



TAMPEREEN TEKNILLINEN YLIOPISTO
TAMPERE UNIVERSITY OF TECHNOLOGY

DANIELA DENISSE LOYA RAMOS
FORMULATING A MARKET SEGMENTATION PLAN FOR A
COMPANY IN THE SOFTWARE INDUSTRY

Master of Science Thesis

Examiners: University Lecturer
Tommi Mahlamäki and Associate
Professor Teemu Laine.

Examiner and topic approved by the
Faculty Council of the Faculty of
Business and Built Environment on
29 October 2018

ABSTRACT

DANIELA DENISSE LOYA RAMOS: Formulating a Market Segmentation Plan for a Company in the Software Industry

Tampere University of Technology

Master of Science Thesis, 76 pages, 15 Appendix pages

October 2018

Master's Degree Programme in Industrial Engineering and Management

Major: International Sales and Sourcing

Examiner: University Lecturer Tommi Mahlamäki and Associate Professor Teemu Laine

Keywords: Market Segmentation, Market Targeting, Software Industry, Business Markets.

In today's business environment, it is very appealing for companies in both the consumer and the business markets to forgo a defined segmentation strategy, relying on the ease of access to market to large and heterogeneous groups of customers. However, very few companies possess the resources to successfully target such a large group of customers, and it is highly unlikely that a firm with a single general marketing strategy would succeed to address all these diverse customers. While research in the market segmentation field is abundant, very few applications of different segmentation strategies are to be found in published literature.

The objective of this thesis is to develop a market segmentation model to identify valuable market segmentation variables that can be used to formulate a market segmentation strategy for a firm in the internet software industry. By applying the developed approach, the aim is to obtain a set of identifiable and differentiated market segments which have sales potential for the firm.

This study employs an explorative and qualitative approach to marketing research. The literature review section covers different topics related to market segmentation which were used to create a research framework. The nested approach to industrial market segmentation served as a guideline to identify market segmentation variables that were used for a firm in the technology industry to identify market segments with sales potential. The study was conducted by arranging this model based on the needs of the case company and their knowledge of the market. By analysing internal customer data, relevant segmentation variables were selected and applied to define different market segments, which were later analysed by calculating an average potential attractiveness. This resulted in a list of 22 market segments which the firm should put their marketing efforts on. This study contributes to market segmentation literature by addressing the gap between market segmentation research and practical applications of segmentation models in business markets.

PREFACE

The idea for this study came from the managing director of the case company while discussing potential topics for my master's thesis, which I was allowed to write for the company when they offered me a position as a sales manager. The original idea was to create a marketing plan and define customer categories and different ways to approach customers within these categories. It was then with the advice of the thesis supervisor that a marketing plan would be too broad of a topic to cover, and market segmentation seemed a better approach to address the main goal suggested by the company management.

Working at this company has been a very fulfilling experience since it has allowed me to expand my knowledge not only in the sales area but also in many different areas which has enforced the profile I would like to have in my professional career: a combination of technical and business skills. I feel very grateful for the opportunity to work in Finland and to share a workplace with such skilled and experienced people.

I want to express my gratitude towards Karri Huhtanen for helping me develop the idea for my thesis; to my manager Jaakko Stenhäll for encouraging me to graduate and being flexible so that I could work on my thesis, and to my supervisor Tommi Mahlamäki for his advice and guidance especially during the rushed final stages of writing the thesis. Finally, I want to thank Mustafa for his support and company, not only while writing my thesis but throughout the studies leading to our master's degrees.

Tampere, 23.10.2018

Daniela Loya

CONTENTS

1.	INTRODUCTION	1
1.1	Background	1
1.2	Purpose of the study and research question	2
1.3	Context of the study	3
1.4	Structure of the study	4
2.	MARKET SEGMENTATION IN BUSINESS MARKETS	6
2.1	Market segmentation	6
2.2	Market segmentation process	8
2.2.1	Choosing a market	8
2.2.2	Market segmentation variables	9
2.2.3	Segmentation variables in business markets	11
2.2.4	Evaluating and selecting target segments	14
2.3	Segmentation in technology markets	17
2.4	Market positioning process	19
2.5	Selecting target markets in technology industries	20
2.6	Challenges for implementing market segmentation	21
2.7	Research framework	23
3.	RESEARCH METHODS	25
3.1	Marketing research	25
3.1.1	Marketing research process	26
3.2	Research design	29
3.2.1	Steps of the study	29
3.2.2	Data collection and analysis	30
3.2.3	Research limitations, reliability, and validity	31
4.	RESEARCH EXECUTION AND RESULTS	33
4.1	Nested approach to market segmentation	33
4.1.1	Demographics	33
4.1.2	Operating variables	36
4.1.3	Purchasing approaches	37
4.1.4	Situational factors	38
4.1.5	Personal characteristics	39
4.2	Market segments resulting from nested approach	40
4.3	Market segment selection	41
5.	ANALYSIS OF THE RESULTS	49
5.1	Market segment analysis	49
5.2	Selected target segments	50
6.	CONCLUSION	54
6.1	Summary of the results	54
6.2	Managerial implications	56
6.3	Theoretical contribution of the research	57

6.4 Limitations and suggestions for future research	58
REFERENCES.....	59

1. INTRODUCTION

1.1 Background

Segmentation has been regarded as a crucial activity in marketing, but the way it is viewed has changed over time (Freytag and Højbjerg Clarke, 2001). Given the increase in mass communication and more efficient transportation networks, larger and more lucrative potential markets have emerged, but few organisations possess the resources to target such a loosely defined market (Brassington and Pettitt, 2007). It makes more sense for organisations to look more closely at the market, find ways to breaking it down into manageable parts, and concentrate their efforts on serving the needs of a few of these groups.

Market segmentation involves grouping customers into smaller groups based on similar needs that can be addressed with marketing (Freytag and Højbjerg Clarke, 2001). Firms can better understand customers in each segment by eliminating inappropriate segments and identifying appropriate segments whose needs can be better served by the firm (Burk, 2004). According to Simkin (2008), creating a strategy to target specific market segments is integral for an effective business strategy; however, quite often firms in the business to business industry use no more than trade sectors or industries as basis for the grouping of their customers, while ignoring customer characteristics and buying behaviour.

Burk (2004) claims that the identified market segments must have certain characteristics for them to be useful, such as similarity within the segment while having differences between segments. At the same time, it should be possible to reach customers in these segments via marketing efforts and each segment should have a different response to them. Ultimately, the aim should be to achieve competitive advantage, profitability, and other goals through segment targeting (ibid).

Most firms struggle with designing and implementing market segmentation initiatives, and firms in the technology sectors are no exception (Weinstein, 2011). While there is plenty of demographic information available for business industries, this information is not enough to determine the actual needs of customers, which is why Powers and Sterling (2008) propose using a micro to macro segmentation approach to bridge the gap between demographic and need-based segmentation methods. This master's thesis aims to analyse different approaches to design a market segmentation model for a firm in the technology industry.

1.2 Purpose of the study and research question

This master's thesis aims to create a model for market segmentation and apply it in a case company context. Forgoing a defined segmentation strategy might seem like an attractive option given the widespread access to social media and electronic communication; it might seem tempting for a firm to try and target a massive group of customers, given the wide access to communication channels and relatively low costs of addressing customers through the internet.

Segmentation studies in business markets, while widely researched, are not as abundant as those applied to consumer markets and are specially lacking for the technology industries. At the same time, while a couple of frameworks for segmentation have been developed, more prominently the nested model proposed by Shapiro and Bonoma (1984) and the micro-macro segment linking methodology proposed by Powers and Sterling (2008), studies addressing the application of these models for a technology firm are not widespread. By developing a framework based on different theories and applying it in a case company context, the gap between business market segmentation studies and applications can be addressed.

The objective of this study is then to define a framework to segment the market for a technology firm in the internet software industry and apply it to obtain a well-defined group of market segments that the firm should target individually, taking into account not only demographic characteristics but also more intrinsic customer characteristics related to their needs and wants.

To achieve the objective stated above, the main research question has been identified. The direction of this study has been defined by answering the following question:

How to formulate an effective segmentation strategy for a firm in the internet software industry?

A secondary question has been formulated to support the main objective of the study:

“Which market segments should the case company focus their efforts on?”

To address the objective, this study reviews scientific literature related to standard market segmentation processes and practices, not only in the business to consumer markets but also in the business to business markets; what kind of segmentation variables are used, and how are the defined market segments evaluated and selected for targeting.

By combining the literature, a framework for market segmentation in the business technology markets is developed and applied within the context of the case firm. The results are then also evaluated based on the same literature and according to the evaluation, some recommendations for the case firm are provided.

1.3 Context of the study

The case company is an Australian – Finnish company group currently located in Finland. The company develops authentication, authorisation and accounting (AAA) solutions for a customer base spread in over 180 countries. Their products consist of different software packages based on a AAA platform. A AAA server is used to handle user requests to access certain computer resources, such as network access, by providing the required authentication, authorisation, and accounting services (Zaghloul and Jukan, 2007). Authentication validates the access of a user, authorization defines what is the user allowed to do after being granted access, and accounting provides a way to collect information about the user's resource consumption, which can later be used for purposes such as billing and auditing (Metz, 1999).

Their main customers are within the phone carrier business as well as internet service providers and educational institutions. Applications of their products include, but are not limited to, network access and securing, internet subscriber management, access to wireless networks, billing systems, among others. The company's main product has been on the market since the late 1990s, and has remained under constant development, taking into consideration the needs of their customers and the trends in the industry. Along with their software products, the company offers consultation and training services, as well as custom development. Their products can be classified based on their main application, as shown in Table 1.

Table 1. Case company's product list and main applications.

Product	Application
Product 1	Standard AAA for 1 server
Product 2	Standard AAA for 2 servers
Product 3	Standard AAA for 7 servers
Product 4	Standard AAA for unlimited servers
Product 5	Diameter applications
Product 6	SIM Authentication and 3GPP server functionality
Product 7	Policy and charging support
Product 8	VoLTE (Voice over LTE) applications

While the table of products is not fully descriptive, it provides an insight on the main application of each of the products. Products 5 – 8 also include the standard AAA functionality for an unlimited number of servers.

The company supports its business by having a global network of distribution partners around the world; most of these partners are mainly software and support resellers, while some of them act as system integrators that include the company's software products within their solutions. This network of distribution partners supports recurrent sales locally in their own region.

The segmentation of the market currently implemented by the company is quite broad, as their customers are divided only within three large groups of customers:

- Carrier customers
- Enterprise customers
- Educational institutions and government agencies

This segmentation approach addresses what product is most commonly used in a certain industry, and according to Laiderman (2005), it is not wise to create market segments based on a product or service. This segmentation approach fails to take into account certain aspects within each group as well as customer characteristics and needs, therefore the groups are not very homogeneous. A good example lies in the increased demand for mobile broadband access, creating new interests for both existing and emerging operators in order to offer more services to their end users (Miraz et al., 2017). However, adoption of such technologies involves issues relating to cultural differences, user behaviour, and socio-economic circumstances, to name a few (ibid). In their study, Miraz et al. (2017) compare mobile services trends in Bangladesh and the United Kingdom: they found that while mobile operators are widely spread throughout Bangladesh, other services such as high-speed LTE networks have not yet been deployed, unlike in the United Kingdom. Such regional differences dictate different needs for customers that may have been previously grouped within the same market segment.

1.4 Structure of the study

This study has been divided into six chapters. The following list provides an overview of each chapter.

Chapter 1. In this chapter, the background for conducting this study is presented, along with the main topic and research questions to be solved with the study. The case company and its current situation is shortly described.

Chapter 2. This chapter is composed of a literature review including topics to familiarize the reader with the market segmentation concepts. Concepts such as market segmentation process, segmentation variables, and evaluation of target segments provide a starting point for the reader to better understand the proposed framework.

Chapter 3. This chapter describes the research process involved in the development of this study, along with the limitations, validity, and reliability of the executed research.

Chapter 4. In this section, the analysis of the data is performed and the results from applying the framework are presented.

Chapter 5: This chapter presents a more in-depth analysis of the research findings on how to develop a market segmentation for a firm in the internet software industry and includes a suggested group of market segments that the company should consider focusing their efforts on.

Chapter 6: This chapter presents a summary of the conducted research, managerial implications, and theoretical contributions of the study. Answer to the research question proposed in chapter one is also provided.

2. MARKET SEGMENTATION IN BUSINESS MARKETS

2.1 Market segmentation

Nowadays, mass production and mass communication along with an increasingly efficient global transportation, have contributed to the development of larger potential markets, which may seem more lucrative and therefore more appealing (Brassington and Pettitt, 2007). However, according to Kotler and Keller (2016), it is not possible for companies to reach every customer, especially in large or diverse markets. Instead, focus should be put into those market segments that can be effectively served. At the same time, there is no single marketing strategy that can be effective for all customers (Burk, 2004).

