sector.

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