Acknowledgement

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During the data collection process, we received support from German-speaking research assistants to facilitate the data collection in Germany. We would like to thank Xhulio Bejkollari, Henry Ngilorit, Frederik-Robert Fabisch, Ado Omerhodzic, Laura Matthiesen, Marie-Sophie Westbrock, Per Lundin, Sebastian Mohr and Carina Rinke for their contributions by conducting part of the interviews and collecting secondary data.
Executive Summary

- Measured in inhabitants the German market is about nine times as large as the Swedish. Measured as permits for prefabricated wooden single-family houses (about 19.7% of total demand in 2017) the German market is about three times the Swedish market (about 17 000 compared to 5300). Indicating that about 3.5 times as many Germans live in prefabricated wooden houses than Swedes. The potential is vast!

- Since the crises in 2008/09 the share of prefabricated (wooden) housing out of all single-family houses in the German market has been relatively stable around 15%. However, in recent years, there has been a steady growth in demand for wooden housing reaching a market share of 19.7% in 2017 (BDF, 2018b). Demand is increasing!

- Demand for wooden housing, is likely to increase even more due an increasing awareness about the impact of climate change.

- Within the market for wooden housing, there is a niche market for so called Schwedenhauser. The exact size of this niche is difficult to estimate, because of the variety of definitions associated with the term. We estimate the sales of Schwedenhauser to about 100-150 houses in 2018. This is based on the definition that Schwedenhauser are prefabricated wood houses produced in Sweden.

- Definitions provided for “Schwedenhaus” relate to the aesthetics of the house, the quality of the house, and the emotions associated with the house. We suggest that Swedish manufacturers collaborate and define what is a “real Schwedenhaus” and market it accordingly in Germany. There is a potential in the niche “real Schwedenhauser”!

- Cultural differences will remain and possibly the only way of dealing with them is to gain or acquire international experience, for which a long-term orientation is essential.

- A major barrier to export to Germany are the differences in quality norms. As long as there is no European CE-trademark, wood panels have to be DIN-certified.

- Although all companies in the German market meet the basic quality norms as defined in the DIN-standards, some argue that Swedish houses are of lower quality than German houses and others argue for the opposite. Although there is disagreement on the quality of German versus Swedish houses, the respondents agree that houses from Eastern Europe are of less quality. There is a quality issue!

- Competition for wooden housing in general, and Schwedenhauser in particular, is perceived as low. Even though a variety of firms offer wooden
housing and can produce Schwedenhauser, direct competitors who also deliver houses from Sweden are limited.

- In order to achieve larger volumes in Germany, it can be worth reconsidering the payment schemes to sales agents. Current payment schemes put financial risk at the side of the sales agent, because the end-customer pays the last percentage when the house is finished.

- Despite challenges in gaining building permits, also the construction of apartment buildings in wood is slowly increasing. Swedish manufacturers, who standardize and prefabricate to a high degree, can have a potential advantage as compared to their German counterparts due to their existing knowledge about techniques and processes for industrialized production. Moreover, there seems to be a potential in wood-based apartment buildings.

- Surprisingly, digitalization is only considered for marketing purposes. The next step could be to introduce online sales platforms and include the internet-of-things in the product offer or the construction process.
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1 INTRODUCTION

Wooden houses can be found all over Sweden, mainly family homes but with a strong increase in the construction of apartments. In 2017, 12,444 single family houses (småhus) and 48,227 apartments were finished, which is respectively an increase of 9% and 14% as compared to the same period in 2016 (TMF, 2018). The industry for wooden housing can be described as highly fragmented. According to Statistics Sweden, the wooden housing industry counted 527 companies with in total 6062 employees in 2017. 111 companies out of these 527, have more than five employees (TMF, 2018).

The main characteristic of prefabricated wooden housing is that most parts of the house are produced in the factory and assembled on site. This allows the firms to exercise more control over the quality of the house and can produce houses more cost-efficiently. This has also resulted in opportunities for Swedish manufacturers of wooden houses to export wooden houses and compete internationally. In the 1970s the wooden housing industry was one of the leading industries when it came to exports. In recent years, Swedish demand for housing has increased but exports have steadily decreased. Nowadays, relatively few wooden housing companies export and exports have decreased with 21% between 2015 and 2016 (TMF, 2018). However, since 1988 exports have taken place to in total to 106 countries (Jacobsson, Falkä, Naldi & Melander, 2014). The three main export markets over the period 1988-2013 are Norway (23.6%), Germany (20.3%) and Finland (18.4%). Other export markets are Japan, Denmark, the United Kingdom, the Netherlands, Switzerland, Spain and Austria.

The amount of exports is strongly related to the demand of housing in Sweden (Jacobsson et al, 2014). When the demand for housing in Sweden is high there is no incentive for the industry to invest in export markets. However, when demand in the home market decreases a part of the firms in the industry turn to the foreign market to increase their sales (figure 1). Whereas increased internationalization is often associated with increased economies of scale due to growth of the company (Glaum & Oesterle, 2007; Vahlne & Nordström, 1993), in the wooden housing industry exporting mainly seems to be a means to utilize the full production capacity and maintain economies of scale. A challenge of exporting in times when the domestic market is weak, is that financial resources to develop and support export development are more limited than in times when demand in the domestic market is high. When firms have limited resources available, the likelihood that firms stop exporting after some time increases (Sui & Baum, 2014). Exporting is a strategy that can result in new market opportunities, but it is also a challenging strategy due to differences in culture, language, regulations and increasing costs of doing business across borders (Lamb & Liesch, 2002; Welch & Paavilainen-Mäntymäki, 2014). When the home market demand increases again, it appears difficult to serve both markets well and then, especially if the number of houses exported are relatively low, it is an easy decision to stop exporting. Hence, the
international activities in the wooden housing industry are characterized as non-linear internationalization, with several occasions of de-internationalization and re-internationalization.

Figure 1: Swedish sales vs. export value in 1000 SEK (Jacobsson et al. 2014)

Germany is one of the markets where several companies have been exporting to over the past decades. Several reasons are provided for exporting to Germany; that the country is relatively close, has a large market and there is a niche market for Schwedenhauser. Finally, and perhaps most important, others have been successful in this market. But several barriers exist for export exist as well. General barriers for small,- and medium sized companies for internationalization are, among others, a relatively small pool of resources (Buckley, 1989; Lu & Beamish, 2001) and a lack of information about the foreign market (Johanson & Vahlne, 1977; Reid, 1981). The internationalization process and subsequent international performance depends to a large extent on the pre-export activities – ie. the activities that result in information about the market and lay the foundation for exporting (Tan, Brewer, & Liesch, 2007; Wiedersheim-Paul, Olson, & Welch, 1978). This can include recruitment of managers with an international orientation, building of a relevant network, and gaining of necessary skills and knowledge about operating in a foreign market. Moreover, in order to prepare for exporting, export issues and the foreign markets of interest need to be carefully examined before decisions are made about market entry (Cavusgil, 1985).
Introduction

1.1 Design of the study

The aim of the study is to ‘extend the knowledge about the potential of the German market’. The approach of the report is different from traditional consultancy reports in which the market potential of a foreign market is identified through analysis of statistical data on the size of the market, development of demand for the product, infrastructure, gross domestic product, etc. (Cavusgil, Kiyak, & Yeniyurt, 2004). However, this information might be difficult and costly to access and often provides insights only an aggregate level and do not capture the detailed information (Papadopoulos & Denis, 1988). Hence, a systematic qualitative approach can provide complementary information about the market which cannot be captured by aggregated data.

This report builds on multiple interviews, written resources like newspaper articles and reports, as well as some statistical data to support the answers from the respondents. In total 33 interview were conducted in the period 2017-2018. Of these, 18 were conducted with CEO’s and managers of 15 different German firms active in the wooden housing industry in Germany. In order to get as complete a picture of the market for wooden housing in Germany as possible, we interviewed German sales agents of Swedish manufacturers and German manufacturers of wooden housing. Three interviews are conducted with representatives of the German institutions in the construction industry, which are Bundes-Gütegemeinschaft Montagebau und Fertighäuser, GDF and Institut für Bauforschung. This allowed us to get information about the institutional context, and the rules and regulations, that firms in Germany experience. In addition, 12 interviews were conducted in Sweden with CEOs, managers and (former) export managers of six Swedish firms that have been or are exporting to Germany and one interview was conducted with a Swedish expert on passive housing from FEBY. In Sweden interviews were conducted in English/Swedish and in Germany interviews were conducted by German speaking interviewers. Swedish actors interviewed were mainly export managers that have extensive experience with exports to the German market. To ensure that similar topics were covered in the different interviews, topic guides were developed. Topics included relate to the trends in the German market in relation to demand, passive housing, regulations, but also more specifically descriptions of the target market, the importance of networks, competition, sales processes and challenges that firms experience in the market. Some interviewees were interviewed twice in order to obtain more in-depth knowledge about some topics of interest. Moreover, an exploratory survey about potential customer’s perceptions of Swedish wooden housing is conducted.

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1 Interconnection Consulting publishes reports on the market development for prefabricated (wooden) housing. For more information see: https://www.interconnectionconsulting.com/industries-markets/fertighauser/
among German residents. The survey inquired about the perception of the quality of Swedish products and Sweden in general by asking respondents to rate to what extent they agree with statements like: “Products produced in Sweden have a good quality” and “Sweden stands for high quality of living.” More specific questions relating to wooden housing were included inquiring about how likely the respondent would be to buy a specific type of wooden house if the house was promoted as from a certain country or had a certain price. In total 214 responses were received for the survey. The majority of the respondents (61.03%) were in the age category 18-25, which provides insights in the perceptions of the future generation of buyers.

A possible limitation of a qualitative approach is that the information is potentially biased by the opinions of respondents. To reduce this concern, we extended and triangulated the primary data with information from German and Swedish news articles, research reports, documents and press releases from German associations for the prefabricated housing industry, and statistical data.

1.2 Structure of the report

The remainder of the report is structured as follows. The next section provides a theoretical background about internationalization patterns and determining export market potential. In chapter 3 we provide a description of the historical development of the German market for wooden housing and discuss the current situation of the market by discussing the size of the market, customer characteristics, competition and regulations. Chapter 4 provides a description of the quality norms and certifications that are required for operating in the German market. Followed by a discussion in chapter 5 on the trend towards an increased focus on energy efficiency and passive housing and relating regulations in this area. In chapter 6, we provide suggestions for utilizing the potential of the German market based on the experience of our respondents, followed by a concluding section.

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2 Not all topics are covered in detail in this report. Six students from Jönköping International Business School supported the project by collecting data in 2017 and wrote a thesis based on part of the data included in this report:


Matthiesen, L.S. & Westbrock M.-S. Relationship Quality in Exporter-Foreign Intermediary Relationships – A Qualitative Study on Swedish Manufacturers and German Intermediaries in the Prefabricated Wooden House Industry
2 THEORETICAL BACKGROUND

In the last decades, internationalization has become an important strategy for an increasing number of firms. Increasing globalization has resulted in lower costs of doing business abroad and especially small- and medium-sized firms have increasingly started to internationalize (Buckley, 1989). Even though internationalization can provide new opportunities it also results in challenges, which influence the internationalization path of firms. The aim of this section is to provide a theoretical background towards the factors that influence the internationalization pattern, with a special focus on the pattern of exit and re-entry which is observed in the Swedish wooden housing industry. After this, we introduce the notion of a proactive approach towards internationalization which can increase the chances of success in export markets.