Market segmentation involves categorizing customers, either in consumer or business markets, into smaller segments based on certain similarities that can be addressed with marketing (ibid). The first step of creating a marketing strategy is to effectively segment the market, because the characteristics and needs of each one of the defined segments will help define the focus and direction of the marketing efforts (Hutt and Speh, 2013).

According to Burk (2004), market segmentation is not the ultimate solution for all marketing challenges; in fact, it makes sense only in the following cases:

- The customers that compose each segment have something identifiable in common.
- Each segment has different responses to marketing efforts.
- Customers in segments can be reached through marketing.
- Competitive advantage can be obtained by focusing on segments.
- Profitability and other organisational goals can be achieved by focusing on certain segments.

At the same time, there are certain key criteria for determining the characteristics that best define a unique market segment (Hutt and Speh, 2013). According to Kotler and Keller (2016), there are five key criteria a market segment must rate favourable on in order to be useful:

- Measurable: The characteristics of the segments such as size and purchasing power can be measured.
- Substantial: The segments are profitable and sufficiently large to be served. Ideally, a segment should be a homogeneous group, as large as possible, and worth the effort of tailoring a marketing program to go after.

- Accessible: The segments can be reached and adequately served.
- Differentiable: The segments can be distinguished among the others and will therefore have a different response to marketing efforts.
- Actionable: Segments can be served and attracted by formulating effective marketing programs.

To summarize these criteria, market segmentation involves identifying different customer groups that are large, accessible, and unique enough to justify having a separate marketing strategy for each of them (Hutt and Speh, 2013). The goal of market segmentation is to have the largest difference between each segment, while having large similarities within them (ibid).

According to Hooley et al. (2012), there are plenty of benefits that can be obtained from effectively segmenting a market:

- Segmentation is a very useful marketing approach, particularly for smaller companies, since it allows the company to align their competencies to the target markets.
- Helps to identify gaps in the market, such as segments that are not yet served or are being underserved. These gaps can serve as targets for companies to develop new products or to extend their existing product and service range.
- It may allow to identify certain segments which are still growing from the mature or declining markets.
- It enables the marketer to match products or services to the needs of the target market, allowing to build a more competitive position.

Additionally, Burk (2004) lists three main benefits of market segmentation:

- Eliminating inaccessible or inappropriate markets.
- Creating segments of customers with similar needs, but different responses to marketing.
- Improving marketing efficiency.

Along with the benefits, dangers of not segmenting a market should also be considered. Hooley et al. (2012) suggest that all the potential competitive advantages can be lost to competitors if the company fails to take advantage of them. By practising a mass marketing strategy in a market that is clearly segmented, a company can find itself failing against competitors operating a focused strategy (ibid).

Table 2 summarizes the characteristics of market segmentation as presented by different authors.

Table 2. Market segmentation definitions.

Author	Definition of market segmentation
Burk (2004)	Categorization of customers into smaller segments based on certain similarities to be addressed with marketing.
Hutt and Speh (2013)	Customer groups that are accessible while large and unique enough to justify an individual strategy.
Kotler and Keller (2016)	A customer group that is measurable, substantial, accessible, differentiable, and actionable.

Based on this summary, it can be inferred that one of the main characteristics of a market segment is the similarity within the segment, while having a clear differentiation within the segments that makes them unique.

2.2 Market segmentation process

Burk (2004) describes the standard market segmentation process to be composed by three steps:

1. Choosing a market
2. Applying segmentation variables
3. Evaluating and selecting segments

First, choosing a market is the beginning of the segmentation process and involves determining which markets will be further investigated and which ones will be eliminated or disregarded. Second, once the inappropriate markets have been eliminated, meaningful segments should be distinguished to form segments internally homogeneous yet different to other segments. There are many different variables that can be used to segment both consumer and business markets. Lastly, the following step is to assess how attractive each of the segments is in terms of opportunity, environment, reach, and response, and align these terms with the company's mission, competencies, and resources. (Burk, 2004)

2.2.1 Choosing a market

Specific criteria to choose markets differs between organisations, however, certain criteria should be considered in order to eliminate certain markets. Burk (2004) suggests considering eliminating markets based on:

- Formidable legal, political, social, or competitive pressures.
- Extreme logistical difficulties.
- Lack of purchasing power or other serious economic challenges.

- Troubling ethical controversies.
- Persistent ecological concerns.

Hollensen (2011) claims that there are critical barriers for a company trying to do business in a different region or country, divided in the following three groups:

General market risks:

- Comparative market distance.
- Competition from local firms in the foreign market.
- Differences in product usage.
- Language and cultural barriers.
- Difficulties in finding distributors.
- Complexity of shipping services overseas.

Commercial risks:

- Exchange rate fluctuations.
- Contract disputes and failure to receive payments.
- Delays or damages in the shipment and distribution process.

Political risks:

- Foreign government restrictions.
- National export policy.
- Revolution and wars disrupting foreign markets.

Once the inappropriate markets have been eliminated based on the aforementioned criteria, the firm should look for ways to distinguish meaningful segments within the remaining segments. This is done by applying segmentation variables.

2.2.2 Market segmentation variables

According to Kotler and Keller (2016), there are two broad groups of variables used to segment consumer markets, separated either by their descriptive characteristics – geographic, demographic, and psychographic - or by behavioural considerations – such as response to benefits, usage, or brands. From these two groups, they select the major segmentation variables to be geographic, demographic, psychographic, and behavioural (ibid). Examples of segmentation variables are shown in Table 3.

Table 3. Examples of major segmentation variables for consumer markets (adapted from Kotler and Keller, 2016).

Variable	Examples
Geographic region	Middle East, Western Europe, Sub-Saharan Africa, Latin America, North America
Demographic age	Under 6, 6-11, 12-17, 18-34, 35-49, 50—64, 64+
Income	Under \$10 000, \$10 000-\$50 000, \$50 000-\$100 000, \$100 000+
Occupation	Professional and technical, managers, sales, operatives, farmers, retired, students, homemakers, unemployed
Education	Grade school or less, high school, college graduate, post college
Nationality	Mexican, Canadian, British, Australian, German
User status	Nonuser, ex-user, potential user, first-time user, regular user

Meanwhile, Burk (2004) labels the two broad groups of segmentation variables as user-based and behaviour-based, claiming that the characteristics of the first group are easier to identify and apply, while those in the second group, while not so easy to isolate and analyse, provide a better insight into potentially effective marketing approaches for each segment. Burk (2004) also claims that rarely a single segmentation variable will be applied; instead, a combination of appropriate variables should be applied for a more specific segment definition. The suggested segmentation variables are shown in Table 4.

Table 4. Variables for segmenting consumer markets (Burk, 2004).

User based variables – Who purchases what?	
Demographic Age Family size Marital status Gender	Socioeconomic Income Education Religion Ethnicity
Geographic Global, hemispheric, national, state, city Climate Rural vs. urban	Lifestyle/personality Attitudes/opinions Interests Tastes and preferences
Behaviour based variables – Why do they purchase?	
User types Regular Non-user	Price sensitivity Low-cost orientation Higher-cost quality/differentiation focus

First-time Potential	
Consumption patterns/usage frequency Low Medium Strong	Perceived benefits Performance Quality Image enhancement Service
Brand loyalty Loyal/satisfied Experimenters Unsatisfied Unaware	Application
	Purchase occasion/buying situation
	Media exposure

2.2.3 Segmentation variables in business markets

One of the key features of segmentation of business markets is that focus can be made not only on the organisation, but also on the individual buyers within it (Brassington and Pettitt, 2007). Hooley et al. (2012) suggest three different groups of segmentation variables, which they claim can be considered for both consumer and business markets:

- Background company characteristics
- Attitudinal characteristics
- Behavioural characteristics

Background company characteristics use company demographic characteristics as a starting point for business segmentation, as well as operating variables such as customer technology and capabilities. Attitudinal characteristics are based on the benefits sought by the purchasers, such as urgency and ease of use. Behavioural characteristics include issues related to the buyer's personal characteristics - based on the point that business products are still bought by people - and product status and volume. (ibid)

Shapiro and Bonoma (1984) separate demographic variables into industry, company size, and customer location:

Industry: Customer needs and potential purchase situations can be identified by having a good understanding of the industry, and marketers might want to subdivide individual industries based on product and service needs.

Company size: Large companies usually require and justify specialized programs, such as large volume requirements. This might affect market segmentation because of a company's own production capacity.

Customer location: Location is an important variable, especially when proximity is a requirement for doing business, when marketing products of low value per unit or volume, or when personal service is essential. Additionally, a manufacturer would want to provide coverage in areas where customers are concentrated rather than areas of low concentration.

Hooley et al. (2012) include the following operating variables into the background company characteristics:

Company technology: A customer's demand for certain products can be affected by their own stage of technology development, both in their manufacturing and product technology. High technology business may require different distribution methods, cooperation with electronic stock control, and integration with purchasing systems, to name a few.

Customer capabilities: Business customers may have significant differences in their internal strengths and weaknesses, affecting their demand for certain types of products and services.

Purchasing organisation: The purchasing organisation type may be a way of segmenting the market, by identifying how customers organise purchasing – for example, centralised vs decentralised purchasing – important differences can be encountered such as international account management or extensive field sales operations.

Power structures: Identifying which organisational units have the greatest influence within a company may also be effective in segmenting a market, by targeting matching supplier's strengths – such as engineer led customers and an engineering applications supplier.

Purchasing policies: A way of segmenting the market may come from the way different customers approach purchasing, which can be divided in groups such as lease-based deals or purchasing deals.

Product application: The product application can have a major influence on the supplier choices and the purchase process, as there might be different requirements for products used in different processes.

According to Kotler and Keller (2016), demographic variables are the most important when segmenting business markets, followed by the operating variables. In addition to these, the personal characteristics of the buyer should be considered (ibid). Table 5 depicts different variable types used in business market segmentation and examples of each.

Table 5. Major segmentation variables for business markets (Kotler and Keller, 2016).

Variable type	Examples
Demographic	1. Industry: Which industries should be served? 2. Company size: Focus on large or small companies? 3. Location: What geographical locations should be served?
Operating variables	4. What customer technologies should be addressed? 5. User or nonuser status 6. What services are needed and which should be served?
Purchasing approaches	7. Purchasing function organisation: Serve companies with a centralised or decentralised purchasing organisation 8. Power structure 9. Nature of existing relationship 10. General purchasing policies 11. What are the purchasing criteria of the companies to be served? (Price, service, or quality)
Situational factors	12. Urgency 13. Specific application of the product 14. Size of the order
Personal characteristics	15. Buyer-seller similarity 16. Attitude toward risk 17. Loyalty

Table 6 summarizes the categories of segmentation variables for both consumer and business markets as proposed by different authors.

Table 6. Types of segmentation variables.

Author	Variable types	Market type
Kotler and Keller (2016)	Geographic, demographic, psychographic, and behavioural.	Consumer
Burk (2004)	User based: demographic, geographic, socioeconomic, lifestyle. Behaviour based: user type, consumption patterns, brand loyalty, price sensitivity, perceived benefits, application, buying situation, media exposure	Consumer
Hooley et al. (2012)	Background company characteristics, attitudinal characteristics, behavioural characteristics.	Business
Kotler and Keller (2016)	Demographic, operating, purchasing approaches, situational factors, personal characteristics	Business

Based on this comparison, it can be inferred that demographic variables prevail in both consumer and business market segmentation, as well as behavioural characteristics of the

consumer. Hutt and Speh (2013) suggest classifying business market segmentation in two major categories: macrosegmentation and microsegmentation. Macrosegmentation is centred on the characteristics of the buying organization and the buying situation, therefore the market is divided by such organisational characteristics which have been previously classified as background company characteristics. Microsegmentation requires a higher degree of marketing knowledge and focuses on the characteristics of decision-making units within each macrosegment. These may include variables previously described within the attitudinal and behavioural characteristics. Hutt and Speh (2013) suggest business marketers to begin the segmentation process at the macrolevel, by identifying meaningful macrosegments and then divide those macrosegments into microsegments. Internal company data stored in information systems, combined with secondary sources of information, can be used to divide the market into macrolevel segments, and customer relationship management systems can then assist to identify buying patterns of individual organisations (ibid). However, Hooley et al. (2012) claim that business market segmentation is less developed than in consumer marketing, which may affect the acceptability of some approaches and limit the availability of secondary information.