2.1 Internationalization paths

The internationalization process is often depicted as a gradual process that is characterized by learning-by-doing (Cavusgil, 1980; Johanson & Vahlne, 1977). These models depicting a gradual process of internationalization predict that firms first focus on the home market before entering the foreign market. Foreign market entry will follow a gradual process in which first foreign markets that are relatively similar to the home market through low commitment operation modes, like exports. When more knowledge is obtained about the foreign market, the firm will gradually increase commitment to internationalization through setting up a foreign subsidiary and/or expanding into other foreign markets (Johanson and Vahlne, 1977). Majority of the Swedish manufacturers of wooden housing have first established themselves in the home market and when internationalization took place the focus was on markets that were perceived relatively similar and nearby like Norway and Germany.

However, it has been observed that internationalization is not always a gradual, linear process but can instead be characterized by periods with international activity, followed by de-internationalization and re-internationalization (Samiee & Walters, 1991; Vissak, 2010). Several reasons for de-internationalization – defined as withdrawal from foreign markets - are identified like strategic misfit between the foreign activities and the headquarter (Sousa and Tan, 2015; Turner, 2011), changes in the external environment like increasing home market demand or decreasing foreign demand (Bernini et al. 2016; Belderbos and Zou, 2009), changes in management (Cairns et al, 2010; 2008), as well as lack of knowledge and poor preparation (Cavusgil, 1985; Dominguez & Mayrhofer, 2017; Reiljan, 2006). Re-internationalization is
associated with a renewed interest in activities in the foreign market (Welch and Welch, 2009). Re-internationalization is influenced by the experiences and performance before and during the de-internationalization phase (Bernini et al. 2016). On the one hand, some time passes between de-internationalization and re-internationalization because management might need to forget about the negative aspects of internationalization. On the other hand, when too much time passes by also the knowledge obtained from the previous international experience disappears and it becomes costlier to internationalize again and hence the likelihood of internationalization decreases (Javalgi, 2009; Bernini et al, 2016).

Hence, different factors are identified which potentially influence the internationalization path of the firm. Whereas some reasons for de-internationalization cannot be anticipated, others like a lack of knowledge about the market can be reduced by a proactive approach towards internationalization.

2.2 Reactive vs. proactive approach to internationalization

Many smaller firms follow a reactive approach to export development (Piercy, 1981; Westhead, Wright, & Ucbasaran, 2001) In a reactive approach to exporting, firms start exporting without a consistent strategy and limited planning (Child & Hsieh, 2014). These firms tend to base their initial international growth on external stimuli like unsolicited orders or export stimulation programs initiated by the government (Papadopoulos & Denis, 1988; Westhead et al., 2001). Internal stimuli associated with a reactive approach are a need to offset seasonal sales and reduce financial risks as well as declining profits in the home market (Pieray, 1981; Vahlne & Nordström, 1993). A reactive ad hoc approach will most likely increase sales and profits for a short period, but might not benefit the firm in the longrun.

Alternatively, firms can follow a proactive approach. In a proactive approach firms actively search for and identify new market opportunities to act upon (Ciravegna, Majano, & Zhan, 2014; Lumpkin & Dess, 1996). Managers are actively targeting foreign markets and internationalization is often a part of the growth objectives of the firm (Westhead, Wright, & Ucbasaran, 2002). The identification of promising foreign markets is a key activity in a proactive approach, because it influences other strategic decisions, like the entry mode and foreign marketing programs (Gaston Berton & Martin Martin, 2011). The identification of promising foreign markets is influenced by existing knowledge about the foreign market (Makadok & Barney, 2001; Malhotra, Sivakumar, & Zhu, 2009) and the (international) network through which information about foreign markets can be obtained (Johanson & Vahlne, 2009). With the available information usually a number of foreign markets are shortlisted for which the potential of the market – ie. the expected return from entering a market – is in assessed (Malhotra et al., 2009). To determine market potential of export markets
an estimate is often made of general demand and adaptation costs, and information is collected on competition and socio-economic developments (Robertson & Wood, 2001). Based on a comparison of the different markets, the most promising market can be selected for entry, after which a marketing plan can be developed. This approach will take more time for planning than a reactive approach, but in the long run companies that follow a reactive approach tend to experience higher levels of foreign sales and better performance (Brouthers & Nakos, 2005; Ciravegna et al., 2014)
3 MARKET DESCRIPTION

Since the 1960s, several export programs were initiated with the aim to stimulate exports of wooden houses to Germany. After the reunification of East and West Germany in 1989, a large share of the Swedish manufacturers was exporting to Germany. Several reasons for the historical interest have been provided by the respondents. Firstly, the German market is geographically close and perceived as culturally similar to Sweden. Secondly, due to the large size of the German market compared to Sweden, the potential to grow in the German market is perceived as large, especially when demand in Sweden is declining. Thirdly, fluctuations in the exchange rate can reduce the price of Swedish houses for German customers, which makes it more attractive to buy a Swedish house. This was especially the case in the 1990s, when the value of the Swedish crown was low (Jacobsson, 2014). Finally, in Germany an attractive niche market is identified for so called “Schwedenhauser”.

Despite the variety of reasons listed that can make Germany an interesting export market, nowadays only few of the Swedish manufacturers of wooden housing export to Germany. The aim of this section is to provide a short historical background of the wooden housing industry in Germany and provide an overview of the characteristics of the German market in terms of size, customer characteristics and competition.

3.1 Historical development of the German market

Prefabricated housing was introduced in Germany in the 1920s, with a focus on standardization and short construction times. After the second world war the construction with timber became more popular and because more people could afford a house, the housing market was booming until the 1970s. Especially wooden housing became popular around that time because wooden houses were cheaper and finished quickly. Majority of these houses were imported from Sweden, with Schwedenhaus GmbH in Düsseldorf as the main importer (Simon, 2005). Although the houses were affordable, they were also known for a lower quality. This is an image that some producers and sales agents of wooden housing still are confronted with when they try to sell their houses to the larger market. This, despite the fact that since the 1980s the image of wooden housing has been improving and several quality standards are introduced to the industry (BDF, 2018a). In the 1990s the housing industry in Germany was booming. The reunification of East and West Germany created opportunities for the construction of houses in Eastern Germany, and with that also the demand for prefabricated
wooden housing increased. Several subsidies were introduced to stimulate the construction of new housing and refurbishment of existing housing in East Germany. The shift from a planned to a market-based economy resulted in booming prices and a sharp rise in the construction of housing, with approximately a two year time lag (Michelsen & Weiß, 2010).

After a booming market, prices started to drop in 1995 and from then a period starts which is characterized by an overshoot of construction, followed by a collapse of the construction industry between 1997 and 2001 (Michelsen & Weiß, 2010). Despite decreasing total demand for housing (figure 2), the demand for prefabricated wooden housing in Germany reached its peak in 1999 with 23.6% of the single-family homes being prefabricated wooden houses. In these years, many Swedish firms benefited from this increased demand for prefabricated wooden housing by exporting to Germany because demand for housing in Sweden was relatively weak.

![Building permits index (2010=100)](image)

**Figure 2:** Building permits index 1996-2016. Figures adapted from Eurostat

In the year 2000 the German construction industry went into a crisis and many companies went bankrupt around this period (Simon, 2005). In this period also many of the Swedish companies saw their exports to Germany drop and several left the German market. Since this crisis the share of wooden housing in the German market has been relatively stable around 15%. (Simon, 2005). However, in recent years, there has been a steady growth in demand for wooden housing with a 17% market share in 2015, 17.8 % market share in 2016, and 19.7% in 2017 (BDF, 2018b)

One of the main factors used for determining the potential of export markets, is the size of the market. In terms of number of inhabitants, the German market is
almost ten times larger than the Swedish market, with respectively 82 million inhabitants in Germany and 9.8 million in Sweden in 2016 (Eurostat, 2018).

Table 1: Comparison of Swedish and German housing market. Adapted from Eurostat, SCB, Statistisches Bundesamt, TMF

<table>
<thead>
<tr>
<th></th>
<th>Sweden</th>
<th>Germany</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>9 851 017</td>
<td>82 175 684</td>
</tr>
<tr>
<td>Residential buildings (2016)</td>
<td>4.8 million</td>
<td>18.4 million</td>
</tr>
<tr>
<td>Construction permits (2016)</td>
<td>26781</td>
<td>316550</td>
</tr>
<tr>
<td>Construction permits single family houses (2016)</td>
<td>6 149</td>
<td>95 509</td>
</tr>
<tr>
<td>Permits for prefabricated wooden single-family houses (2016)</td>
<td>5 288</td>
<td>17 001</td>
</tr>
<tr>
<td>% growth in total construction permits (2016)</td>
<td>20.5%</td>
<td>15.6%</td>
</tr>
</tbody>
</table>

In total there were more than 300 000 building permits for residential buildings – defined as buildings where more than half of the floor area is used for dwelling purposes, including single-family houses, detached houses, semi-detached houses, apartments in a group oriented residential building - in Germany in 2016, of which there were 95 500 single-family houses. This means that the total market in Germany is significantly larger than the Swedish market (table 1). However, the wooden housing industry is only a relatively small share of this market with a market share of 19.7% in 2017 (BDF, 2017). Nevertheless, this makes that the German market for wooden housing (17001 houses) about 60% of the size of the total demand for housing in Sweden (26781 permits) and almost three times the demand for single family houses in Sweden (6149 houses). As one of the Swedish respondents said: “I think we are talking about at least 200 000 single family houses a year. Of course, we don't have to forget, that at least 80% of them are in stone. That's an important part. But if 200 000, we still have 40 000, so we have the same market, no, in Sweden we have 12 000, there we have 40 000. So of course I could smell the business there.” (CEO Swedish manufacturer). The quote provides an estimate that is too optimistic given the statistics and, like the statistics, does not consider that within the German market, Schwedenhauser are a very specific niche market. Schwedenhauser are marketed as a premium product and, in addition, attract customers that have some connection to Scandinavia. Hence, one could say that wooden housing is a niche market within the overall
housing market and within this niche market Schwedenhauser are a second niche market.

Since Germany is a large country, with a variety of different counties which each have their own architectural developments and regulations, there are large variations in demand across Germany. Wooden housing is more common in the south of Germany, for example, in Baden-Württemberg 30.6 per cent of the houses are prefabricated wooden housing as compared to 7.6 per cent in Niedersachsen. However, the market for Schwedenhauser is stronger in the north of Germany. The main reason provided for this by the respondents is that people in the north of Germany are closer to the Scandinavian countries and are more likely to go on holiday there and therefore are more likely to be familiar with the Scandinavian wooden house. However, respondents point out that also more locally there can be huge differences in the opportunities for building wooden houses. This relates to the development plan of different areas. As one respondent explained: “In some areas the local development focuses on having “putzhauser” and then it becomes complicated to get a permit for a Schwedenhaus. And sometimes wooden houses are explicitly excluded because there are very specific requirements on how the houses have to look.” (German manufacturer).

Based on the above, one can conclude that the housing market in Germany is significantly larger than the Swedish market. However, wooden housing and prefabricated housing comprise a much smaller share of the market than in Sweden. Within the market for prefabricated wooden housing, Schwedenhauser are viewed as a niche market, which reduces the potential size of the market. Moreover, regional differences are large and need to be taken into account when entering the German market.

3.2 Customer characteristics

The potential customers for wooden houses are a very general group. Buyers of wooden houses can be of any age group, as one respondent said it: “It starts with the very young people who want to start a family and then it goes up to very old people, who even in the age over 70 say we want to buy a house, the old house is to much of a burden and too expensive, we want to build something reasonable.” (CEO, German manufacturer) However, they need a certain minimum wage given the cost of building a new house. As a result of which the buyers of wooden housing often have at least a middle-class income. Formally there is no definition of what the middle-class income is, for example a person living alone in 2014 was considered middle-class if he or she would have a monthly net disposable income between 1410 and 2640 euro. A couple with two children would be considered as belonging to the middle-class income if their income would be between 2950 and 5540 euro per month (Niehues, 2017).

There are some characteristics that distinguish the buyers of (Swedish) wooden houses from buyers of other houses. Firstly, it is a group of customers that is often already familiar with wooden houses. This can be either because their
parents lived in a wooden house or because of holidays in a wooden house. If customers are unfamiliar with wooden houses, sales agents need to put more effort in marketing and educating the potential customer as there are many prejudices remaining about wooden houses in Germany. Although it was emphasized that the extent and types of prejudices can be different depending on the region that people are from and how common timber construction is in that reason, there were some commonalities. Some persistent prejudices are the idea that wooden houses are cheaper than other types of houses, that they are difficult to insulate properly, and that it is more difficult to get an insurance because of the risk of fire. In addition, the longevity of the house is questioned, with some customers believing that the house only lasts for 30 years after which it must be demolished. Because of these prejudices, people who have always been living in concrete houses are often very difficult to convince of the advantages of a wooden house. Even though there are persistent prejudices about wooden houses, there is also increased awareness about climate issues and wooden houses are increasingly linked to an environmentally friendly lifestyle.

Second, there are contradictory notions among respondents about the importance of potential customers feeling a connection to Sweden. On the one hand, majority of the sellers and producers of Schwedenhauser emphasized the importance of an affinity with Sweden. This affinity relates to two different aspects. First, some identified a large Astrid Lindgren fan community. This a group of potential customers that grew up with the stories of Astrid Lindgren and created a certain image of their own ideal house based on this. This connection to the Astrid Lindgren stories also strongly influences the definition of what a Schwedenhaus is, because in these stories it is often the red, yellow or blue wooden houses with white window frames. However, if this is one of the main characteristics of the target customer the industry might experience challenges in the future because the Astrid Lindgren stories are no longer regularly broadcasted on German television. Hence, younger generations are less familiar with the stories, which makes that the target market is becoming older, has already bought their house and only few new customers will be added. Second, this affinity can relate to a more direct connection to Sweden. The potential customers have often been on holiday to Sweden, or Scandinavia in more general. For most people a wooden house is a wooden house, but due to the holiday experience people have seen how the houses look like and how they look in the Scandinavian landscape. Moreover, as expressed above, the Swedish houses and Sweden are associated with a connection to nature and cosiness. This makes a Schwedenhaus more attractive to this target group. Some add to it that it is about creating a holiday feeling at home. However, responses were mixed because some also indicated that this feeling is not that strong and that it might not be so much about an image of Sweden or the connection to the country.

Due to this mixed result within the project, Bejkollari and Ngilorit (2017) studied the country of origin effect for their master thesis to provide some insights in the relationship between the image that customers have from Sweden and the preference towards (Swedish) wooden housing. The country-of-origin effect is
generally defined as the impact which generalizations and perceptions about a country have on how a person evaluates the product or brand (Papadopoulos & Heslop, 2002). Especially when consumers have relatively little knowledge about the attributes and quality of a product, they are likely to use indirect evidence, such as the country of origin to evaluate products and brands. Although not all Schwedenhauser are originating from Sweden, the term Schwedenhaus might suggest differently, which in turn can affect the evaluation of the product. To get insight in the country-of-origin effect questions were asked about country affinity and country image. Country affinity concerns the feelings that someone has towards a country (Oberecker & Diamantopoulos, 2011). Within this survey, two items were of particular interest: 1) I know or am aware of the Astrid Lindgren stories, and 2) I associate Sweden with things like typical wooden houses, clear lakes, green forests, happy people and midsummer sun. The first item is argued in the thesis to address the notion that people buy a Schwedenhaus because of the childhood memories. The second addresses the notion that the Schwedenhaus is associated with a positive image of Sweden more general. When looking specifically at the knowledge about Astrid Lindgren stories and the image that respondents have of Sweden, the average score for Astrid Lindgren stories is a little higher. A comparison of the generations between 18-25, 26-35, and 56-65 suggest that the familiarity with the Astrid Lindgren stories has reduced over time, as the score for the younger age groups is about 0.3 points lower than for the oldest age group (Bejkollari and Ngilorit, 2017). These descriptives provide insight in the image of Sweden in the respondents’ minds but does not provide insight in how this relates to consumer preferences towards a Swedish wooden house. In a simple regression, (Bejkollari and Ngilorit, 2017) show that country affinity has a significant effect on the preference towards buying a Swedish wooden house ($\beta=0.206$, $p=0.008$) but country image has not ($\beta=0.038$, $p=0.625$). Hence this suggests that the positive image of a traditional Swedish house is strongly related to the traditional image created by Astrid Lindgren stories, the appreciation of Swedish lifestyle and willingness to visit the country, and less to with quality and innovation. The effect of country affinity disappears when a modern design is considered. This is in line with the observation that stereotypical Schwedenhauser are more popular in Germany than modern design houses from Swedish firms, because a modern design house can be bought from German competitors as well whereas a real Schwedenhaus should be imported from Sweden.

3.3 Competition

The firms interviewed all indicate that they do not experience strong competition. When asking about their main competitors, most interviewees have a hard time mentioning other firms. As one explained: “Sometimes you notice some competition because customers are getting more offers of different companies. But the competition in the market for wooden housing is more relaxed compared to stone houses. That is low budget and the competition is harder.” (German sales
Competition for Schwedenhauser can be summarized as in figure 3 when looking at the type of houses and the origin of the house. According to several interviewees, construction in Sweden differs from construction in Germany, which in turn influences the quality of the houses, which makes it relevant to consider the origin of the house. Moreover, as was discussed above, some consider a Schwedenhaus only a Schwedenhaus when it is actually produced in Sweden.

**Figure 3:** Overview of competitors in the German market.

In figure 3, the inner circle lists the companies that are active in the German market and produce in Sweden. Eksjöhus is the largest of the Swedish manufacturers that are active in Germany with approximately 170 employees (2017) and produces about 400 houses a year. The firm has had continuous presence in the German market since the 1960s. Whereas Eksjöhus has a high level of prefabrication and standardization in the Swedish market, they recognize that German customers require a more individualistic approach. Rörvikshus has around 50 employees and produces approximately 200 houses a year, with exports to Germany, Switzerland and Austria. Their degree of industrialization in the production process is lower than for Eksjöhus and therefore advocates more flexibility in their product offer. Outstanding for Rörvikshus is its dense sales network in Sweden as well as in their export markets. Vida Building AB has around 30 employees and with a new factory has moved towards a higher degree of standardization in their product offering. However, they still offer more individually designed houses as well, and in particular for the German market they recognize the need to offer a lower degree of standardization. Västkuststugan/Västkustvillan AB, with around 100 employees, offers a variety
of standard house models, but highly values flexibility in the house design. Moreover, Västkustvillan emphasizes energy efficiency as an important feature of their houses. The final two firms distinguish themselves from these four companies. KarlsonHus is a small company with less than 5 employees and develops and designs individualized wooden houses which are subsequently produced by a Swedish partner company. An outstanding characteristic for KarlsonHus is their ecological profile and the production of environmentally friendly houses. Begus, founded in 1968, sells Schwedenhäuser and already offers prefabricated wooden housing since 1979, but is a German company. A variety of standard houses are offered, but the owner emphasizes that a house can also be designed after the customers’ wishes. This company is still included in inner circle of figure 3, as their houses are at least partly produced in Sweden and use Swedish materials. We estimate that these six companies sold together about 100-150 houses in 2018 in Germany.

In the next circle of figure 3, the companies are mentioned which sell Schwedenhauser but do not produce in Sweden. In the outer circle a number of producers of wooden houses are listed which could be potential competitors. Some companies were identified which have Schwedenhäuser as one type of house but do not solely focus on that, like Talishaus and Baufritz, these are listed on the boundary of the two circles. Currently, the biggest Swedish players in the German market are Rörvikshus and Eksjöhus. Other firms that were mentioned as direct competitors were Fjorborg, Talishaus, and Aladomo. Of these, Talishaus is one of the largest companies in Germany that is producing wooden houses. Finally, respondents referred to some producers of wooden housing in more general as possible competitors which were Honka, Weberhaus and Griffnerhaus. However, as was stated in the beginning of this section none of the respondents really experienced strong competition. The companies that are listed are not an exhaustive list, and depending on the region that firms are active, other companies can be identified as competitors.

Alternatively, one can look at competition from the perspective of quality of the house and after-sales service. More specifically, the notion among many of the German producers is that quality of houses of German producers is higher as well as that these houses are constructed in a more modern way than the houses of Swedish producers. As one German manufacturer explained it: “First, because customers perceive that the quality of houses of German firms is better, customers first come to German firms on the market. In that case, the producer is from the region and contact is easy. Otherwise, when houses are from Sweden there is uncertainty about whether the contact also later is guaranteed, if there are construction failures which have to be solved.” Interestingly, from the Swedish perspective the quality of German houses is lower than that of Swedish houses. This difference in perceptions about quality can potentially relate to different traditions and expectations. Respondents in Germany and Sweden do agree though that the quality standards for houses from Eastern Europe is clearly lower than those of German or Swedish houses. However, all wooden housing meets a
minimum quality standard because of the quality norms that need to be met in the German market (see chapter 4).

3.4 Trends in customer demand

It is difficult to predict how the market will develop in the next years, however a number of trends in demand are observed by the respondents. First and foremost, majority of the respondents expect the demand for wooden housing to continue to increase in the next years given the past development of demand. Although wood construction is more common in the south of Germany, also increasing demand for wooden housing is observed in the northern counties. This trend does not only concern the demand for single family houses, but also the demand for (semi-)detached houses and apartment buildings from timber is increasing according to the Institut für Bauforschung in Germany. Increasing prices for land also reduce the number of single-family houses and increase the demand for semi-detached and detached housing. However, wood construction of detached houses and apartment buildings is limited by the current fire regulations in Germany. Nevertheless, several of the German respondents indicated that they consider a stronger focus on the construction of apartments and semi-detached houses.

Another trend that is observed is that a growing group of couples in the age of 50+ sell their one-family houses. Two different trends are observed for this growing target market. On the one hand, one respondent indicated that this group prefers to buy a penthouse in a small flat. Whereas another manufacturer notices an increasing demand for wooden bungalows among couples of 55+. Potentially, with the recent introduction of the “Baukindergeld”, demand for housing among young families could increase. Baukindergeld is a government subsidy that aims to stimulate the housing market and reduce the pressure on the market for rentals. With this subsidy the German government targets families with at least one child below 18 years of age. Every family who buys an existing house or builds a new house of maximum 150 square meter, has the possibility to get annually up to 1200 Euro per child for a period of 10 years. Baukindergeld can be applied for at KfW Bank if some requirements are met in terms of income and housing (KfW, 2017a). Some respondents indicated that the Baukindergeld can stimulate the demand for housing, however others state that most of their customers have to high an income to be eligible for the subsidy. Also an economic study by the German Pestel-Institut (2018) estimated that the Baukindergeld can result in an increase in families that own a house of only 0,1-0,2%. Hence, even though the Baukindergeld can result in an increased demand, it might be something to inform potential customers about than a subsidy that will have a strong effect on demand for wooden housing.