2.2.4 Evaluating and selecting target segments

Once the market segments are defined, the best opportunities for the organisation should be identified, and the marketer can decide which of them will be targeted (Vitale et al., 2011). Burk (2004) suggests assessing the attractiveness of each of the defined segments in terms of opportunity, environment, reach and response, in order to see how each of the segments fits with the internal considerations such as objectives, resources, strengths, and core competencies. A list of questions to evaluate segments is shown in Table 7.

Table 7. Evaluating market segments (Burk, 2004).

Segment opportunity
What is the current size of the segment and how is it changing? What potential for sales and profits can be seen in the segment and how is this changing? Would the cost of marketing to this segment outweigh the payback? How might this segment's opportunity contribute to the organisation's goals?
Segment environment
How many competitors serve the segment and how is competition likely to affect performance? Can the organisation realistically capture or defend market share in this segment? What threats exist or could emerge to prevent success in this segment?

Segment reach and response
Can customers in the segment be reached through appropriate marketing activities? Are customers in this segment likely to respond to different marketing activities than customers in other segments?
Internal considerations
Can the organisation's strengths and core competencies make a difference in this segment? Does the organisation have the resources to serve this segment? Will serving this segment interfere with operations or performance in other segments? Does the segment fit with the organisation's mission and image?

Burk (2004) claims that it is important to investigate possibilities even when a segment does not appear attractive or realistic at first glance. However, the firm's end goal is to be active in segments that align to the organisation's strengths and at the same time, do not stretch the company's resources too thin (ibid).

Kotler and Keller (2016) claim that when evaluating market segments, the firm must look at two factors: the segment's overall attractiveness and the company's objectives and resources. These two factors are important since even though some market segments might be attractive, they might not necessarily match the company's objectives, or the company might lack some of the necessary competencies or resources to offer superior value to said segments (ibid).

To determine segment attractiveness, Vitale et al. (2011) established several factors that should be taken into consideration for each of the defined segments. Since attractiveness is not a straight forward concept, certain organisations can allocate different weights to said factors and then assign attractiveness scores based on a qualitative assessment for each segment. Table 8 shows a list of factors used to assess segment attractiveness.

Table 8. Factors in assessing segment attractiveness (Vitale et al., 2011).

- Size of segment
- Growth rate of segment
- Intensity of unmet needs
- Reachability of segment through communication channels
- Readiness of segment to seek and adopt a solution
- Likelihood of competitive intensity
- Sufficiency of channel reach
- Likely value contribution by channels
- Match between segment needs and supplier's strengths
- Differentiability of supplier's offering
- Opportunity to achieve strategic goal by addressing segment
- Opportunity to achieve learning goal by addressing segment

Kotler and Keller (2016) claim segment size, growth, profitability, scale economies, and low risk as desirable characteristics that make a segment generally attractive. Undesirable segments should be eliminated and opportunities in the remaining segments should be evaluated, even when a segment appears unrealistic at first glance. Some considerations to exclude segments can be insufficient profit potential, intense competition, or other complications (ibid). After unattractive or unsuitable segments have been dropped from consideration, the remaining segments should be ranked in priority order for marketing attention. To summarize, Table 9 shows a comparison of different criteria suggested by different authors.

Table 9. Market segment evaluation criteria.

Author	Evaluation criteria
Burk (2004)	Segment opportunity, segment environment, segment reach and response, internal considerations.
Kotler and Keller (2016)	Segment's overall attractiveness and company's objectives and resources.
Vitale et al. (2011)	Segment size, growth rate, intensity of unmet needs, reachability, readiness to adopt a solution, likelihood of competitive intensity, sufficiency of channel reach, value contribution, needs-strengths match, opportunity of achieving strategic and learning goals.

Based on this comparison, it can be inferred that not only the attractiveness of a segment is important when selecting it for targeting, but also the company addressing these segments should be aware of having the required resources to address them and the willingness of the segments to be served by them. As claimed by Vitale et al. (2011), firms formulating a market segmentation strategy should evaluate market segments based on their own goals and assign weights to different evaluation criteria.

There is a range of possible levels of segmentation that can guide target market decisions. Figure 1 shows four possible levels of segmentation, with mass marketing of essentially one segment on one end, and individuals or segments of one person/company in the other end.

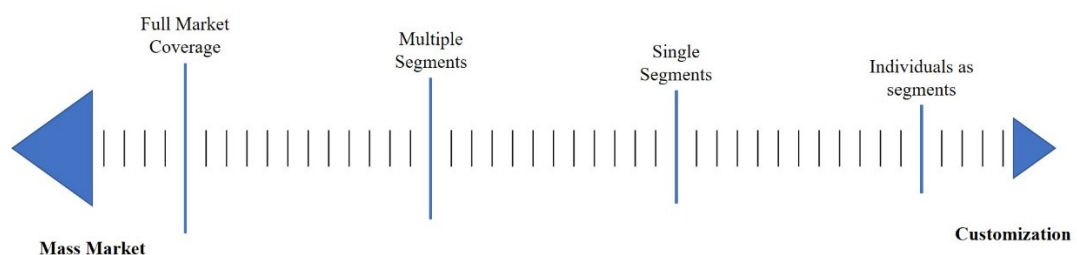


Figure 1. Possible levels of segmentation (Kotler and Keller, 2016).

Full market coverage implies a firm attempting to serve all customer segments with all the products they might need, however such a strategy can only be undertaken by very large firms, either through differentiated or undifferentiated marketing. Multiple segment specialisation implies a firm selecting a subset of all the possible segments, rather than one isolated segment, allowing to diversify the company's risk. Single-segment concentration means that the firm will market to only one particular segment, allowing the firm to gain significant knowledge of the particular segment's needs and to achieve a strong market presence. Individual marketing leads to segments of one individual customer, with the firm offering an individualized market offering.

2.3 Segmentation in technology markets

According to Plank (1985) firms should consider using multiple business segmentation bases in order to provide a more complete view of potential market segments and target markets. Powers and Sterling (2008) list two broad categories of methods used in business market segmentation: needs approach and identifiable/accessible approaches. A needs approach involves a deep understanding of the customer requirements, while the identifiable/accessible approaches rely on buyer characteristics such as demographics and psychographics (Shapiro and Bonoma, 1984).

Powers and Sterling (2008) claim that despite there being a large availability of demographic data for business to business segmentation available, this type of data is not enough to determine the actual needs of customers. In order to overcome this problem, they propose linking demographic and needs based segmentation. By creating this link between the demographic information, or macro segmentation variables, and the needs of the customer, or micro segmentation variables, the business market segmentation process can be made more accurate and cost efficient (ibid).

One widely accepted approach for micro-macro linking segmentation is that proposed by Shapiro and Bonoma (1984), who created a nested approach to multi-step segmentation which enables not only a simple grouping of potential customers, but also identifies more complex purchasing situations. The nested approach consists of five nests and their related segmentation variables, depicted in Figure 2.

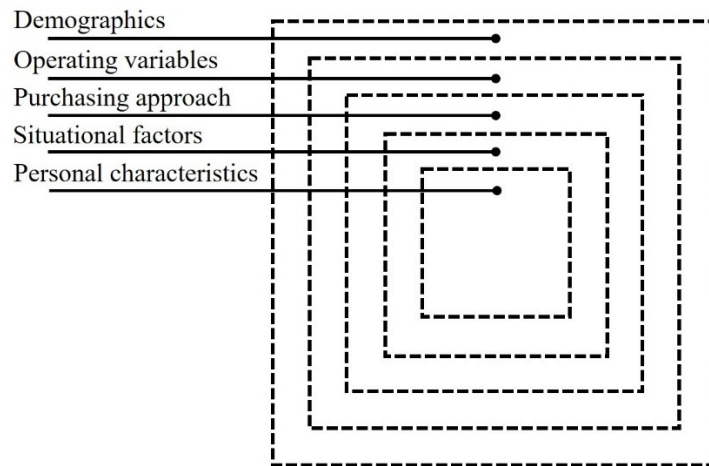


Figure 2. *Nested approach to industrial market segmentation (Shapiro and Bonoma, 1984).*

The nested hierarchy arranges five general segmentation criteria in a set of "boxes" that fit into one another, and the goal is to move from the outer nest toward the inner nest, with demographics as the outermost nest, starting to move from the more general and easily observable segmentation characteristics to the more specific ones.

Demographics is placed at the out most layer of the model because demographic characteristics are more general and easily observable. Industry, company size, and customer location are a few examples of demographic variables deemed important in the nested model. Shapiro and Bonoma (1984) also emphasize that while demographic data is very useful and easily obtained, it does not cover all the possibilities of segmentation and therefore they are often only a beginning to a marketing segmentation approach.

The second level of the nested model is composed of operating variables, which enable more precise identification of existing and potential customers within the demographic categories applied before. These variables are generally stable; company technology, use status, and customer capabilities are deemed important operating variables to be used within this model.

The third level of the model is the purchasing approaches, which are described by the authors of the model as one of the most neglected but valuable methods of segmenting industrial markets. These factors include the purchasing function organisation, power structures, buyer-seller relationships, and purchasing criteria.

The fourth level focuses on the situational factors, which consider the role of the purchase situation. These factors are temporary and require more detailed knowledge of the customer. This level in the model includes variables such as urgency of order fulfilment, product application, and size of order.

The innermost level of the nested model focuses on the fact that ultimately, it is people and not companies who make purchasing decisions, although their organisational and company policies may constrain their choices. Variables in this level of the model include buyer-seller similarity, buyer motivation, individual perceptions, and risk-management strategies. However, it is very important to note that data on personal characteristics is difficult to gather.

2.4 Market positioning process

After the target market segments have been defined and selected, a firm can work on their position in the market and the perception that customers in these segments have of their brand or product. Positioning is defined by Kotler and Keller (2016) as the act of establishing a company's offering and image to create a distinctive impression from the target market, with the goal of locating the brand in the minds of the consumers, and therefore maximizing the potential benefit to the organisation. Having a good positioning of the brand helps guide the marketing strategy by identifying the goals consumers can achieve and showing them how they are achieved (ibid). Marketing research is needed in order to understand how the organisation is perceived by the targeted customers and what matters the most to them (Burk, 2004).

Vitale et al. (2011) claim that the members of each of the selected target segments will have one or more value dimensions that are most important to them and are likely part of the defining parameters of the segment, therefore, the marketer should design an offering for each segment that creates value for the members of the segment, differentiating the offering from competitors. By doing so, the marketer attempts to get the segment's members to perceive their offering to be better than the competitors'; this perception will be the positioning of the offerings (ibid). This perception however, occurs in the mind of the customer and marketers only attempt to influence it, but it is ultimately the customer that creates "position".

Kotler and Keller (2016) list the creation of a customer-focused value proposition, as one result of positioning. Value proposition captures the way a product or service's key benefits provide value to customers by satisfying their needs (ibid). Vitale et al. (2011) narrow down good positioning to the following principles:

- Providing better value than competitors on one or more key dimensions of value, as perceived by prospects and customers.
- Communicating the provided differentiation in such a way that the prospect and customer have high but reachable expectations.
- Delivering on promises and trying to find ways to surpass customers' expectations.

To be successful, marketers need to find what the company does best and focus on building superior value from those strengths (ibid). However, the positioning still has to be carried in the products' and services' marketing and performance, for which Burk (2004) describes three steps. First, marketer should determine whether the organisation can develop and market an offering that can live up to a meaningful difference. Second, the marketer must consider whether this difference can be communicated to the targeted segments. And third, marketer must determine whether the product's performance can be sustained, and if the meaningful difference can still be communicated over time.

2.5 Selecting target markets in technology industries

Literature related to market segmentation in software firms is limited. However, literature applied to market segmentation in technology industries in general and in computer related firms can be used to create a framework for this study. Weinstein (2014) examines how target marketing strategies are employed in business technology markets, by evaluating what are the market selection strategies utilised by marketing executives and their respective marketing success. Weinstein (2014) emphasizes choosing target markets by examining segment attractiveness criteria. Based on research conducted by Simkin and Dibb (1998) it is possible to understand how companies prioritise their target markets and focus on identifying the segments on which the marketing efforts will be centred. Although each firm can select from a wide range of criteria to assess the attractiveness of a market, Simkin and Dibb (1998) found that in general, companies deem profitability, market growth, and market size as the most useful criteria for target market selection. Table 10 lists the 20 most used criteria for target market selection.