Finally, an increasing concern with a healthy living environment and environmentally friendly houses increases the attractiveness of wooden houses. This might result in increasing growth for wooden housing. As one respondent described it: “There are many searches for “Ökohaus” online, and in the mean
time there is a crazy “greenwashing” everywhere in the market. Everyone builds healthy and ecological. Ecological is for many also just energy-efficient.” (German manufacturer). In Germany there are a variety of standards related to energy efficiency in the housing industry, which are discussed in more detail in chapter 5.

The development of the niche market for Schwedenhauser seems to be more uncertain with some respondents indicating that they would foresee a continued growth in this market, whereas others expect it to diminish or even disappear entirely. Those who expect a continued growth argue that there will always be people with an affinity for Sweden or Scandinavia and hence the demand for this style of houses will remain. Moreover, according to these respondents Sweden and Swedish houses are known for a good quality which can at least ensure a stable demand for Schwedenhauser. Respondents that indicated that the demand for Schwedenhauser will diminish provide two main reasons. Firstly, the new generations are less familiar with the Astrid Lindgren stories so the Bullerby syndrome is less strong in the generations to come. Secondly, other construction styles are becoming equally popular like, for example, the New England style.

Besides positive outlooks, a number of factors that could limit the growth in the (wooden) housing industry are outlined. First and foremost, the limited availability of craftsman in the construction industry. The 2018 Arbeitsmarktreport from the German chamber of commerce (DIHK, 2018) concludes that for 61% of the firms in the construction industry a lack of skilled employees is the main concern. The main reason for the lack of craftsmen in this industry is the aging population (70%). Craftsman retire and a new generation is less interested in a job in this industry (DIHK, 2018, p. 10). Even though prefabricated wooden housing requires less time on the construction side, respondents indicate that a lack of craftsmen is even an issue for prefabricated housing because the waiting times for prefabricated houses are increasing due to challenges in recruiting skilled employees.

Secondly, the current interest rates are very low as compared to a couple of years ago (figure 4). Majority of the respondents recognize that the interest rates should increase again in the near future and that this might impact the demand for housing. Historically, an increase in the interest rate often resulted in a decrease in the construction of residential buildings and suppressed sales of existing homes (Arslan, 2014). Hence, when interest rates increase, the demand for housing in Germany is likely to decrease. However, one respondent said: “It might be that if the interest rates are going to increase demand might decrease a little bit, but actually people who want to build, they are going to build.” Theoretically, a limited effect on the demand for wooden housing can possibly be explained by the notion that the market for wooden housing and especially Schwedenhauser is a niche market. The customers in a niche market are usually willing to pay a premium price to satisfy their needs and less sensitive to changes in the price (Parrish, Cassill, & Óxenham, 2006). Hence, changing interest rates might have less impact on this market segment.
Thirdly, the availability of land to build on is another factor that can limit the opportunities in the German market. Whereas in the 1990s land was provided, especially in Eastern Germany, for the construction of housing, nowadays the focus is on reducing the usage of land for roads, residential and commercial areas. In 2002, the German federal government set a goal to reduce the land take from the average 120 hectare a day between 2003 and 2011 to 30 hectare in 2020 and less than 30 hectare by 2030 (Umweltbundesamt, 2015). The approval of new land for residential uses is entrusted to local municipalities and these are neither legally nor politically bound to the 20 hectare goal and receive little qualitative guidance on how to achieve the goal (Fischer, Klauer, & Schiller, 2013). This has resulted in a variety of measures in different municipalities and regions. For example, in Dresden, a compensation scheme is set up which holds that for each agricultural or natural area that is used for construction, a compensatory action needs to be taken in order to limit the built surface in the area to about 40% (Decoville & Schneider, 2016). Moreover, the Umwelt Bundsambt trialled a land certificate trading scheme in 87 municipalities which meant that each municipality received a number of certificates for land based on their population. These certificates allow the municipality to use new land for construction and in that way limit the amount of land take. So far the different strategies to reduce land take has resulted in a reduction in land take to 66 hectare a day in 2017 (Umweltbundesamt, 2017). Because the interviewed sales agents and producers of wooden housing indicated that most of the potential customers already have a plot of land, these measures do not affect the sales process directly. However, indirectly it might impact the demand for housing, since research has suggested that the increase in housing prices is largely driven by the increase in the price of
Market Description

land (Knoll, Schularick, & Steger, 2017). It is estimated that because of these measures the shortage of land slowly increases and, as a result, land prices will increase. In a 2010 study, the status-quo scenario measured an effect of 5.5% increase in land prices by 2020 as a result of the 30-ha-target (Dosch, 2010). It must be noted that these estimates only took into account the effect of the strategies suggested to achieve the 30-ha-target, because statistics show that between 2011 and 2016, average building land prices for family homes in Germany increased with 27% and in major cities prices increased with 33% (Schürt, 2017).
Several Swedish respondents emphasized that they see the German norms and regulations for the construction of wooden housing as a major challenge for exporting to Germany. For example, one respondent explained: “(In Sweden) when we send in papers to the municipality, they know that we have our system and we can present how we are building. But that is not valid in Germany, whatever we present, so we need to send in all the documentations, but they have to test it, calculate it, does it fulfill the German regulations when it comes to loading and things like that.” (CEO Swedish manufacturer). On the other hand, a German respondent, who has been working with Swedish producers of wooden houses, emphasizes the necessity of this additional paperwork for exporting to Germany: “They need to understand that things work differently here than in Sweden. Our laws are strict and therefore they must change and regarding this there is no compromise. If that is not accepted, the Swedes should not even try to export.”. Hence, despite the challenges, for firms to operate in Germany it is essential to be aware of the differences and what these mean in practice. The differences in laws in practice result in quality certifications which firms can apply for. In this section we aim to provide an overview of the main certifications to consider, providers of these certifications and a general description of how the main certification is obtained as well as the costs and benefits of these certifications that were identified by respondents.

4.1 Types of certification

In order for a producer of wooden housing to sell in the German market, a so called “Übereinstimmungscertifikat” or Ü-zeichen is required because no European harmonized standard exists for timber frame wall-, floor- and roof elements. The requirements for the Ü-zeichen are provided in the DIN 1052 which describe the product norms whereas Eurocode 5 provides the measurement standards. Material with a CE certification do not need to be tested/approved anymore, as it is EU approved (DIBt, 2017).

In addition to the Ü-zeichen, there are a number of certifications that firms can apply for but which are not compulsory. A certification that is commonly mentioned is the RAL-certification. For the wooden housing industry, RAL-GZ 422 applies. This certification applies to four types of construction: timber panel design, construction with a timber frame, solid timber construction and modular timber construction (RAL, 2016). Wooden housing is in the certification defined
as buildings constructed with timber, wood materials, drywall construction, and supplementary materials. As such, the certification is not limited to the construction of residential buildings, but also applies to for example the construction of office space or other commercial buildings. The Ü-zeichen addresses the technical standards and quality of the construction material. RAL-certification includes these aspects, but also sets standards for the construction of the building (RAL, 2016, p. 12). As such, RAL-GZ 422 provides standards for, among others, safety of the house, construction processes, and monitoring of the construction side. The RAL certification is a signal that the firms have committed to standards that go beyond the Ü-zeichen.

One of the respondents indicated that they were Tüv certified. Tüv is an independent, neutral third party which tests, monitors, develops, promotes and certifies products, equipment, processes and management systems on the basis of statutory specifications and other relevant performance benchmarks and standards. For the construction industry, TüV provides certification for the entire construction process, the house, quality management systems or even individual construction managers.

4.2 Where and how to get certification?

The Ü-zeichen can be obtained by applying to a certified body. In most counties institutes are appointed that checks whether the construction norms for wood elements as stipulated in DIN1052 are met. The Deutsches Institut für Bautechnik (DIBt) has a list of approved institutes and provide the Ü-zeichen for wood construction. Among them are, for example, the Otto-Graf-Institut (FMPA) Stuttgart, TüV Rheinland, Staatliche Materialprüfungsanstalt Darmstadt, and Materialprüfungsanstalt für das Bauwesen und Produktionstechnik Hannover (MPA H). In addition, there are two organizations that can provide the Ü-zeichen as well as the RAL certification: Bundesgutegemeinschaft Montagebau und Fertighauser (BMF), Gutegemeinschaft Deutscher Fertigbau (GDF), in addition Gutegemeinschaft Holzbau Ausbau Dachbau (GHAD) can only provide the RAL certification (table 2). Although the three associations provide similar services, there are some differences among them when looking at their members.
Table 2: Overview of German Gütegemeinschaft

<table>
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<th>Association</th>
<th>Characteristics</th>
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| **BMF**     | • Ca. 130 members  
• Among the members are the large players in the market  
• Members from different parts of Germany  
• Also foreign members from: Poland, Czech Republic, Slovakia, Austria, Sweden, Denmark, Bosnia, Italy, Lithuania and Switzerland. |
| **GDF**     | • Ca. 110 members  
• Members are more concentrated in the area of Baden-Württemberg and Bavaria  
• Internationally less active, but some members from Czech Republic and Poland. |
| **GHAD**    | • 192 members that are RAL-GZ 422 certified  
• Set up by the association of German carpenter masters.  
• Targets smaller firms which produce about 4-5 houses a year.  
• Members from different parts of Sweden |

When a firm approaches a Gütegemeinschaft about certification, they provide information about the requirements for certification and what kind of documentation is needed to obtain the Ü-zeichen and the RAL certification. The firm is required to document all the materials that are used in the construction and that these meet the requirements of the “Landesbauordnungen” (Bühl, 2012). Twice a year a representative of the certification institute visits the firm to check whether the necessary documentation is present. This documentation needs to include, among others, proof of fire safety, energy efficiency, sound insulation, and process of quality control in the production process. When the firm meets the requirements, it has to put a stamp on the wood panels with reference to the name of the producer, the norms that are met and the name of the organization that has certified the firm. In addition, to obtain the RAL certification, the construction side is visited in addition to the documentation of the materials used.

For Tuv certification one applies at a TüV office and then goes through a so called 5 phase check. The 5 phases address different parts of the construction of the house: 1) planning, 2) excavation pit and basement, 3) construction of outerwalls, 4) interior construction, 5) inspection of the premises before finalizing the house (TüvRheinland, 2018). The construction leader reports from the first phase onwards to TÜV.
4.3 Costs and benefits of certification

As mentioned above the Ü-zeichen is compulsory when a company is producing wooden housing. The Ü-zeichen protects the firms in case something happens to the house. If there is no Ü-zeichen and something happens to the house, the firm risks to get the responsibility for proofing that the problem is not caused by the characteristics of the product or inappropriate use of the product. Also lack of a U-Zeichen gives the customer the right to cancel the contract and/or not pay a part of the agreed price of the house. The cost for the Ü-zeichen are between 950 and 1300 euro, excl travel costs, per visit and two visits from the responsible institute are required. RAL and TüV certification are not compulsory and as such it can be worthwhile to consider the costs and perceived benefits of these certifications.