Table 10. *Criteria for selecting target markets (Adapted from Simkin and Dibb, 1998).*

1. Profitability	11. Market share
2. Market growth	12. Relative strengths in key functions
3. Market size	13. Customers' price sensitivity
4. Likely customer satisfaction	14. Customer image of company
5. Sales volume	15. Technological factors
6. Likelihood of sustainable differential advantage	16. Fit with business strategy
7. Ease of access of business	17. Stability of market
8. Opportunities in the industry	18. Environmental factors
9. Product differentiation	19. Threat of substitutes
10. Competitive rivalry	20. Barriers to entry

Besides the top three criteria, they found that the remaining ones are occasionally used by marketing managers and advised two or three additional metrics to be incorporated into the analysis for the market selection. McDonald and Dunbar (2004) advise that organisations use weighted criteria in order to determine what segment attractiveness factors to use based on the own firm's particular requirements. One of the research

questions presented by Weinstein (2014) aimed to determine what the most important target market selection criteria are specifically for business technology markets, and found that the top ten criteria were the following:

1. Opportunities in the industry
2. Sustainable differential advantage
3. Profitability
4. Product differentiation
5. Customer satisfaction
6. Market size
7. Ease of access of business
8. Market growth
9. Sales volume
10. Competitive rivalry

It can be inferred that although similar, the preferred criteria in technology industries differs from that used in business in general. Weinstein (2014) also claims that technology firms have now realized the value of target marketing and that more than 90% of the companies that participated in the study know that the characteristics and needs of their customers differ, which is why this majority is more effective in target marketing success. They also found that companies in the technology industry either have multiple marketing programs, each directed to distinct market segments, or some of them, especially new or small companies, employ a single segment strategy. Not every firm is successful by implementing such strategies, which might be due to an inappropriate approach to segmentation. Weinstein (2014) suggests reducing the number of segments targeted or even changing the strategy to a single segment or segment of 1 marketing strategy as possible solutions.

2.6 Challenges for implementing market segmentation

Some of the difficulties that marketers are presented with when planning to implement a market segmentation strategy are methodological difficulties, a lack of evidence for the pay-off of the defined segments, and the fear of losing sales volume by focusing only on certain segments (Abratt, 1993)(Kalafatis and Tsogas, 1998).

Boejgaard and Ellegaard (2010) argue that there is a problem regarding the implementation of market segmentation, which involves the gap between marketers developing a segmentation plan and them implementing it. They present three key challenges connected to the execution of a market segmentation plan which are organisation, motivation, and adaptation.

The major challenge related to organisation is the failure of management to adapt the organisational structure to support the segmentation strategies (Foedermayr and

Diamantopoulos, 2008). To serve a certain customer segment, a combined effort from employees from different departments is required, as well as a definition of targets, sharing of responsibilities, and progress monitoring (Palmer and Millier, 2004).

Execution of the segmentation plan requires motivation from the managers responsible for the new segmentation strategy, and the lack of motivation might be due to a poor understanding of the purpose and relevance of the new plan (Boejgaard and Ellegaard, 2010). Laughlin and Taylor (1991) claim that empowerment and involvement of the sales managers in order to generate commitment can be a key motivating factor to successfully implement the new segmentation strategy.

The third challenge lies on the realisation by marketing managers that the organisation must make adaptations in order to cater to certain customer groups (Laughlin and Taylor, 1991). In order to support this, the segmentation plan must take into consideration sufficient flexibility to allow for the firm to adapt to the new related strategies and processes (ibid). Table 11 shows a summary of the main challenges described by different authors.

Table 11. Challenges for market segmentation implementation.

Author	Challenges
Abratt (1993), Kalafatis and Tsogas (1998)	Methodological difficulties, lack of evidence of pay-off, fear of losing sales volume by focusing on certain segments
Boejgaard and Ellegaard (2010)	Gap between segmentation plan development and implementation. Lack of motivation and poor understanding of the plan's purpose and relevance.
Foedermayr and Diamantopoulos (2008)	Failure from management to adapt organisational structure to segmentation strategies.
Palmer and Millier (2004)	Lack of combined effort from different departments, target definitions, progress monitoring, and sharing of responsibilities.
Laughlin and Taylor (1991)	Failure to empower and involve sales managers to generate commitment. Organisation must make adaptations to cater to new customer groups.

Based on the comparison shown in Table 11, it can be inferred that the main challenges lie between the development of a segmentation plan and the actual implementation. It can also be inferred that managers should make additional efforts by motivating the sales and other teams within the firm by getting them involved and communicating clear targets and continuously monitoring progress. It is also important that managers understand that implementing a new market segmentation plan requires effort and commitment and most importantly, changes and adaptations from old ideas and customs.

2.7 Research framework

Based on the literature review presented in this chapter, a model to design a segmentation strategy can be built for the specific industry of the case company. Based on the standard model proposed by Burk (2004), we can start by implementing these proposed broad steps, and tailor each of these initial steps with the presented literature review.

As it was previously mentioned, literature on market segmentation strategies for B2B companies in specialized software industries is scarce, and while two different studies were found, these were tailored for specific firms that offer entirely different solutions. For this reason, it was determined that methodologies used in a broader industry type, the technology industry, could be used as a baseline and then tailored for the case company using the more specific studies as a guideline. Weinstein's (2011) study on technology market segmentation uses Shapiro and Bonoma's (1984) nested approach to design an effective strategic segmentation process by further analysing the variables utilised in each level of the nested model according to the needs and opportunities of the analysed company. The nested approach provides a way to bridge the gap between demographics and needs-based data (Weinstein, 2011). The proposed framework is described in Figure 3.

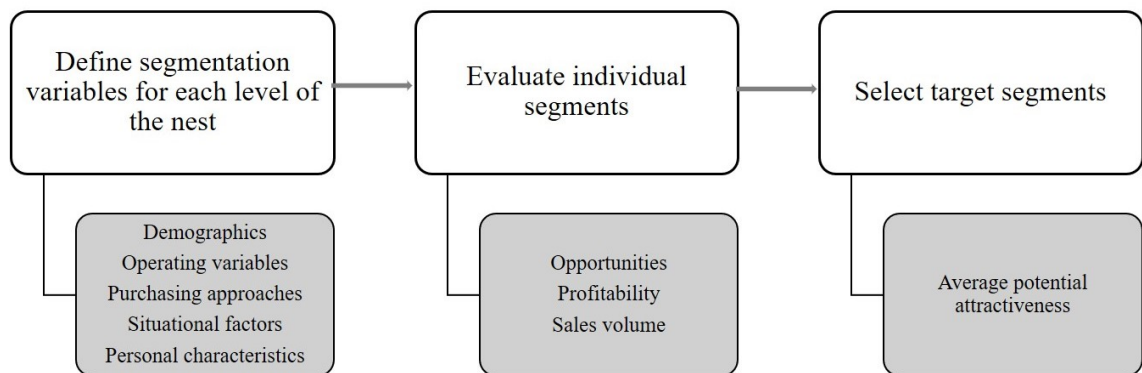


Figure 3. Proposed segmentation process.

The proposed sequence for the segmentation process of a specialized software firm has been divided in three main steps. The first step in the process involves defining segmentation variables relevant for the case company and applying them according to Shapiro and Bonoma's (1984) nested model. The first layer in this model involves the use of demographic variables to create market segments, followed by operating variables, purchasing approaches, situational factors, and personal characteristics. After defining segmentation variables based on these categories, individual segments can be defined. On step two, the segments resulting from applying the selected variables within the nested model will be evaluated based on Weinstein's (2014) research on market selection criteria for business technology markets. These criteria should be used as a guideline while also keeping in consideration the internal characteristics of the case company, therefore, three

main criteria were selected to evaluate the segments which are opportunities in the industry, profitability, and sales volume. Lastly, the resulting segments are combined to create more specific customer segments, and by calculating an estimate of their potential attractiveness, those segments which the highest estimated potential will be selected.

3. RESEARCH METHODS

3.1 Marketing research

Marketing research is the process of designing, gathering, analysing, and reporting information that may be used to solve a specific marketing problem, such as determining pricing and advertising strategies (Burns and Bush, 2006). However, its final purpose is to link the consumer to the marketer by providing information which can later be used to make marketing decisions (ibid). McDaniel and Gates (1996) define marketing research as *“the function which links the consumer, customer, and public to the marketer through information, which is used to identify and define marketing opportunities; to generate and evaluate marketing actions; to evaluate marketing performance; and to improve the understanding of the whole marketing process”*. Marketing research specifies the information required to address said issues and designs the method for collecting and analysing information and communicates the findings.

Burns and Bush (2006) describe four main uses of marketing research:

- Identifying market opportunities and problems
- Generating, refining, and evaluating potential marketing actions
- Monitoring marketing performance
- Improving marketing as a process

First, one of the main goals of marketing research studies is to find opportunities or to identify problems with an existing strategy. Second, marketing research studies can be used to generate, refine, and then evaluate potential marketing actions, which could be as broad as a marketing strategy or as narrow as a specific action taken to carry out a strategy. These studies typically deal with one or more of the marketing mix variables: product, price, distribution, and promotion. Third, monitoring marketing performance is a control study, and it allows a firm to evaluate how well their already implemented marketing mix is performing. Lastly, a portion of marketing research is conducted to improve marketing as a process by expanding the knowledge of marketing as a process, rather than to solve a specific problem faced by a firm. Managers can be in a better position to solve a specific problem by having useful knowledge generated by these studies.

The role of marketing research in business markets is very similar to that in consumer markets, given that it also helps to make better informed decisions about marketing strategies; however, the actual design and implementation of marketing research differs due to some of the specific factors related to business markets (Brassington and Pettitt, 2007).

3.1.1 Marketing research process

Vitale et al. (2011) describe five different steps in the market research process, which are a general depiction of the market research process and can be applied in both consumer market research and business market research. The process is shown in Table 12.

Table 12. Steps in the market research process (Vitale et al., 2011).

<p><i>1. Define the problem and research objectives</i> What decisions will be supported? What information is needed to make these decisions? Should the type of research be exploratory or conclusive?</p>
<p><i>2. Design the research method</i> What respondents will be sought? What sampling method should be used? Design the research instrument.</p>
<p><i>3. Collect the data</i> Control the quality of data collection. Enter data in database.</p>
<p><i>4. Analyse the data and draw conclusions</i> Apply appropriate analysis techniques. Control for non-random error. Draw appropriate conclusions, given the results and quality of data.</p>
<p><i>5. Present the findings</i> Apply information to decisions.</p>

According to Burns and Bush (2006), the need for marketing research usually arises when managers realise there is not enough or adequate information to make decisions. During the first step of the process, the marketer along with the researcher must define the problem and the research objectives (Vitale et al., 2011). The researcher must investigate the actual problem in order to know what are the answers that are sought from the research. According to Burns and Bush (2006), this is the most important step of the process, because an incorrectly identified problem will lead to wasted effort. Problems may come from two different sources (ibid):

- When there is a gap between *what was supposed to happen* and *what did happen*.
- When there is a gap between *what did happen* and *what could have happened*.

The first type of problem can be for example when there is failure to meet an objective, and the manager must determine the course of action that should be taken in order to close the gap between the objective and the actual performance. The second type of problem can be considered an opportunity, because it represents a favourable circumstance. A marketing opportunity is defined as an area of potential interest in which a company can

perform profitably (Kotler, 2003). Managers therefore must determine whether and how to take advantage of an opportunity.

Properly specifying the research objectives is important to ensure that the project is developed along the right lines (Brassington and Pettitt, 2007). At the same time, primary objectives must be distinguished from secondary objectives, and one good way of setting objectives is to ask what information is needed in order to solve the previously identified problems (Burns and Bush, 2006).

This first step also involves identifying the information types and sources. According to Burns and Bush (2006), there are two types of information:

- Primary information
- Secondary information

Primary information is collected specifically for the problem at hand, while secondary information has already been collected and used for other purposes. Secondary information should always be used first, since it would be the quickest and most efficient way of gathering the necessary data, as long as the data is available and answers the question or solves the problem (Brassington and Pettitt, 2007).

There are three types of categories of research and data collection methods under which research projects can be categorized (Burns and Bush, 2006). These categories are referred to as research designs:

- Exploratory research
- Descriptive research
- Causal research

Exploratory research involves collecting information in an informal and unstructured manner, often used when only little is known about the problem. The most common ways of conducting exploratory research is analysing secondary data from books or online sources. Descriptive research designs refer to a set of methods and procedures describing marketing variables, which are portrayed by answering who, what, where, when, and how questions. Most descriptive studies are surveys and observation studies. In contrast causal research designs answer to the question “why” and allow to isolate causes and effects. Causal research designs are called experiments.