Generally, the costs for the additional RAL certifications are perceived as relatively high. As one respondent indicated: “No, we do not have such a certification, because those institutions also want money. And such a certification can easily cost 5000 to 10000 euro.” (CEO German manufacturer). Also another respondent who did not have the RAL certification pointed towards the increased costs for customers as well as hinting that the size of the company plays a role: “We do not have it and we do not want it either. It costs a lot of money, which the customer in the end needs to pay. For large companies it is normal to have these certifications, those are member of the Gütegemeinschaft.” (CEO German manufacturer).

When inquiring about the actual costs for certification, the following information is provided. The costs for RAL certification are in the form of a membership fee to one of the three above mentioned associations (Gütegemeinschaft). For example, membership fee to BMF was 2240 Euro in 2018, for which members are regularly updated on changes in the DIN standards, new reports, products or norms. The bi-annual quality check, including the factory visit costs 1070 Euro per visit in 2018. Similarly, GDF membership costs 2180 Euro a year and in return members are updated about changes in norms and developments in the industry and exchange of experiences among members is facilitated. There are a variety of certifications provided by TüV and costs can vary. To do a 5-phase check for the house costs around 2500-3000 euro per house.

Respondents provide mixed answers when it comes to the question about the benefits of having a certification beyond the Ü-zeichen. One of the respondents stated: “In the end such a certification makes relatively little difference! It just shows that one has a certain minimum standard, but there is no guarantee that the house is really build according to those standards” (CEO German manufacturer). Moreover, some perceive limited added value of the certification in the sales process because the end customer is not aware of the different certifications and what they mean. However, others indicate that there is clear added value of these certification, because it shows that the firm is a serious player in the market. The control by an independent institution can be perceived as a chance to have an outsider check the work and processes. If deficiencies in material or construction are identified, it might be annoying at first, but it is cheaper than being liable for damages that are detected in the long run.
Despite limited awareness among end customers about the different types of certification, RAL certification tends to be requested by banks when customers want to obtain a mortgage. As one respondent explained: “In the past, builders have paid a high price for building with construction companies without quality certifications, where the quality is low. But nowadays, with the current financing, builders cannot even afford to repair any of these defects when another company has gone bankrupt. That’s why banks have said, it’s important that we tighten the thumbscrews, so we know when a house is of good quality.” (CEO German manufacturer/former sales agent). Hence, a certification provides the bank a degree of certainty that the house is built according to certain standards which reduces the chances that there are construction defects in the building that could make it difficult to sell the house. Beyond this, respondents indicate that the certifications have a value in marketing of the product and the company. Additional certifications are, especially by those who have them, seen as a signal that the firm stands for high quality. As one firm expressed it: “It helps to attract customers. When I sell a house, then I also sell the firm. You need a good product and you need to be able to sell it well.” (CEO German manufacturer). Having the certification provides a degree of certainty to customers. Since customers have a hard time to determine the quality of a house, certification can also signal the quality of houses from different manufacturers and origins. Moreover, a respondent explained about TÜV that: “When you have this certification, then the subcontractors are also more careful! If the customer is not certain, they can easily ask an engineer from TÜV to do an inspection, who explains things to the customer, which is also a sales argument. It costs, but it gives more certainty to the customer.” (German sales agent). Hence, this suggest that the certification might not just be a signal of quality to the customer, but also a tool to enhance the quality that is delivered by the different parties involved in the construction of the house.

Overall, one can conclude that there are differences between Sweden and Germany when it comes to the quality standards in the construction of wooden housing. In order to sell in Germany, firms need to meet the DIN-standards and obtain an Ü-zeichen. Additional certifications can be obtained (RAL and TÜV), which signal that the firm offers a product that has a quality beyond the minimum standards. The costs for these standards are perceived as relatively high, especially among smaller firms, but they can have added value in terms of marketing of the houses, the ease with which customers can obtain a mortgage and reduce the risk for long-term costs.
In recent years, increasing attention is paid to energy efficiency in the construction industry and to passive housing. Some respondents expect that this trend can eventually result in more opportunities for Swedish manufacturers of wooden housing to export their products. More specifically, the normal construction standards as defined by the Swedish boverkets byggregler, were in 1980 already meeting the criteria for a passive house in Germany nowadays. Hence, it is relatively easy for Swedish manufacturers of wooden housing to build a passive house in Germany.

In the Energy Performance of Buildings Directive of 2010 the European Union has stated that by the end of 2020 all new buildings need to be nearly zero-energy (EU, 2014). This directive states that countries should ensure that there is accurate information provided about the energy use of products, but does not provide a harmonized standard for, for example, what a near zero-energy or passive house is. This means that the specific standards can be different for different countries, as one respondent said: "When we talk about Passive Housing, there are no European standards, just national norms.” (German sales agent). Hence, what can be an energy efficient house in one country might not meet the criteria for it in another country. In Germany different institutions provide guidelines in relation to energy efficiency and passive housing. Firstly, there is the governmental minimal requirement for energy efficiency of housing (EnEv regulation). Secondly, there are KwF criteria applied by the government-owned Kreditanstalt für Wiederaufbau (KfW) bank which are based on the EnEv regulation. When meeting certain criteria, customers can obtain a loan against an attractive interest rate. And finally, there is specific certification for passive housing, which can be obtained through the Passive House Institute in Darmstadt.

This section provides of the different guidelines and in more detail and what this might imply for the sales of wooden housing in Germany.

5.1 EnEv regulation

The German government has committed to reducing primary energy demand of buildings by 80% in 2050 and a first reduction of 20% in 2010. The purpose of the energy saving ordinance (EnEv) is to guarantee that these goals are met. The ordinance is a norm-based framework which defines structural and heating system standards for buildings and specifies the energy efficiency for new buildings and renovation of existing buildings (dena, 2019). In order for firms to obtain the
aforementioned Ü-zeichen these criteria are considered. For wooden housing it is not too difficult to meet the EnEv criteria. As one respondent said: “With a wooden house the advantage is that the static construction is at the same time a level of insulation. That is not necessarily the case for stone houses. It is of course already an advantage for wood panels that there is a 60 cm wall and in between those it is filled with insulation. Which means that we can also build thinner.” Hence, the EnEv regulation seems to be unlikely to create a barrier for exporting Swedish wooden houses to Germany and a wooden house is more attractive from an environmentally friendly perspective than a stone house.

5.2 KfW criteria

The KfW bank is promoting the use of renewable energy and providing loans for efficient energy use and generation. One of the programs of the KfW is for energy-efficiency construction, which applies the principle that with greater energy efficiency achieved, KfW financing becomes more attractive. There are different KfW standards for energy efficiency: KfW-Effizienzhaus 40, 40plus, 55, 70, 85, 100 and 115. The classification of a house in a certain category depends mainly on 1) how much energy is on average used for heating, ventilation and warmwater use during a year, and 2) the insulation of the house. With regard to the KfW labels it holds that the lower the number, the more energy efficient the house is. For example, a house that meets the criteria stipulated by the EnEv criteria is an KfW-Effizienzhaus 100. A house that on average needs 85% of the energy of this reference house is labeled as a KfW-Effizienzhaus 85, and so on (KfW, 2017c). The KfW-Effizienzhaus 40 and 40+ are developed especially for new buildings. The minimum requirements as stipulated by the EnEv regulation are taken into consideration for the Ü-zeichen all newly build wooden houses will fall in one of the KfW categories. One producer stated: “All our houses are KfW 70, 55 or 40. That is all perfectly normal.” (CEO German manufacturer). And a German producer indicated that: “Basically, we say that a standard type of wall construction the criteria meets for a KfW-55 house.” (representative German manufacturer). However, producers of wooden housing can only control the energy efficiency to the extent that it is influenced by the construction itself. In the end, a wooden house can be more energy efficient than a reference house depending on the energy use of the customer which is in turn influenced by decision on for example the heating of the house.

To stimulate the building of energy efficient housing, the KfW provides opportunities for people who want to build a new house to obtain a loan against a lower interest rate if the house is a KfW-Effizienzhaus 55, 40 or 40+ (KfW, 2017b). To receive a loan from the KfW bank, one first needs to involve an expert on energy efficient construction, which is partly financed by the KfW. If a house is approved as a KfW house, customers can receive a maximum loan of 100000 Euro from the KfW bank. Through these loans demand for energy-efficient housing, and potentially wooden housing, might increase.
5.3 Passive housing

Although passive housing has received increasing attention since the late 80s, different countries provide different standards for passive houses. In Sweden, the FEBY18 criteria define a passive house by looking at the heat loss. Hence, the envelope of the house and the insulation are extremely important in this (FEBY18). In Germany, the Passive House Institute is the leading institute for research and development for passive housing and takes responsibility for the certification of passive housing. The German Passive House Institute (2018) defines a passive house as “a building, for which thermal comfort (ISO 7730) can be achieved solely by post-heating or post-cooling of the fresh air mass, which is required to achieve sufficient indoor air quality conditions – without the need for additional recirculation of air.” Among others, a passive house can be achieved through, for example, building energy management systems which control the heating and cooling of the house, double skin facades to reduce operational energy use and photovoltaic roofs (Suh, Hertwich, Hellweg, & Kendall, 2016).

For a house to be a passive house in Germany, the KfW criteria are one aspect to follow by meeting the criteria of the KfW-Effizienzhaus 40. In addition, the Passive House Institute stipulates that a house needs to meet some additional criteria in order to receive a certificate for being a passive house. The criteria concern the space heating energy demand, renewable primary energy demand, renewable energy generation, airtightness and thermal comfort. In addition to the criteria, there are five principles that apply to the construction of passive houses which address the thermal insulation, the windows, ventilation strategy, airtightness and thermal bridges (Institute for Passive Housing, 2015). Some of the German standards are difficult to achieve in Sweden because of the difference in climate and different standards for household equipment.

The new Swedish standards differ from the German standards because different criteria are considered. Upto recent years, the criteria for passive housing in Germany have been stricter than in Sweden, but this changes with the FEBY18 criteria. The main focus in the Swedish standards is on heat losses of the envelope and insulation, which are not considered in the German standards. Criteria for space heating energy demand, renewable primary energy demand and renewable energy generation are not included in the Swedish criteria. As in Sweden also in Germany the criteria for passive housing do not concern the construction material, different certificates exist for environmentally friendly construction materials. This means that although construction with concrete results in a higher emission than a timber construction, they will both be labeled a passive house if they meet the standards as defined by the Passive House Institute or FEBY18.
5.4 Opportunities and costs of passive housing trend

Nearly all respondents see the energy efficiency that comes with the wooden house as a major advantage, as was mentioned above. However, respondents were more critical about the move towards passive housing. On the one hand, European Union directives state that all new buildings need to be nearly zero-energy houses, which in a high degree has to be achieved through the use of renewable energy sources. As such some of the Swedish producers have started to promote the nearly zero-energy house already. For example, Trivselhus states on their website that, in addition to the specificities of the walls and the insulation, their houses are standard heated with a geothermal heat pump. With such adjustments, the wooden houses are likely to meet more easily the KfW 40 or KfW 40+ criteria. A passive house according to the criteria of the Passive House Institute is however different from an energy efficient house. Few of the German respondents saw the houses that they offer as passive houses, partly because they feel that they can only control the construction but not the choices that customers make about the techniques used in the house for heating. But also the requirements put by the Passive House institute are perceived as very high. As one respondent stated it: "For the Passive House certification, it is really insane what one needs to do in terms of heating installations, in order to really have a passive house.” (CEO German manufacturer).

Moreover, the high requirements also increase the costs for building a real passive house, which can be a barrier to selling passive housing. As stated by a Swedish producer: “Passive housing is a discussion in itself: the production of these houses is more expensive, which needs to be earned back.” (export manager Swedish manufacturer). To provide insights in the costs and benefits of passive housing, Audenaert, De Cleyn, and Vankerckhove (2008) compare standard, low-energy and passive housing costs and benefits in Belgium. They conclude that a low-energy house is on average 4% and a passive house 16% more expensive than a standard house. Recognizing that the benefits of low energy and passive housing are depending on the increase in energy prices, Audenaert et al. (2008) conclude that a low-energy house has a positive effect on the family budget after 2 years, but that for a passive house it takes up to 20 years. Based on a passive house project in Bucharest, Badea et al. (2014) conclude that the payback time for a passive house in a conservative assessment is 16-33 years. Based on 12 passive housing projects in Germany, Sweden and Austria, Schnieders and Hermelin (2006) concluded that on average the specific extra investment were 8% of the total construction cost. This can be leveled out by the energy savings made as long as energy costs are not above 6.2 cent/KwH. Overall these studies suggest that there are financial benefits from passive housing in terms of reduced energy cost, but it takes a long period before these benefits equal the additional costs that need to be made for a passive house, when comparing it to the benefits of a near zero-energy house.
These kinds of figures can provide support in the selling the houses to the end customer but provide little incentive for manufacturers to meet the criteria for passive housing. In order to produce a passive house, according to FEBY18 criteria or German Passive Housing criteria, requires investments. The main challenges for the wooden housing industry when it comes to passive housing, according to the Swedish criteria, is the air tightness of the house, in order to meet this criterium, the Swedish producers of wooden housing would need to adjust their insulation. This results in higher production costs and among small construction companies in Sweden there seems to be reluctance to consider the construction of passive housing. Among the SMEs in the construction industry only EMRA is truly dedicated to offering passive housing. Moreover, different national criteria can complicate internationalization, because different standards might require different investments in order to build a passive house.
6 UTILIZING MARKET POTENTIAL

Based on the previous sections, it can be concluded that Germany is a large market. Although there are challenges like differences in customer preferences, different quality standards and challenges in recruiting skilled sales agents, there seems to be a potential to grow because of increasing awareness of the advantages of wooden housing. Based on the interviews and above discussions, a number of topics are identified which firms that are interested in entering the German market might consider.

6.1 Entry mode and business model in Germany

Different entry modes can be used to enter a foreign market, among which are exports, joint ventures and wholly owned subsidiaries. Currently, the manufacturers that operate in the German market sell their houses through a network of sales agents which is similar to the Swedish market. Since the Sjödalshus subsidiary was closed down in 2010, none of the Swedish manufacturers has their own sales subsidiary in Germany. Whereas a local sales agent is already important for the Swedish market because of the advantages related to communication with the customer (Melander, Achtenhagen, Andersson & Wildee Björling, 2018), it becomes even more important when operating abroad. Language barriers, cultural differences and local regulations can be addressed in a more efficient way when a local sales agent is present. As one Swedish respondent stated: “It is important to have a contact in the market that you are working on, you can’t do business in Germany from Sweden. We don’t know the culture and the specifics of the market.” (export manager, Swedish manufacturer).

To support the German sales agents, majority of the Swedish manufacturers provide marketing material like brochures and support for the website, technical support and support in designing the house when needed, as well as regular contact with the export manager located in Sweden. The German network of sales agents and employees are by some of the Swedish manufacturers invited to Sweden to see the facilities, the production process and share information. In addition, some arrange workshops for German technicians and construction people to be educated and share information. Vice versa, the German sales agents are an important source of information for the Swedish firms regarding developments in the German market, about customers, and about competition. Due to different regulations and quality norms the additional step for the U-
zeichen needs to be considered when serving the German market. This is a responsibility for the Swedish firms. In addition, some Swedish manufacturers have added a RAL certification and on top of some of the German sales agents add a TüV certification.

The construction kit is imported from Sweden and when delivered the house is build wind.- and water-tight in a few days. For the interior construction, like bathrooms and kitchen, the German sales agents rely on local firms in order to prevent problems if something does not work properly. Majority of the sales agents coordinate the complete construction of the house and have an extensive network of carpenters, plumbers and electricians for the interior, meaning that most offer a turnkey-ready house. Although the customers are very diverse, they have in common that they are looking for a unique and complete house. As such the end-customer and added value in Germany resemble the characteristics of the Villa Nordic model that some firms in Sweden adopt (for more information about business models in Sweden, see Melander et al. 2018).

However, the role of the German sales agent is according to the respondents, in one aspect different from a Swedish sales agent, because the German sales agent imports the house that the end-customer orders from the Swedish manufacturer. Hence, from the perspective of the Swedish firms, the German market can be described as a business-to-business market, where the houses are sold to companies instead of the end-customer. A part of the payment to the Swedish manufacturer is often done shortly after ordering and another part upon delivery of the construction kit. However, the end-customer only pays the last 20% of the construction cost when the complete house is delivered. Hence, the German sales agent has already paid for the house to the Swedish manufacturer, however he or she does not get the full payment for the house from the end customer at that point in time. This results in a financial risk for the sales agent. But the business model, also affects the price of the Swedish house and, hence, the competitiveness in the market. Most of the respondents indicated that the prices of the houses from Swedish manufacturers are about five to ten per cent more expensive than those of German producers. This is deemed to be due to the Swedish manufacturer delivering a construction kit with the elements of the house for which a standard price is charged and the higher transportation costs. Hence, on the one hand, Swedish manufacturers reduce their financial risk by adopting this business model, but on the other hand, their sales agents have to charge higher prices than competitors to receive an acceptable profit which impacts competitiveness.

Moreover, whereas some of the companies in Sweden buy plots of land themselves to build houses on or their sales agents help customers with finding a plot of land to build their house, this does not happen in Germany according to the German sales agents. When a customer approaches the sales agent, they often already have a location to build a house. One of the respondents indicated that buying plots of land and building houses to resell as some Swedish firms do in Sweden is too big a risk. He explains about buying a plot of land for a building project: “We are talking about 400 to 1000 Euro per square meter, that’s
impossible. That would be about a couple of million for a few plots of land. Our Swedish partner cannot do that and I cannot take that risk either.” Even though wooden housing is becoming more popular in Germany, not everyone is interested in a wooden house. This niche market results in a risk that the house is not sold or sold at too low a price. This is a risk that small sales agents and the Swedish manufacturers cannot compensate for. Moreover, relating to the Willa Nordic business model, this type of customers wants a unique house which makes such projects less attractive.

Taking the above discussion together, the current business model in which the German sales agent is the importer of the Swedish houses is a model which reduces financial risks and can address potential language and cultural barriers. It is also a very traditional model in an age of digitalization. Manufacturers of wooden housing as well as sales agents recognize the value and power of internet and all companies have a webpage and a large share of them also has a facebook page. One of the Swedish producers also invested highly in Google adds in Germany in order to create more visibility and another approach to attract media attention is to actively approach newspapers to publish about wooden housing. However, the sales process remains very traditional. The customer approaches the sales agent to discuss their needs and wishes for the new house, drawings are made and discussed with the Swedish headquarters. Especially, for the German market this is recognized as an important approach because the houses that are sold are highly individualized. In the future the sales process could potentially benefit from digitalization by offering an online design module like, for example, MoveHome is offering. However, MoveHome is relatively standardized, which does not match the current target market of the Swedish houses in Germany.

6.2 Intellectual property: defining a Schwedenhaus

Upto this point in the report we have referred several times to the term “Schwedenhaus”. It is a term that is widely used in the marketing of wooden houses in Germany, by Swedish and German manufacturers alike. A major advantage of using the term Schwedenhaus is that it allows firms to distinguish themselves from competition and hence is mainly a marketing tool. Besides the term Schwedenhaus, also the term Schwedenwand is now introduced in the German market by a German producer. It is a term that should signal a certain origin and quality. However, in reality it appears to be a fuzzy concept for which there is no clear definition or standards. One of the German sales agents expressed his surprise about this: “What has always bothered me about Schwedenhauser is that the name should be protected. Many sell Schwedenhauser, which are not real Schwedenhauser. I have never understood why the Swedish producers did not unite themselves so that one can say there is no German producer who can call his houses Schwedenhauser if they are not from Sweden. That’s strange! There should be a common standard. Is it the colour, the timber or the style?” (German
sales agent). Since the term is widely used, it might be difficult to protect the term Schwedenhaus from now onwards. However, having a common understanding can benefit marketing efforts in that Swedish firms that are active in the German market can potentially collaborate in marketing of “real” Swedish houses and also can potentially protect the reputation of Schwedenhäuser.

To provide a starting point for this, table 3 gives an overview of the different definitions and descriptions that we received when asking about what a Schwedenhaus is and different definitions provided in news articles and other publications.

Table 3: overview of definitions of "Schwedenhaus"

<table>
<thead>
<tr>
<th>German middleman</th>
<th></th>
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<tbody>
<tr>
<td>A Schwedenhaus is a house that is produced in Sweden. But we also think about the Astrid Lindgren stories and the red colour.</td>
<td></td>
</tr>
<tr>
<td>It’s a Pippi Longstocking house, customers buy their own little ideal world.</td>
<td></td>
</tr>
<tr>
<td>It is about the Bullerby feeling, it is a red, yellow or blue house. Often a classical red wooden house with white finishing and it is about the feeling connected to it.</td>
<td></td>
</tr>
<tr>
<td>A house that is red, or yellow or blue, the Pippi Longstocking colours. It has to have a timber façade, when it has a putzfacade it is no longer a Schwedenhaus. Then there are windows with muntins or semicircular windows.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>German producers</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>It is about the quality and the way of construction.</td>
<td></td>
</tr>
<tr>
<td>Basically, it’s about how the house looks from the outside: wood façade, the color (mainly red, yellow or blue) and static little details like small gable crosses.</td>
<td></td>
</tr>
<tr>
<td>It’s about the looks, a typical Swedish style. Production in Sweden with Swedish materials.</td>
<td></td>
</tr>
<tr>
<td>The quality, the link to nature and the feeling of Scandinavian cosyness. A red house with white window frames.</td>
<td></td>
</tr>
<tr>
<td>Red or yellow wooden house characterized by a playfull design with round arch windows, gables, and ornaments.</td>
<td></td>
</tr>
<tr>
<td>Swedish style, well that means in the basis, red painted and 3rd gable houses.</td>
<td></td>
</tr>
<tr>
<td>With the word Schwedenhaus one imagines the Bullerby scenery. Sweden-red, bright yellow, bleu, charming houses with a veranda and windows with crossbars. Usually there is a strong contrast in colour, bright white with some kind of strong colour. (…)For me a Schwedenhaus has always a wooden facade and a porch or veranda and a Satteldach. Many have only one or one-and half floor. And cute.</td>
<td></td>
</tr>
</tbody>
</table>
Table 3 (continued): overview of definitions of "Schwedenhaus"

**Swedish producers**

- Traditional Swedish house.
- The red house, and a lot of wood.
- It's in the mind of the customer, but it is a stereotypical Swedish house (wooden house, often red, with white window frames). If not produced in Sweden, it's not a real Schwedenhaus.