The second step of the marketing research process involves deciding who in the market or what part of the market has the required information to support the decision process (Vitale et al., 2011). Vitale et al. (2011) claim that the third step, data collection, is usually the most labour-intensive step, and that the quality of the information collected highly depends on the knowledge and training of the research personnel. Nowadays, the quality, quantity, and ease of access of information has greatly improved. Online searching has

become very effective and efficient, and books and other publications are still a good source for information; however, access to primary data is more complex. According to Burns and Bush (2006) data collection means can be classified into three broad categories:

- Quantitative research
- Qualitative research
- Pluralistic research

First, using structured questions involving a large number of respondents and predetermined response options can be defined as quantitative research, which often involves a large representative sample of the population. Second, qualitative research however involves collecting, analysing, and interpreting data in a more observatory manner. Sayre (2001) claims that qualitative methods are appropriate for marketing because it helps to understand consumer motivations. Lastly, pluralistic research is defined as a combination of both quantitative and qualitative research (Burns and Bush, 2006).

For marketing research purposes, observation methods for data collection can be used. There are two types of observation as defined by Burns and Bush (2006):

- Direct observation
- Indirect observation

Direct observation implies observing the behaviour as it occurs, while indirect observation relies on past behaviour, for which the researcher observes the results of said behaviour, rather than the behaviour itself. Indirect observation includes archives such as historical records of sales calls or inventories, and physical traces which are tangible evidence of some event.

Once the data has been collected, the fourth step is to use data analysis to give meaning to the raw data. While the quality of the collected data is essential, the analysis of the data is what provides the most value to the organisation. For quantitative data, computer software might be used to process large quantities of data relatively easily; however, it is still the researcher's expertise that provides the key component for decision makers and turns the data into valuable information. For qualitative data, a different challenge arises to researchers due to a greater risk of bias, both in data selection and analysis. (Brassington and Pettitt, 2007) Researchers must avoid drawing any conclusions which are not directly supported by the collected data. Evidence seeking, which involves interpreting the data in a way that supports the conclusions desired by the marketer, must be avoided. (Vitale et al., 2011)

The last step involves presenting the findings in the form of a report. This can be difficult since failure to apply the findings or act on decisions is a common occurrence, especially in business markets (Vitale et al., 2011). Burns and Bush (2006) claim that this is one of

the most important phases of marketing research, given that this is the way in which the results of the study can be properly communicated to the client. Efforts should be made to ensure all the previously identified research objectives are addressed (ibid).

3.2 Research design

3.2.1 Steps of the study

The aim of this section is to describe the steps followed to develop this study.

1. Getting started and setting targets. The initial step for this study was to establish a research problem. The company management analysed a series of aspects that could be improved or found a solution for with marketing research, and the main issue remained to be the way the company currently classifies their customers into groups and how are these groups to be addressed with marketing. After guidance from the university supervisor, the author of this study determined that developing a market segmentation framework and applying it to the context of the company would address the initial issue proposed by the company management.

2. Preliminary research framework. In order to develop a preliminary research framework, several sources were consulted to develop a literature review chapter and a preliminary research framework was drawn from the encountered literature.

3. Literature review. The literature review was given a more appropriate structure and was complemented by additional literature sources, and literature related to the study was then included.

4. Framework building and application. Once all the relevant literature was collected and structured, issues related to the context of the study were emphasised along with the rest of the theory in order to develop a model that works in the context of the study. Different theories included in the literature review were analysed, summarised, and combined in order to maintain the most relevant ones and apply them to the company data.

5. Research planning and execution. After developing the framework, methods for indirect observation were used by using historical records of past opportunities in the company recorded in the CRM system. All the opportunity records available within the system were used, which included 453 individual records. Website visits recorded in the analytics system from the last year were also used, which included 128 individual records. The relevant records were grouped and filtered based on the different segments defined based on the proposed framework.

6. *Analysis of the results.* By combining the data gathered in the previous step and by applying the developed framework to this data, results were obtained and analysed, based on the presented literature and objectives of the study.

7. *Conclusion.* The conclusion of this study was based on the previous analysis and presented the theoretical contribution of the study along with the managerial implications and recommendations for the case company.

3.2.2 Data collection and analysis

Secondary data is defined by Cooper and Schindler (2003) as studies made by others for their own purposes, and it is the first step in an exploratory study. The researcher should then begin by exploring the organisation's own data archives, this is to prevent duplicate efforts and to avoid ignoring prior collected data which may be able to provide enough information to solve the new dilemma (ibid). Secondary data is an effective method to explore dimensions not explored in the primary study which the data was collected for (Du Plessis and Human, 2009).

Analysing secondary data has certain benefits for a researcher trying to answer exploratory research questions, which include the possibility to examine new research questions with pre-existing data sources and developing new knowledge by applying a secondary analysis to the data, along the possibility to create new conceptual frameworks based on this data and to reveal additional context from the previously collected data, broadening the understanding of the nature of the issue (Sherif, 2018).

At the same time, analysis of secondary data presents certain limitations. One of the major limitations is the insights reflected by the data, which was collected for different purposes than those of the secondary research, therefore they may not be completely adequate to fulfil the research objectives of the new research question (Rew et al., 2000).

In order to answer the research questions related to this study, secondary data was selected and used. The main source of this secondary data was the case company's internal documentation, which includes historical data from the website analytics platform, Google Analytics, and customer records stored in the company's CRM, Salesforce. There is however, a thin line separating the nature of the data collected; although it was not originally collected for the specific purposes of this study, the data was available for the researcher to utilise in a more meaningful way, avoiding the need to draw assumptions from data generated by other sources. The author of this study is a full-time employee of the case company, and their main duties are directly related with the implementation and maintenance of the three information systems previously mentioned.

The first data set used consisted on 128 individual records obtained from the Google Analytics platform, each individual record consisting of country, number of users,

number of new users, sessions, bounce rate, pages per session, and average session duration. These records were sorted by number of users from largest to smallest, and then filtered based on two criteria: lower bounce rate and longer average session duration. The top results were then utilised for analysis. Data was processed by using Microsoft Excel.

The second data set used consisted of 453 individual records obtained from Salesforce, the platform utilised by the company as a customer relationship management (CRM) tool. The data selected was the opportunity records, which include potential deals which have either been closed or lost. Each record consists of several fields; therefore, a report was created within the Salesforce platform in order to obtain only the relevant information. Fields selected for analysis were opportunity name, industry type, country, parent account, amount, and probability. Data was filtered based on each variable defined in the segmentation model used; percentages and averages were calculated using Microsoft Excel.

3.2.3 Research limitations, reliability, and validity

According to Roberts et al. (2006), reliability and validity are ways to demonstrate the quality and trustworthiness of both research processes and their findings. These two concepts are standard checking criteria for quantitative research methods, since they measure the ability of the study to consistently measure what it is meant to be measuring (Sayre, 2001). Reliability then refers to the extent to which consistent results can be produced (Golafshani, 2003). Reliability, while being a concept mostly used for evaluating quantitative research, it is usually linked to all kinds of research (ibid). Stenbacka (2001) argues that reliability has no major relevance in qualitative research, given that it mostly concerns measurements. Validity then implies that the results acquired from the analysed data are precise, therefore a similar conclusion than that about reliability could be drawn; however, there is a need for a qualifying check or measure for qualitative research (Golafshani, 2003). In cases when the study does not contain measures, and therefore cannot be duplicated, other criteria must be used to determine its authenticity, correctness, and credibility (Sayre, 2001).

There is not a single set of tests for each research phase in a certain study, therefore various criteria must be addressed in order to judge the quality of the research and to achieve objectivity (Riege, 2003). According to Sayre (2001), the main threats to validity in qualitative research are found in description, threatened by accuracy; interpretation, threatened by research bias; and theories, threatened by omission of disagreeing data.

Riege (2003) claims that valuable criteria for qualitative research are credibility, transferability, dependability, and confirmability. Credibility implies an exchange of mutual trust between the researcher and the subject, presuming an honest written and spoken communication. Transferability refers to the ability to apply the findings to other contexts while recognizing that no two contexts are ever identical. Dependability

establishes that the findings of the research are consistent and repeatable, therefore multiple investigators should reach a similar conclusion. Confirmability implies that the information is supportable from the data presented and not affected by potential biases from the researcher.

In terms of these criteria, credibility between the researcher and the subject, the case company, has been established by their professional relationship. For transferability, the framework of this study can be applied to any firm in the technology sector, given that the segmentation variables are adjusted based on the context of the subject in each level of the nested model. Regarding dependability, the case company's internal data such as analytics and CRM records were used for analysis, therefore other investigator should be able to reach a similar result by applying these data sources to the proposed framework. Confirmability is ensured by appending the raw data before analysis and the resulting data (data in the appendixes has been masked by using a multiplier). Given that data was available from the source and reports could be analysed to obtain the required data, the risk of bias is reduced.

The data has been selected based on the objectives of the study. Opportunities from the CRM system were selected rather than actual sales, because they reflect potential deals which may or may not have been closed, and they have been defined by the firm as having a potential for revenue. Since some of these opportunities have been closed and some have been lost, this set of data also represents customers that may have chosen one of the firm's solutions, opted for a competing solution, or simply decided to close the deal later.

Analytics data on the other hand was selected to define areas of potential interest given that it includes potential customers which may have not yet engaged with the company but have an interest in the product. Bounce rate and average session duration were used to exclude website visits that were not valuable for the analysis.

There are still however some potential challenges for the data as defined by Burns and Bush (2006) which include incompatible reporting units, non-matching measurement units, unusable class definitions, and outdated data. Since the data was obtained from company records, it was possible to arrange and clean up the data utilised, and the reporting units of the data used, and the class definitions were compatible with the objectives of the study since these were manually selected from a larger set of data. A unit analysed was the amount of an opportunity, which are recorded in the system in three different currencies. In order to avoid error based on currency difference, the researcher adjusted all the amounts to be in the same currency. The same procedure was followed for missing fields in each record, and records for which certain relevant fields could not be found were excluded from the analysis.

4. RESEARCH EXECUTION AND RESULTS

4.1 Nested approach to market segmentation

The layers within the nested approach proposed by Shapiro and Bonoma (1984) are separated in terms of how much investigation is required to identify the criteria related to said layer: as the inner layers are approached, the segmentation variables become increasingly more complex. It is important to note that the authors warn not to apply the approach in a cookbook fashion; instead, the need of adapting it to a firm's individual situation and using careful judgement is emphasized. Weinstein (2014) also mentions in their study that the layers of the nest interact in such a way that the factors in one nest will affect those in the other nests. While the outer layers do not entirely determine the inner layers, they will certainly influence and reflect on them (ibid).

With demographics being the easiest data to both access and evaluate, it has been defined as the outermost layer of the nest. While the segmentation approaches of many business to business firms is based purely on demographic data, this should be used only as the beginning, since they do not fully exhaust the market segmentation possibilities (Shapiro and Bonoma, 1984). This outermost layer of the nested model involves firmographic or geodemographic variables.

4.1.1 Demographics

The three main demographic variables defined by Shapiro and Bonoma (1984) include industry, company size, and customer location. Industry is a very important variable for the case company given the specialised nature of their products, therefore understanding the needs of their products for certain industries is crucial. Company size is a valuable aspect for the company depending on the industry being targeted. Large companies in terms of employees might be of more interest within most sectors given that the product can be used internally by the customer company to manage their network devices and network access; however, when the company is in the telecommunications sector, the number of employees is not as valuable as the number of customers the prospect company delivers services to. Customer location is not important in terms of proximity given that the products are delivered electronically; however, certain projects require integration services which sometimes are demanded by the customer to be delivered on site. For this, the company relies on their network of distribution partners and integrators, therefore, the customer location will be analysed in terms of potential interest rather than ease of access.

Demographic data from website analytics will be used as a starting point. According to Trivedi et al. (2016), a collection of key behavioural indicators in online social systems such as a company website can be used to build models to classify users into broad

segments. In order to narrow down the first level of the nested model, regions where potential customers have visited the company website can be found from the data obtained through website analytics. Table 13 shows the countries from where the most website visits were received in the past 12 months.

Table 13. Page visits for the previous year (only first 10 rows are shown).

Country	Users	New users	Sessions	Bounce rate	Pages / session	Av. session duration
United States	3793	3768	4517	73.70%	2.15	00:01:12
India	2036	2026	2397	73.17%	1.84	00:00:57
Iraq	1858	1844	1970	76.95%	1.41	00:00:07
Australia	1306	1285	1760	62.78%	2.48	00:01:46
Germany	761	740	1152	44.88%	3.27	00:02:05
United Kingdom	706	693	955	52.04%	3.06	00:02:18
Cambodia	614	611	630	79.68%	1.37	00:00:03
Kosovo	604	604	633	79.15%	1.39	00:00:03
Mongolia	596	592	624	76.44%	1.48	00:00:17
Japan	503	502	512	93.16%	1.21	00:00:14

From the data presented certain regions can be identified as showing a higher potential for targeting, however, focusing only on the number of visits/users would not be ideal, since many visits are not always quality visits. There are certain factors that should be taken into consideration, such as:

- Bounce rate, or the percentage of sessions with no page interaction.
- Pages/session, or the number of pages viewed during a session.
- Average session duration.