**Written sources**

- 2 floors, wood (inside and outside), flat pitched gable roof, red colour, compact way of building, prefabricated.
- Typical Swedish style, made from wood grown in Sweden (http://www.fnp.de/lokales/hochtaunus/Wie-in-Schweden;art690,99182
- Refers to the typical way of building in Sweden (https://www.welt.de/welt_print/wirtschaft/article4235772/Schwedischer-Import.html)
- Red wooden house, combination of tradition and modernity, and associated with rusticity and social harmony (Götsch-Elten, 2016).
- A house that is prefabricated in Sweden, of which the supporting wall elements consist of a wooden construction with wooden formwork at both sides (Simon, 2005, p. 87).

Based on the definitions provided in table 3, we conclude that there is a wide variety of interpretations of what is a Schwedenhaus. However, there are roughly three aspects that are considered important for the definition of Schwedenhaus. First and foremost, it seems to be about the aesthetics. Meaning that the house, ideally, should be a wooden house, stereotypically, painted red or maybe yellow or blue. The window sills should preferably be white. In addition, small gable crosses, shape and size of windows and ornaments play a role in the definition of the Schwedenhaus from an aesthetics point of view. Second, especially from the perspective of producers, it is about the quality of the house. Which seems to relate very strongly to the quality of the timber that is used. Timber from Sweden has a higher quality because it grows slower. As such several have pointed out that a real Schwedenhaus needs to be of high quality, from Sweden and constructed with Swedish wood. One definition added to this that a typical Schwedenhaus is prefabricated (Simon, 2005). Prefabrication can add to the quality of the house because of the possibility to have a finer-grained control over the quality assurance process before the modules leave the building and decreased onsite time which reduces the exposure to weather conditions (Steinhardt, Manley, & Miller, 2013). Third, respondents have defined Schwedenhauser by referring to emotions connected to a house. This is in line with the idea that buying a house is in the first place driven by emotions (Steinhardt et al., 2013). As one respondent expressed it: “people buy their own little, ideal world.” This ideal
world is connected to creating the holiday feeling when at home and to youth sentiments connected to the Astrid Lindgren stories. Moreover, feelings connected to Scandinavian cosiness and social harmony are added as important.

To summarize the above, there is no clear definition of a Schwedenhaus. However, three aspects seem to play a role: aesthetics, quality and emotions. Since there is no clear definition, it also means that different people have a different understanding of what a Schwedenhaus is which could in turn influence the reputation of Schwedenhauser.

### 6.3 Adapting to the German market and a cultural translator

Cultural differences influence the internationalization process (Beugelsdijk, Kostova, Kunst, Spadafora, & van Essen, 2018; Johanson & Vahlne, 1977). In order to deal with the differences between Germany and Sweden, respondents suggest that a “cultural translator” is important. One respondent indicated that “The Swedes have to understand that things are done differently here.”, with that indicating that it is the responsibility of the Swedish manufacturers to adjust. However, others indicated that it is a two-way process and in order to export successfully, the Swedish producers as the German sales agents need to get an understanding of each others’ business culture. In order to achieve this, reference was made to a “cultural translator”. A cultural translator can be an export manager or sales agent who, besides being able to speak German and Swedish, also has an understanding of German business culture, standards and traditions, and can translate these wishes between the two cultures. Indeed, majority of the export managers who are responsible for the German market speak German, however they also indicate that it is a long learning process to really understand the German business culture and demands for housing.

Although Germany is geographically close to Sweden, a part of Europe and in the minds of Swedish people rather similar, doing business in Germany is according to our respondents very different from Sweden. A variety of differences were noted in the ways of doing business. First, and something that majority of the Swedish producers are highly aware of, are the different production and quality standards. The aforementioned DIN-standards need to be met in order to do business, but also German customers have different standards when it comes to innovation and finishing. As one former export manager stated: “In the beginning we were naïve. We thought what we have in Sweden, that’s the best you can get. But it wasn’t, maybe it is for Swedish customers, but not for German customers. They wanted the best in their way, in their point of view it was something different.” (former export manager Swedish manufacturer). Because of this, and to reduce problems when something breaks down, the Swedish firms only import the construction kit. All electricity, plumbing and interior are taken care of locally through a network of the sales agent.
Adapting the product to the German standards is probably not the most complicated as compared to understanding cultural differences when it comes to the sales process. This is where a cultural translator becomes even more important. As one former German sales agent said: “Both countries are so close but still so far apart. That is something we always noticed even though we had good personal connections informally. But when it comes to hard business facts, Germans and Swedes do not fit together.” (CEO German manufacturer/former sales agent). In the interviews several examples are provided to support the notion that German and Swedish business culture are not always aligned, which can result in miscommunication and frustration. One difference that several respondents mentioned is that Germans are more precise than Swedish people, which becomes clear in the finishing of the houses but also in delivery agreements and the like. As illustrated by this example: “If the delivery must be Monday, Germans also need a date because for a Swede a Monday can also take place in 3-4 weeks.” By some, the Swedish were perceived as naïve, which could relate to a limited understanding of each others’ business cultures. Experience shows that in Germany more details are negotiated and put on paper before the deal can be sealed than in Sweden. Another example, which several respondents mentioned, is the limited understanding in Sweden about the value of a showcase house (Müsterhaus). Construction of a showcase house in one of the designated villages in Germany is expensive, however German manufacturers and sales agents alike indicate that it is highly valuable in the sales process and in convincing potential buyers of the benefits of a Schwedenhaus. One of the major German wooden housing manufacturers explains that besides presence in some areas for show case houses, they use reference houses in every region such that potential customers can get a good impression and feeling of how their future house could look like. Some Swedish producers nowadays have reference houses in Sweden, however this practice is less adopted in the foreign market it seems even though it would be valuable for the sales process.

Taking the above together, cultural differences in housing and in doing business exist between Germany and Sweden and should not be underestimated. It will take time to obtain knowledge about the German culture. To speed up the process and reduce miscommunication a sales agent or export manager that can take on the role of cultural translator can be a solution.

6.4 Selection of sales agents

As might have become clear from the above discussion, the German sales agent has a crucial role in the current business model of Swedish firms in Germany. They sell the house but also coordinate the entire construction, which requires a large amount of knowledge and skills relating to the construction of wooden houses. At the same time, it becomes more difficult to find craftsman with the right skills. Even though Swedish manufacturers indicate that they prefer sales agents who have knowledge about wooden housing, the impression of German
manufacturers is that the sales agents of Swedish houses are excellent sales people but not craftsman. Meaning that the technical knowledge about the house is limited in their opinion. Which in turn, can result in a competitive advantage of German manufacturers over Swedish manufacturers. German customers prefer to get answers quickly and if a sales agent does not have the answer immediately, they must contact the Swedish manufacturer. This potentially slows down the sales process and might result in a potential customer going to a German manufacturer instead.

Hence, whereas in terms of dealing with cultural differences a sales agent is an ideal, low risk solution, it results in a challenge of recruiting a sales agent with appropriate knowledge about the construction of a house. This challenge is also recognized by the Swedish manufacturers that are currently still active in Germany. Some of them are looking for partners in the German market in order to grow, however it is difficult to find craftsman who are familiar with wood construction and have a network to take on the role of sales agent and importer of the house. During the interviews a variety of characteristics of a good sales agent were mentioned. First and foremost, craftsmanship is important. This will help in the sales process because a sales agent with technical knowledge about wooden housing can better inform potential customers about the advantages and disadvantages as well as technical possibilities of the house. Moreover, a craftsman as sales agent might be better able to control and ensure quality of the house, which is of increasing importance in the German market where the rate of construction failures has been increasing in the last years (Institut für Bauforschung, 2018). Second, a network to deliver a turn-key ready house is important, as this is what most customers currently demand. Third, a passion for the product was listed as crucial, because customers will notice when a sales agent does not like the job or the product and it will become harder to convince a potential customer about the qualities of the house.

For a potential sales agent to be interested, it is of course most important that someone can make a living. This means that there needs to be enough profit margin as well as a sufficient number of houses sold. In order to achieve this, one important requirement is that the sales agent has his or her own region where they do not feel too strong competition. Majority of the current Swedish manufacturers work in this way and provide a sales agent the right to sell their houses in one region. Hence, when firms expand their presence in Germany, it is important to consider the geographic coverage of an existing sales agent, when recruiting a new one. Moreover, a continuous support in the marketing of Schwedenhauser is appreciated. Some respondents indicated that if the Swedish market is booming, they notice that less marketing attention is paid to the German market. A potential to grow is observed, however this requires serious engagement in the German market since the Swedish houses sold are very individualistic and require a very individual approach which can be costly for a sales agent. Similarly, regular contact and visits to the construction side from the Swedish export manager, and good service after delivery show that the Swedish manufacturer cares about the end product and the quality.
However, the above suggestions are not a guarantee for a successful collaboration. In their thesis, Matthiesen and Westbrock (2017) found that relationship quality in the wooden housing industry depends in addition to regular communication and cultural adaptation, also to a large extent on mutual trust and satisfaction with the business. Trust is in turn enhanced by a large variety of measures, among which earlier mentioned regular communication, willingness to adapt to the market, professional behavior, investments in the market, and so on.

6.5 Timing and long-term orientation

Finally, we would like to get back to the observed export pattern. As was mentioned in the introduction and historical development, the Swedish housing industry shows an export pattern that is characterized by several periods of exporting followed by reduced or no involvement in the German market at all and re-entry. Even though exporting is not the most resource intensive operation mode, it still requires investments in terms of establishing a network for exporting, developing marketing material, obtaining DIN certification, and gaining market knowledge. Hence, investments are required for exporting. Historically, many Swedish manufacturers started exporting to Germany (or other markets) when the demand in the Swedish market dropped and the production facilities are not fully utilized. However, this also means that limited resources will be available to invest in the German market. Hence, an important advice is to consider the timing of market entry very carefully. Foreign market entry requires careful preparation and investments in the foreign market, a rushed decision is unlikely to result in a long-term success in the foreign market.

Besides the timing, also a long-term orientation is important. Respondents indicated that it can take up to 10 years to get to know the German market well and to achieve a sales volume that is profitable. Although the pattern of exit and re-entry does not have a strong long-lasting effect on the industry, a short-term effect was noticed around the period that Sjödalshus went bankrupt and when shortly after also Trivselhus decided to leave the market. Sales agents of Swedish houses in Germany noticed at that time that customers started to worry about the long-term presence of the other companies in Germany. However, it does seem to affect the reputation of Swedish manufacturers among other actors in the industry. As one German respondent said: “The willingness to expand is missing. (...) For the Swedish manufacturers it is like: “if one sells in Germany it is ok, but they miss the willpower to really grow.” A long-term commitment, and willingness to expand, can be signaled by the aforementioned investments in the market.
7 CONCLUSIONS

The Swedish market for wooden housing is highly fragmented with many small players in the market. Whereas the manufacturers in their home market increasingly focus on industrialized production, with high levels of prefabrication and standardization, the exports are characterized by a relatively low degree of standardization and instead are very customized to the wishes of the German customer. The market for prefabricated wooden housing in Germany is about 3.5 times as large as the Swedish market for prefabricated wooden housing (about 17000 compared to 5300 in 2016) and demand for wooden housing is increasing in Germany. Given the size of the German market, increasing awareness about climate change, increased opportunities for automatization, and trends towards digitalization there is a huge potential for Swedish manufacturers to increase their exports. After describing the German market, key differences in rules and regulations and considerations for entering the market, this concluding section focuses more on the future potential of the German market.