According to the Google Analytics help documentation, bounce rate is a single-page session on a given website. Given that the home page of the company's website is the gateway for the rest of the site, a higher bounce rate is bad, because this means that the user did not get to interact with the rest of the pages on the site, which are the ones including all the information regarding the company's products and services. We can

assume that a low bounce rate, a higher number of pages per session, and a longer average session duration would be ideal characteristics of a website visit from an interested user. A longer average session provides a better reflection of how the user interacted with the website, and it is not affected by one-time visits as much as the other two factors.

To evaluate each country, a score of either 1 or 0 will be given to each of these criteria, based on the average values for all the data. Locations with average session duration equal or above the overall data average (00:01:41 or 101 seconds) will be given a score of 1. Average duration below this number will be given a 0. The same principle will be applied with bounce rate, where all the data shows an average of 63.06%. Bounce rates lower than 63.06% will be given a score of 1, while rates higher than this number will score 0. The average pages/session for all the entries is 2.41, so a number equal or higher to this will score a 1. A number lower than 2.41 will be given a 0. In order to select the locations, they must have a score of 2, which means that they scored well on two of the three evaluated aspects. With these assumptions, the obtained data was filtered as shown in Table 14.

Table 14. Analytics location data.

Region	Bounce rate	Pages / session	Av. session duration
Australia	62.83%	2.48	104.68
Germany	44.76%	3.27	125.38
United Kingdom	51.99%	3.06	138.21
Canada	61.49%	2.96	123.37
France	47.85%	3.21	147.80

For the purpose of this study, the top 5 regions obtained from the analysis of the website data will be used as a starting point for the segmentation of the market. The selected countries are Australia, Germany, United Kingdom, Canada, and France. Depending on the results obtained from the following stages, the selected countries can be reconsidered.

Shapiro and Bonoma (1984) mention that knowledge of the industry provides a broad understanding of the customer needs. Individual industries may be subdivided to consider their different needs, making the segmentation scheme more detailed (ibid). Currently the main customers for the company are found within a few major industries:

- Telecommunications operators
- Educational institutions

- Government agencies/public organisations
- Private corporations

Within the first broad industry category, mobile telecommunications, the target industries are more defined. The main industries found within this group are internet service providers and mobile network operators, which are also the industries with the largest potential due to the nature of the product offering. Within educational institutions, the main customers are found in universities and research institutions implementing roaming services for network access. To have a more valuable grouping of the industries to be targeted, industry classifications from the North American Industry Classification System (NAICS) will be used, given that this classification is continuously revised in order to keep the classifications current according to changes in economic activities. From this list of industry sectors, categories were selected to target organisations that are known to have a use for the product. Three main broad industry sectors were selected which include telecommunications, educational services, and public administration. Other industries previously identified as being of interest by the firm, such as private corporations will be excluded from this study given the broad spectrum of firms that these industries cover, which would entitle a separate study.

4.1.2 Operating variables

The second dimension of the nested model involves operating variables. These variables are typically stable and allow for a more precise identification of existing and potential customers (Shapiro and Bonoma, 1984). Variables useful for the firm encountered within this dimension are product and user status (both by product and brand) and customer capabilities.

According to Shapiro and Bonoma (1984) one of the easiest ways to segment a market is by product and brand use, given that in general, similar characteristics are shared between users of a certain product or brand. They also claim that current customers are a different segment from those potential customers who use a similar product from a different firm (ibid). Given these definitions, the case company can divide customers in four major groups: Current customers, non-customers, users of AAA software, and non-users of AAA software. This results in three major customer segments: current customers, potential customers, and competition's customers. The case company can choose to approach these three different groups, but with different strategies. Current customers require particular attention and resource allocation, as well as exceptional service and defence from similar competitive offerings. The potential customers are those who have shown interest in the company's product but have not yet implemented any AAA related solution, either by the case company or by its competitors. The competition's customers are those who have implemented a similar AAA solution offered by a competitor but are looking into replacing their current solution or expanding their capabilities. A typical

example are users of the free, open source competing solution, which naturally does not offer support to their users. As stated by Shapiro and Bonoma (1984), it might be easier for vendors to lure customers from competitors when said competitors are weaker in certain aspects.

Customer capabilities is a very important aspect for the firm. This is due to the highly specialised nature of the products, and the high level of skill required for a customer to install and operate the software. For this reason, the company offers optional remote installation services for new licence purchases; however, this approach has proven useful only for very standard and straight forward use cases of the product. For more specialised cases and complex use scenarios, remote or onsite consulting can be provided. For highly skilled customers or customers who are already familiar for the product, usually the software is sold without any extra service, except for a technical support contract. Two segments can therefore be created based on this variable: AAA skilled users and non-skilled AAA users.

4.1.3 Purchasing approaches

The following dimension of the nested model is the purchasing approaches, which includes the purchasing function organisation of the company, power structures, buyer-seller relationships, and purchasing criteria.

The purchasing function organisation describes the size and operation of the purchasing unit of a certain company, which is commonly divided into centralised and decentralised purchasing units. A centralised purchasing unit usually involves a group of purchasing experts specialising in buying a range of products (Mitchell and Wilson, 1998). However, these structures usually do not tell much about the needs of the customer, beyond their administration needs (ibid). Therefore, this aspect of the purchasing approaches does not result into a segment which will be directly targeted or not, but it should rather serve as a guideline for the firm to decide how to approach certain customers based on their purchasing function structures. However, based on the company's own experience and in the same way as it was described for the customers, this aspect has not posed a difference in the sales activities beyond the administrative needs.

Power structures describe the impact of the organisational units in the purchasing process, and it might be of use to adapt the firm's marketing efforts based on customer strengths (Shapiro and Bonoma, 1984). As it was previously identified, there are three major industry segments that are of most value for the case company which are telecommunications, educational services, and public administration. The main difference that can be identified between these three sectors is how technology driven they are, with the telecommunications industry having strong engineering operations, as opposed to the educational services and public administration, whose needs for the firm's product is more related to internal, day to day operations. Based on this, the firm can

elaborate a different approach for customers that have strong technology-driven operations than that used with less technology-oriented customers.

The next factor in the purchasing approaches nest is the buyer seller relationships. Naturally, every firm has stronger ties with some customers than others, and the case company is not an exception. In their particular case, there is a network of distribution partners who resell the case company's products and services, in which cases the firm has little to no interaction with the end customer, at least not during the purchasing process. At the same time, the firm has customers whose interactions are handled directly from beginning to end, which naturally leads to a stronger tie with the customer. Therefore, for this dimension customers can be divided in two groups which are partner customers and direct customers. Once again, the firm must decide on different approaches to address these two groups of customers, which ultimately leads to a specialised approach to address their distribution partners.

Purchasing criteria, which is directly affected by the previously mentioned aspects, involves segmenting the market in terms of the reasons to buy a product or service. There is an additional variable in this aspect that is valuable for the firm which is the information technology budget. While the range of products is not very broad, the price range differs significantly between the two major product categories which are standard products and carrier class products. Given this variable, the easiest way to divide customers is into two major groups based on their budget, whether it is a restricted budget or a non-restricted budget. These restrictions determine, besides the type of product/software license to be offered, how many services can be added along the software licence purchase. These two groups are very valuable when related with the customer capabilities dimension; this will be more thoroughly discussed in the following section.

From this segmentation dimension, the resulting segments are not discriminated against – but these are merely ways to group the market in a way that allows the firm to implement different approaches to address these customers.

4.1.4 Situational factors

While they pose a resemblance with operating variables, situational factors have a temporary characteristic, which requires a more detailed knowledge of the customer. As it was previously mentioned, situational factors include variables such as urgency, specific application, and size of order (Kotler and Keller, 2016).

The purchasing approach used by a customer will certainly differ depending on the urgency of order fulfilment. Urgency has not proven to be a defining factor in the sales operations of the case company, rather it has been more decisive when dealing with after sales services and support contracts. Since the company's portfolio does not include

physical items, availability is not an issue that has to be considered, therefore, both urgency and size of order will not be further analysed.

There are many different applications for the company's main product. Purchasing literature compares product applications in more industrial settings, where other considerations such as safety and reliability in manufacturing are at stake. While there is a very broad range of applications for the company's product offering, there are not important implications that strongly affect both the marketing approach and the purchasing process and criteria used for each application. All these different applications can however be grouped within two large categories, which are business critical and non-critical business applications. One very good example is that of internet service providers and phone carriers, where a problem with the AAA service may prevent their customers to authenticate against a certain system, directly affecting their business operations. In other cases, such as educational institutions, a momentary failure to authenticate users against their network may not represent a major issue. This specific situational factor requires a different approach for customers that have a business-critical scenario, where services such as 24/7 support contracts should be emphasized. Business critical customers should then receive particular care and attention from the firm.

4.1.5 Personal characteristics

As mentioned by Shapiro and Bonoma (1984), it is ultimately people who make purchase decisions, even when their choices are constrained by the organisational framework and the policies of the company where they work. In this dimension of the nested model, variables such as buyer-seller similarity, buyer motivation, individual perceptions, and risk-management strategies may be used to segment markets.

However, as it has been stated before, data on customer personal characteristics is very difficult to gather. At the same time, as the innermost level of the nested model, personal characteristics are very important to analyse purchasing situations. It is important therefore, to maintain a sales information system where data about buyers is collected, as Shapiro and Bonoma (1984) suggest in their study. One variable that can be used to segment the market within this level of the nested model, is the risk-management strategy of potential customers. The company's product is well established within the market, being released 20 years ago with continuous development. As Shapiro and Bonoma (1984) claim, buyers who are risk averse are not good prospects for new innovations and products, usually avoiding untested vendors. Therefore the market can be segmented in terms of the level of risk acceptance, focusing on customers who are not willing to assume higher levels of risk.

4.2 Market segments resulting from nested approach

From the analysis elaborated in section 4.1, it is clear that there is permeability within the segmentation nests, given that they interact in such a way that the variables within one nest can affect those in other nests, which is why the model cannot be followed in a straight forward way, but rather as a guideline of different elements to be considered when formulating a segmentation approach. While the outer dimensions of the nest involve more available data and clearer definitions, the inner levels of the nest, situational factors and personal characteristics, are often the most useful. Table 15 shows the resulting segments found in each individual level of the nested model.

Table 15. Resulting segments based on nested approach.

Demographics	Purchasing approaches
<u>Industry:</u> <ul style="list-style-type: none"> • Telecommunications • Educational Services • Public administration <u>Location:</u> <ul style="list-style-type: none"> • Australia • Germany • United Kingdom • Canada • France 	<u>Power structures:</u> <ul style="list-style-type: none"> • Technology driven • Non-technology driven <u>Buyer-seller relationship:</u> <ul style="list-style-type: none"> • Direct customers • Partner customers <u>Purchasing criteria:</u> <ul style="list-style-type: none"> • Restricted budget • Non-restricted budget
Operating variables	Situational factors
<u>Product and brand use:</u> <ul style="list-style-type: none"> • Current customers • Potential customers • Competition's customers <u>Customer capabilities:</u> <ul style="list-style-type: none"> • AAA skilled • Non-skilled on AAA 	<u>Product application:</u> <ul style="list-style-type: none"> • Business critical • Non-critical to business
Personal characteristics	
<u>Risk management:</u> <ul style="list-style-type: none"> • Risk averse • Risk accepting 	

Once that these segmentation bases have been identified, it is necessary to link the macro segmentation descriptors to the micro segmentation variables (Powers and Sterling, 2008). In order to obtain detailed information related to the more complex, micro segmentation criteria, internal data from the firm's CRM system will be utilised. An analysis of the opportunities recorded in the system will be used to attribute values to

these characteristics. A report made with all the 453 opportunity records found in the CRM system will be used, which includes the following fields useful for the analysis:

- Account's industry
- Account's location
- Opportunity type
- Parent account
- Amount
- Stage

The account's industry will be used to classify the opportunities within one of the three major industries encountered in the demographics analysis, in the same way as the account's location. The opportunity type field includes two possible values which are existing business and new business, which can be used to analyse operating variables. Parent account indicates if the account belongs to a partner company, which can help us divide the accounts based on buyer-seller relationship. The amount of the opportunity represents the potential revenue expected from the opportunity, and this is the value that can be used to assign scores to the segmentation variables, as a percentage of the total opportunities' potential revenue. The stage of the opportunity can be also used to assign a score to the opportunities based on the previous criteria. This report can be found in Appendix C.