Besides the market size and limited competition, the German market can be interesting because of the niche market for Schwedenhauser. We estimate that about 100-150 houses were sold in this niche market in 2018, based on the number of houses sold that were produced in Sweden. But the term Schwedenhauser is currently poorly defined and definitions address the aesthetics of the house, the quality of the construction and the emotions that customers associate with a Schwedenhaus. By collaborating, Swedish manufacturers can create a single brand for “real Schwedenhauser”, produced in Sweden, which builds on the ideas of authenticity and Swedish lifestyle.

Different challenges were outlined for exporting to Germany. Some of these are easier to address than others. For example, cultural differences will remain and possibly the only way of dealing with them is to gain or acquire international experience. In order to gain this international experience, the timing of market entry, a thorough preparation and long-term orientation are essential. Unless CE-labels are introduced for wooden wall-panels, also the difference in quality regulations is something that needs to be considered. Despite these quality standards, German and Swedish producers perceive that there is a difference in the quality of the houses produced by Swedish and German firms. This difference in perceptions about quality can potentially relate to different traditions and expectations.

Other challenges can be addressed more easily. For example, although the existing sales agents of wooden houses in Germany are very passionate about wooden housing and are performing well, there seem to be some downsides to the job which can make it difficult to attract new sales agents in the future. On top of challenges in finding sales agents with the right skills to sell and oversee the construction of the houses, sales agents take a relatively high financial risk by
importing the house and not receiving full payment from the end-customer until the house is finished. Moreover, selling a Swedish wooden house might be more challenging than selling a Schwedenhaus that is produced in Germany, because they are more expensive than wooden houses from German producers. This reduces the attractiveness of being a sales agent, but potentially also reduces the willingness of these sales agents to sell more houses than they already do. Because by selling more houses, the financial risk that they take is also increasing. **Hence, when exporting to Germany, it can be worth reconsidering the payment schemes if Swedish firms want to sell larger volumes.** Reducing the costs might be difficult, but potentially collective efforts can be put in defining a Schwedenhaus and what distinguishes a Swedish Schwedenhaus from a Schwedenhaus that is produced in Germany, so that the higher price is justified in the minds of the end-customer.

Statistical figures show that the German market for housing is larger than the Swedish market for housing, and in recent years overall demand for housing has been high, making Germany a very attractive market. However, demand for single-family houses might decrease or at least stabilize in the future for two reasons. First, single-family houses are expensive and with likely increases in interest rates become even less affordable. Potentially, the increased prices, can result in a call for higher degrees of standardization as this might reduce production costs as well as increase quality. Second, in order to reduce the amount of agricultural area and nature that is lost to construction, the number of areas that will be available to build single-family houses will probably decrease even more. Despite possibly stabilizing demand for single-family houses, demand for housing will remain, and with limited possibilities to build single-family houses, the construction of apartment buildings is likely to increase. Even though there are challenges to gaining construction permits for wooden buildings with several apartments, already an increase in wood construction for apartment buildings is observed by the Institut für Bauforschung. This is also a type of construction where high degrees of standardization can become more common and hence, **Swedish manufacturers, who produce according to the idea of high levels of standardization and high degrees of prefabrication, can have a potential advantage as compared to their German counterparts due to their existing knowledge about techniques and processes.** But also, future trends in an increasing focus on environmentally friendly housing and digitalization add to the potential of the German market as export market for Swedish prefabricated wooden houses.

In particular, **the demand for wooden housing, is likely to be strongly influenced by an increasing awareness about the impact of climate change.** The first Swedish manufacturers have already recognized the importance of energy efficiency in housing. In the last decades, Swedish wooden housing has had a competitive advantage over German wooden housing because a Swedish wooden house could meet the KfW standards for energy efficiency without any adjustments. However, standards for energy efficiency are changing and even Swedish standards towards energy-neutral and passive housing are becoming
more tough to meet. So far, only few Swedish manufacturers of wooden housing offer passive housing. Investments to meet requirements for passive housing are perceived as high, but given increasing interest in energy-efficient, it is an investment that is worth making in order to meet future demand. Energy-efficiency is however only one aspect of environmentally friendly housing. The standards for passive housing only consider energy loss and do not consider the type of construction material. Since concrete is a less environmentally friendly construction material than wood, increasing concerns with climate change might also increase demand for wooden housing.

Another global trend is the increasing digitalization. Interestingly, only few respondents referred in some way to this trend. The most common way in which Swedish manufacturers currently address digitalization, is through online marketing. The use of google ads, facebook and online press releases are a common way to support their German sales agents. In addition, instead of having a printed catalogue, the houses are showcased online. The next step could be to introduce online sales platforms, like MoveHome has adopted in Sweden, where customers can already design their house online and after that the contact with a sales agent is established. This will most likely reduce the degree of customization, which is something that the German customer is not yet used to. Hence, in order to move towards this direction, marketing focusing on the advantages of a lower degree of customization might be necessary. However, by receiving an online design before meeting the customer, a German sales agent also has a chance of discussing the design with the Swedish manufacturer before he or she meets the customer. In that way, potential delays due to communication between the German sales agent and Swedish manufacturer can be reduced.

An even higher degree of digitalization can be achieved by including the internet-of-things in wooden housing. The idea behind internet-of-things is that everyday objects, devices and machines, are able to collect and transfer data (Atzori, Iera, & Morabito, 2010). So far, customer demand for internet-of-things is limited, which can partly be driven by a concern with security. Nevertheless, internet-of-things can facilitate tracking of different household equipment and therefore better energy management, which closely relates to the increased concern with energy-efficient housing. Even if demand for these technologies by the end-customer is still limited, there might also be opportunities for manufacturers of wooden housing to apply internet-of-things. For example, internet-of-things can facilitate information sharing in the production process of prefabricated wooden housing as a case study in Hongkong has shown (Zhong et al., 2017). In the case study, internet-of-things facilitated tracking of materials and sensors for temperature, force, and positioning provided real-time information about the construction such that quality of the construction could be better controlled. As such, also the construction quality can be monitored even if the construction side is in a foreign country, real-time data sharing can facilitate problem solving, and tighter control over construction process can reduce the number of construction failures reported.
To conclude, the current target market of Swedish producers of wooden housing in Germany is characterized by relatively high levels of customization, but when looking into the future there is a huge potential. The German market is a large market, and demand for wooden housing has been slowly increasing in the last decades and is likely to continue to increase given changing demands and possible innovations in the industry.
REFERENCES


References


<table>
<thead>
<tr>
<th>Year</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998-1</td>
<td>Nilsson, Ulf: Produktkalkyleringens utformning och användning hos en mindre underleverantör i fordonsbranschen, Licentiatuppsats i företagsekonomi</td>
</tr>
<tr>
<td>1999-1</td>
<td>Florin Samuelsson, Emilia: Redovisning och små växande familjeföretag, Licentiatuppsats i företagsekonomi</td>
</tr>
<tr>
<td>1999-3</td>
<td>Samuelsson, Mikael: Swedish Family and Non-family Enterprises - Demographic and Performance Contrasts</td>
</tr>
<tr>
<td>1999-4</td>
<td>Samuelsson, Mikael: Swedish Family and Non-family Enterprises - Demographic and Performance Contrasts: A Multivariate Approach</td>
</tr>
<tr>
<td>1999-5</td>
<td>Hansemäck, Ove C: Teoretiska, metodologiska och praktiska problem kring entreprenörskap och trait-ansatsen, Licentiatuppsats i företagsekonomi</td>
</tr>
<tr>
<td>1999-6</td>
<td>Salvato, Davidsson &amp; Persson (eds.): Entrepreneurial Knowledge and Learning. Conceptual advances and directions for future research</td>
</tr>
<tr>
<td>2000-1</td>
<td>Jonson Ahl, Helene &amp; Florin Samuelsson, Emilia: Networking through empowerment and empowerment through networking</td>
</tr>
<tr>
<td>2000-3</td>
<td>Blombäck, Anna: Growth and risk-taking behaviour in SMEs</td>
</tr>
<tr>
<td>2000-4</td>
<td>Eriksson, Agndal, Brunninge, Bäckström &amp; Karlsson: Jönköpingsregionens näringsliv - Dynamik, drivkrafter och samverkan</td>
</tr>
<tr>
<td>2001-1</td>
<td>Bruns, Volker: A dual perspective of the credit process between banks and growing privately held firms, Licentiate thesis in Business Administration</td>
</tr>
<tr>
<td>2002-1</td>
<td>Salvato, Carlo: Antecedents of Entrepreneurship in Three Types of Family Firms</td>
</tr>
</tbody>
</table>
(2002-3) Kyrö, Paula: Benchmarking Nordic statistics on woman entrepreneurship

(2002-4) Agndal, Henrik and Axelsson, Björn (eds.): Networks and Business Renewal


(2005-1) Picard, Robert (ed.): Corporate Governance of Media Companies, Media Management and Transformation Centre

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(2005-3) Larsson, Johan: Development of suppliers and supply chains – Supplier development as a purchasing strategy, Licentiate thesis in Business Administration


(2006-1) Küng, Lucy (ed.): Leadership in the Media industry – Changing Contexts, Emerging Challenges, Media Management and Transformation Centre

(2006-2) Gustafsson, Karl Erik: Lokalmediestudier, Media Management and Transformation Centre

(2006-3) van Weezel, Aldo: Financial and Strategic Position of Nordic Media Companies, Media Management and Transformation Centre

(2007-1) Achtenhagen, Leona (ed.): Organizing Media: Mastering the Challenges of Organizational Change, Media Management and Transformation Centre

(2008-1) Ots, Mart (ed.): Media Brands and Branding, Media Management and Transformation Centre

(2008-2) Humphreys, Edward (ed.): International Copyright Law and Media Content Producers, Media Management and Transformation Centre


(2009-2) Gustafsson, Karl Erik (red.): Hamrin Symposium 2008, Media Management and Transformation Centre

(2010-1) Johansson, Börje; Klaesson, Johan; Andersson, Martin; Forslund, Ulla; Strömquist, Ulf: Storstadsregionerna och ekonoms utveckling, CESIS och Internationella Handelshögskolan i Jönköping

(2010-2) Sundin, Ebba: Brand New Planet – A Canadian Newspaper Project for Children, Media Management and Transformation Centre

(2010-3) Yström, Annika: Financial reporting in entrepreneurial SMEs: In search of significant areas of financial reporting information, Licentiate thesis in Business Administration

(2010-4) Askenmalm, Fredrika: Deltagande och inflytande gällande redovisningsregler för mindre företag, Licentiatuppsats i företagsekonomi

(2010-5) Melander, Anders; Müllern, Tomas: Strategisk förnyelse i kooperativa företag.

(2011-1) Netz, Joakim and Ek Lopes, Miguel: In Search of Practice

(2011-2) Sund, Lars-Göran och Ljun gström, Divesh: Ägarskiften i familjeföretag – En kartläggning av framgångsfaktorer m.m.


(2012-1) Jafari, H., Nyberg, A., Hertz, S., and Borgström, B.: Increased Flexibility in Retail Supply Chains through Postponement


(2016-1) Kantola, Hanna: Retail Success: The impact of space and agglomeration, Licentiate thesis in Economics

(2017-1) Languilaire, J.-C. E., (ed.): Business in Rwanda: Sustainable Entrepreneurship, Marketing and Management for Sustainability


(2019-1) Kuiken, Andrea, & Melander, Anders: Wooden Housing Industry