4.3 Market segment selection

To evaluate the previously defined segments, the criteria presented by Weinstein (2014) can be used, adjusted for the needs and characteristics of the firm. For the context of the case company, different weights can be assigned to the criteria based on the company's goals, and then a weighted average can be calculated to establish the selected segments. The following criteria has been selected to evaluate the market segments:

1. Opportunities in the industry
2. Profitability
3. Sales volume

These criteria will be assigned a multiplier value between 1 and 5, given that not all of them are of equal importance for the firm. To begin with, the number of opportunities, although important, is not of the most importance to the firm, given that the size of the project is usually a better indicator of its attractiveness rather than the number of projects available. This criterion will be given a multiplier of 3. Profitability however, would be the most important criterion to determine the attractiveness of the segment, which will be assigned a value of 5. Lastly, sales volume might determine, although not in all cases, large opportunities for profitability. In the past, high volume sales have determined a very

important stream of income for the firm, which is why this criterion will be assigned a value of 4. The evaluation criteria then will result as indicated in Table 16:

Table 16. *Assigned weights for evaluation criteria.*

Criterion	Multiplier
Opportunities in the industry	3
Profitability	5
Sales volume	4

Individual tables will be created to calculate the weighted averages for each of the variables within the five levels of the nest, which will then be summarized and compared in order to determine the finalized segments and their calculated attractiveness. First, the demographic variables will be rated based on the opportunity analysis obtained from the CRM data. Scores of 1 to 5 will be assigned to each specific criterion, which will be then multiplied by the weight assigned to each of them. Table 17 shows the results of evaluating the industry demographic variables, followed by a description of the evaluation.

Table 17. *Evaluation of industry demographic variables.*

Industry	Opportunities	Profitability	Volume	Total
Telecommunications	3 (9)	3 (15)	5 (20)	44
Educational services	3 (9)	1 (5)	1 (4)	18
Public administration	1 (3)	1 (5)	1 (4)	12

Table 17 shows the score assigned to each of the industries for all the three criteria, with the number between brackets representing the calculation of the score value multiplied by the criterion weight value. In order to make these calculations, the data obtained from the company's CRM system was filtered based on the industry type associated to each opportunity in the opportunity list, which has a total of 453 entries. The values associated to each of the three major industry groups which are telecommunications, education, and public administration (labelled in the system as "government") were summarized and compared to the total amounts of entries. It was calculated then that, the opportunities associated with the telecommunication industry represented 13% of the number of total opportunities, and the revenue associated to these opportunities represented a 25% of the total amount of expected revenue. To calculate the volume of the sales, the revenue was divided by the number of opportunities in order to obtain an average amount in USD per opportunity, and this number was compared to an overall average of opportunity revenue,

resulting in a value of 2.00 compared to the total average volume. The same procedure was followed to calculate values for the educational services industry, resulting in an opportunity percentage of 16%, revenue percentage of 3%, and volume factor of 0.187. For public administration industry, the resulting values were 3% of the total opportunities, 1% of the total revenue, and 0.228 of volume factor. The resulting numbers are summarized in Table 18.

Table 18. Opportunity, revenue, and volume calculations based on industry.

Industry	Opportunity %	Revenue share	Volume factor
Telecommunications	13%	25%	2.00
Educational services	16%	3%	0.187
Public administration	3%	1%	0.228

From these calculations, it is easy to visualize how the volume of a sale and the amount of sales can differently impact the overall revenue; it reflects how certain industries may result in a lower amount of sales, but still result in larger revenue figures.

The next aspect to evaluate is the customer location. For this variable, the analysis was performed in the same manner: data was filtered based on the country of interest and the values for both number of entries and total revenue were used to calculate percentage of opportunities, revenue share, and volume factor. The results are summarized in Table 19.

Table 19. Evaluation of location variable.

Location	Opportunity %	Revenue share	Volume factor
Australia	9%	7%	0.81
Germany	4%	3%	0.80
United Kingdom	7%	2%	0.25
Canada	4%	1%	0.33
France	7%	13%	2.00

Based on these calculations, the resulting scores are displayed in Table 20, followed by the score multiplied by the criterion weight inside brackets.

Table 20. *Evaluation of location demographic variables.*

Location	Opportunities	Profitability	Volume	Total
Australia	4 (12)	3 (15)	3 (12)	39
Germany	2 (6)	1 (5)	3 (12)	23
United Kingdom	3 (9)	1 (5)	1 (4)	18
Canada	2 (6)	1 (5)	1 (4)	15
France	3 (9)	4 (20)	5 (20)	49

After analysing demographic variables, the two operating variables used in this study will be analysed. Firstly, the product and brand use will be analysed based on the records associated with existing businesses and with new businesses. Since there is no data available to analyse customers of the competition, this variable will be analysed in terms of these two groups. Table 21 summarises the results of the calculations which were performed in the same manner as the previous variables.

Table 21. *Calculations for product usage.*

Group	Opportunity %	Revenue share	Volume factor
Existing business	64%	48%	0.75
New Business	36%	52%	1.448

Based on the results from these calculations, the criteria scores for both groups of customers were assigned as shown in Table 22.

Table 22. *Evaluation of product use.*

Group	Opportunities	Profitability	Volume	Total
Current customers	3 (9)	3 (15)	3 (12)	36
Potential customers	2 (6)	3 (15)	4 (16)	37

For this variable, it can be observed that although the numbers differ both in the number of opportunities and the volume of the sales, both groups result in a very similar attractiveness for the firm. This can be associated with the fact that existing customers usually purchase access and support contract renewals, while the new customers will be most likely purchasing new software licences, which are significantly costlier. The

second operating variable refers to the customer capabilities, for which there is no data associated in the CRM, as this is clearly a factor that becomes obvious during the one-to-one interaction with customers. For this reason, this variable will not be analysed in terms of opportunity, revenue, or volume, rather, this will be considered in a later chapter while formulating different customer approaches.

After analysing operating variables, purchasing approaches are next to analyse. The three variables selected for this analysis are power structures, buyer-seller relationship, and purchasing criteria. Power structures were divided into technology-driven companies and companies non-driven by technology. It would not be ideal to make an assumption of the technological capabilities of a given industry and specially not for an individual company, which is why the data has been filtered in a more straight forward manner: industries that would use the firm's product as a part of their business portfolio, or in their operational functions (not including support functions such as internal information technology operations). Therefore, the first group is conformed of telecommunications companies and information technology companies who integrate the firm's product into their offerings, and the second group involves all the remaining industries found within the CRM data. The calculated percentages of opportunities, revenue, and sales volume are shown in Table 23.

Table 23. *Power structures.*

Group	Opportunity %	Revenue share	Volume factor
Technology driven	69%	89%	1.469
Non-driven by technology	31%	11%	0.416

Based on the obtained calculations, scores were assigned to each group, shown in Table 24.

Table 24. *Evaluation of power structures.*

Variable	Opportunities	Profitability	Volume	Total
Technology driven	3 (9)	5 (25)	4 (16)	50
Non-technology driven	2 (6)	1 (5)	2 (8)	19

After analysing the power structures, calculations were made based on buyer-seller relationship. For this variable, data was filtered in two groups: accounts with a parent company, which means that this account is a customer of a partner company, and accounts

without a parent company, which means the account belongs to a direct customer of the firm. The calculated values are shown in Table 25.

Table 25. Calculations for direct and partner customers.

Group	Opportunity %	Revenue share	Volume factor
Direct customers	61%	79%	1.305
Partner customers	39%	21%	0.564

Based on these calculations, scores were assigned to the groups for each of the criteria, as shown in Table 26.

Table 26. Evaluation of buyer-seller relationship.

Variable	Opportunities	Profitability	Volume	Total
Direct customers	3 (9)	4 (20)	4 (16)	45
Partner customers	2 (6)	2 (10)	3 (12)	28

The following variable is purchasing criteria, which was previously divided in two groups of customers based on their budget. Customer budget data is rarely available to the firm and if it becomes available, it happens only until later stages of the purchase negotiation stages. Besides this fact, budget is highly specific to each certain project therefore there is not available data that can be summarized and analysed the same way as the previous analysed variables. For this reason, this variable will be analysed in a later chapter in terms of different marketing approaches for the two defined groups of customers which are budget restricted and non-restricted by budget.

The following level of the nest is the situational factors, which as it has been previously discussed, requires more deep knowledge of the customer by the firm. The variable that will be analysed in this level is the product application, which was divided in two larger groups which relate to how critical the product offered by the firm is to the customer's operations. This variable was divided in two groups: business critical applications and non-business critical applications. Based on the firm's previous knowledge, it is known that the product is critical for the operations of telecommunications service providers. For this reason, the data was filtered in two groups, one group being only the telco providers and the second group including all the other categories. Calculations were made in the same manner and the resulting percentages are shown in Table 27.

Table 27. Calculations for product application.

Application	Opportunity %	Revenue share	Volume factor
Business critical	13%	25%	1.947
Non-business critical	87%	75%	0.859

From these calculations, the scores were assigned to the groups for each of the criteria, as shown in Table 28.

Table 28. Evaluation of product application.

Variable	Opportunities	Profitability	Volume	Total
Business critical	1 (3)	2 (10)	5 (20)	33
Non-business critical	4 (12)	4 (20)	3 (12)	44

The last level of the nest is the personal characteristics. It was decided that risk management will be a variable analysed in this level of the nest, given the opportunity the company has for marketing its well-established product within risk averse customers. However, this is a characteristic very specific to the customer and there is no information recorded about it within the firm's CRM system. For this reason, this variable will not be assigned scores the same way as the previous ones, but rather it will be considered in a later chapter as an important factor when defining marketing strategies for customers within each group, risk averse customers and risk accepting customers.

The next step in the process is to evaluate all the resulting segments based on the calculations, keeping in mind that not all of them are interrelated in the same way. Figure 4 can help to visualize how these segments relate to each other.

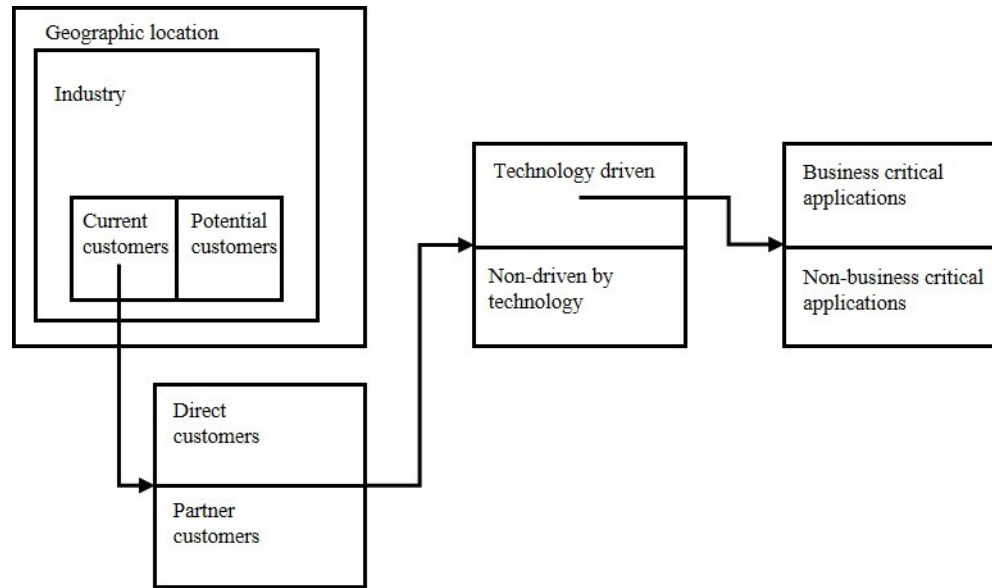


Figure 4. Nest reassembly and segment interrelation.

Figure 4 provides an easier way to visualize the relationships of all the segments, and how not all of them are directly related to each other. An analysis of these segments and their attractiveness using the previously assigned scores is presented in Chapter 5.

5. ANALYSIS OF THE RESULTS

5.1 Market segment analysis

After developing the analysis for each individual segmentation variable, it is possible to build more specific market segments by connecting each of the related levels of the nest. Starting from the outermost level, it is clear that regions such as France carry an important market for the case company, mainly due to the high-volume sales encountered from CRM data. High volume sales are important for the firm because they represent higher revenues with the same administrative costs. The following level shows that both existing business and new potential business are equally important for the firm, given that existing business result in good revenues due to several lower volume sales, while new potential customers represent larger revenues from fewer sales due to more expensive products being involved. Within the same operating variables, customer capabilities should be taken into account when addressing customers. This variable was divided into two different groups: those customers with knowledge of AAA servers and those without expertise in the area. For customers with no expertise, special attention should be put in pre-sales activities, given that the product might give the impression of being difficult to implement and use, thus negatively affecting the customer's opinion of the product. Emphasis on the different services offered, such as remote installation, training, and remote consulting, should be made when preparing offerings to customers in this category.

At the following level, it is very clear that companies which are technology driven represent a higher revenue potential, followed by that of direct customers, which bring a larger share of revenue from sales than those of partner customers. However, it is worth mentioning that partner sales usually require little to no effort from the firm, since the partner deals with the pre-sales activities and orders are received oftentimes with no extra effort, therefore this group should not be neglected. The next variable is the purchase criteria, which has not been assigned scores but should be taken into consideration for marketing efforts. Plans for customers with restricted budgets should be formulated so that they get offered strictly what they need, to avoid positioning the product in an "expensive" category from the beginning.

The following level involves the more intrinsic situational factors and the aspect analysed was the product application. Given that the product has many different applications, it was decided that a broader characteristic of the product application would be used, which is how critical the product is to the business operation of the customers. While the group of customers with a non-critical application of the product appears to have a bigger appeal, it is worth noting that the percentage of revenue brought by customers with business-critical operations comes from a much smaller percentage of the total customer

base, which means that the clients in this category are very valuable in terms of revenue. However, it is also important to remember that while these customers bring larger shares of revenue, they also require more resources of the firm to be allocated to services such as telephone and email support.

Lastly, the innermost level involves personal characteristics of the customer. These characteristics may be related to the company itself or the person making the purchase, and a factor that was deemed worth to consider is the risk-management approach of the customer. When dealing with risk averse customers, the case company has the advantage of providing a product which has been very well established in the market and has been developed for 20 years.

5.2 Selected target segments

Now that each level of the model has been individually analysed, the scores can be used to define the most attractive segments according to the study. To achieve this, scores from each of the related segments, based from Table 29, will be multiplied and averaged to obtain the better scoring segments. Given that not all the variables are related for each of the segment, it is necessary to calculate an average of the score in order to account for the difference in number of variables. Table 29 shows a summary of the scores for each of the variables.

Table 29. Summary of variable scores.

Demographics		Operational variables	
Variable: Industry	Score	Current customers	36
Telecommunications	44	Potential customers	37
Educational services	18	Purchasing approaches	
Public administration	12	Technology driven	50
Variable: Location	Score	Non-driven by technology	19
Australia	39	Direct customers	45
Germany	23	Partner customers	28
United Kingdom	18	Situational factors	
Canada	15	Business critical application	33
France	49	Non-business critical application	44

Specific segments can be created by taking the highest scores for each variable, however, certain considerations must be applied:

- Telecommunications industry is always technology driven, which is why the power structures evaluated in this study will not affect the score of a segment in the telecommunications industry.
- The situational factor was also regarded solely to the telecommunications industry due to the nature of the product, therefore it will not affect the score of a segment in a different industry.

The resulting segments are shown in Table 30. A more detailed description of each segment along with their calculated scores can be found in Appendix D.

Table 30. Resulting market segments.

Avg. Score	Location	Industry	Relationship	Power structures	Application
43.5	France	Telecommunications	Non-customer		Non-critical
43.6	France	Telecommunications	Direct customer		Non-critical
41	Australia	Telecommunications	Non-customer		Non-critical
41.6	Australia	Telecommunications	Direct customer		Non-critical
38.5	France	Educational services	Non-customer	Tech. driven	
36	Australia	Educational services	Non-customer	Tech. driven	
39.6	France	Educational services	Direct customer	Tech. driven	
37.6	Australia	Educational services	Direct customer	Tech. driven	
37	France	Public administration	Non-customer	Tech. driven	
34.5	Australia	Public administration	Non-customer	Tech. driven	
38.4	France	Public administration	Direct customer	Tech. driven	
36.4	Australia	Public administration	Direct customer	Tech. driven	
37	Germany	Telecommunications	Non-customer		Non-critical
38.4	Germany	Telecommunications	Direct customer		Non-critical
35.75	UK	Telecommunications	Non-customer		Non-critical
37.4	UK	Telecommunications	Direct customer		Non-critical
32	Germany	Educational services	Non-customer	Tech. driven	
30.75	UK	Educational services	Non-customer	Tech. driven	
34.4	Germany	Educational services	Direct customer	Tech. driven	
33.4	UK	Educational services	Direct customer	Tech. driven	
35	Canada	Telecommunications	Non-customer		Non-critical
36.8	Canada	Telecommunications	Direct customer		Non-critical

By calculating the average potential of each of these segments, some general conclusions can be drawn:

- The telecommunications industry is the most attractive for the firm, both for current and potential customers, for any of the analysed locations.
- The educational services industry is worthier to be pursued in regions with more potential attractiveness and greater number of opportunities, such as France, Australia, and the United Kingdom.
- The public administration industry results in the least attractive, unless it is focused on areas of high interest and with organisations that have a focus on technology.
- Special emphasis should be put to existing customers that are addressed directly, disregarding the location or industry they belong to.
- Customers other than those in the telecommunications industry who are technology driven are more attractive.
- Customers whose application of the product is not critical to their business operations are more attractive due to a larger volume of sales.

There are three different variables which were not applied in the analysis, however these factors should also be considered when addressing customers:

Customer capabilities. This dimension has been divided into customers skilled with AAA and customers who are not skilled with AAA servers, therefore the firm should keep this aspect in mind when addressing the resulting market segments. For customers who are not skilled in AAA server implementations, it is advisable to offer consultation services for a full solution, in which the firm is involved from the design to the implementation phases of their customer project, in order to ensure that the customer obtains a fully functional solution. Given the specific nature of the offered products, the skillset required to implement and understand a solution is very high, therefore by offering implementation services to a non-skilled customer, either directly or through an integrator partner, the firm can avoid giving the impression of a product that is very difficult to use.

Purchasing approaches. This dimension has been divided in two groups based on the potential customer's budget: restricted and non-restricted budget. For customers with a very restricted budget, it is important to ensure only strictly required features are included in the offer made to the customer, such as the minimum required number of licences. Due to the price level of the products offered, there is a risk that customers with lower budgets will resort to implementing one of the competing open source solutions. For customers whose budget is not limited, emphasis should be put in the services offered in order to provide the best possible customer service.

Personal characteristics. In this dimension, customers were divided into risk averse and risk accepting. As it was previously stated, the firm's solution portfolio is backed up with

20 years of product development, which can be the base for a marketing strategy which aims to address customers who are averse to risk.

6. CONCLUSION

6.1 Summary of the results

Market segmentation is considered one of the most important concepts in marketing, given that it provides guidelines for marketing strategies, and when properly implemented, it can usually increase profitability (Wind, 1978). Nowadays it is common for firms to be tempted to focus on much larger and loosely defined markets, given the ease of access provided by mass communications and advanced transportation networks; however, not many companies possess the resources to address such a large pool of customers (Brassington and Pettitt, 2007). By segmenting a market into groups of customers with similarities among them, it is possible for a firm to identify which segments are appropriate for them to focus their marketing efforts on (Burk, 2004).

The objective of this study was to define a segmentation strategy for a firm in the internet software industry, taking into account the limitations encountered when implementing market segmentation in business markets. The key findings of this study aim to answer the following question:

"How to formulate an effective segmentation strategy for a firm in the internet software industry?"

In chapter 2.7, a preliminary research framework was developed to guide the research process. As it was previously mentioned, there are not many studies to be found which develop an implementation of a segmentation strategy in the business markets. Some strategies and variables were borrowed from consumer market segmentation and applied to a broad model used to segment industrial markets, called the nested model proposed by Shapiro and Bonoma (1984). As the authors mention, this model is merely a guideline and should not be followed in a cookbook fashion, but rather it should be adapted to individual situations and characteristics. The main advantage when utilising said model is the involvement of situational and personal variables and combining them with demographic variables, which are most commonly relied on in many cases, including that of the case company. Shapiro and Bonoma (1984) claim that beginning at the middle of the nest and working inward might be a better approach when knowledge and analysis of situational criteria is available. Given that the information available for analysis in this study is rather vague, the decision of involving all the levels of the nest was made, however by rearranging the model in a more suitable fashion. The nest has been rearranged to better adapt to the needs of the firm within the specified industry, and the evaluation of the segments has been adapted based on criteria used for technology industries. The analysis was performed using data from two different sources: website analytics and CRM software. This data was used to define and evaluate the segmentation

variables. Data from website analytics was used to define the outer layers of the nest, which involve demographic and operating characteristics of the market segments. Internal data stored in the firm's CRM system was then used to analyse the defined variables for the inner levels of the nest, which involve purchasing approaches, situational factors, and personal characteristics. By selecting the appropriate variables and evaluation criteria, firms in similar and related industries should be able to apply a similar approach and obtain a more defined segmentation plan, or at least to reach generic conclusions about the attractiveness of certain industries and customer groups.

This study also aims to answer the supporting question:

“Which market segments should the case company focus their efforts on?”

By combining the resulting segments based on their calculated potential attractiveness, a group of 22 segments was created as shown in Table 31.

Table 31. Market segments resulting from analysis.

	Location	Industry	Relationship	Power structures	Application
Segment 1	France	Telecommunications	Non-customer		Non-critical
Segment 2	France	Telecommunications	Direct customer		Non-critical
Segment 3	Australia	Telecommunications	Non-customer		Non-critical
Segment 4	Australia	Telecommunications	Direct customer		Non-critical
Segment 5	France	Educational services	Non-customer	Tech. driven	
Segment 6	Australia	Educational services	Non-customer	Tech. driven	
Segment 7	France	Educational services	Direct customer	Tech. driven	
Segment 8	Australia	Educational services	Direct customer	Tech. driven	
Segment 9	France	Public administration	Non-customer	Tech. driven	
Segment 10	Australia	Public administration	Non-customer	Tech. driven	
Segment 11	France	Public administration	Direct customer	Tech. driven	
Segment 12	Australia	Public administration	Direct customer	Tech. driven	
Segment 13	Germany	Telecommunications	Non-customer		Non-critical
Segment 14	Germany	Telecommunications	Direct customer		Non-critical
Segment 15	UK	Telecommunications	Non-customer		Non-critical
Segment 16	UK	Telecommunications	Direct customer		Non-critical
Segment 17	Germany	Educational services	Non-customer	Tech. driven	
Segment 18	UK	Educational services	Non-customer	Tech. driven	
Segment 19	Germany	Educational services	Direct customer	Tech. driven	
Segment 20	UK	Educational services	Direct customer	Tech. driven	
Segment 21	Canada	Telecommunications	Non-customer		Non-critical
Segment 22	Canada	Telecommunications	Direct customer		Non-critical

These segments show a combination of more specific characteristics defining them, which results in a more homogeneous group of customers within the segment, while having a clear difference between them. As a general note, this study found that for the case company, among the industries that are of interest, the telecommunications industry is the most attractive when addressing both current customers and potential customers, followed by the educational services industry, and lastly, the public administration industry. This does not mean however that the two latter should be disregarded, especially given the potential that they show in terms of volume of sales. When areas of large interest, such as France, Australia, and the United Kingdom, are being considered, the educational services industry has potential for sales, especially when these potential customers have a particular drive for technology. An overall conclusion can be drawn, which is that existing customers should have special attention from the firm, disregarding their location or industry. Existing customers have the potential of bringing sales coming from download access and support renewal, without involving much effort in sales activities. After developing a market segmentation strategy and selecting target market segments, Mitchell and Wilson (1998) advise organisations to begin their marketing efforts with what is familiar to them, given that the process of implementing and adapting a market segmentation strategy involves a learning process which is likely to be slow, and it is inappropriate to expect marketing managers to implement an optimum segmentation process from the start.

6.2 Managerial implications

Different firms in the technology industry may apply the framework presented in this study. By using their own historical records, customer behaviour related to their product or service can be analysed in order to define market segments relevant for these firms. The importance of market segmentation has been highlighted throughout the study, and firms which have a generic approach to segmentation such as the case company should consider implementing a market segmentation strategy, and for firms in similar industries this study can be used as a guideline.

It has been made clear how it has become easy for many companies to either completely disregard market segmentation or to follow a very general or purely demographic based approach. Although this might seem like an easy strategy, it leads to firms creating marketing programs that are not fit for the segments they are trying to serve, given that the similarity within the segment has not been established. By having a single strategy for different segments, the needs of all the customers within the segment cannot be addressed with the same marketing strategy.

The implications of this study for the firm are not only the implementation of a new plan to address the selected customer segments, but also to remain aware of the general conclusions drawn from the study.

Although customers in the telecommunications industry are the most attractive and one of the main sources of revenue, it is important to keep in mind the amount of sales effort required in this industry. For this reason, customers in both the educational services and public administration industries should get the required attention to obtain the potential recurring sales coming from them; these sales, although not very large in terms of amount, they are very important in terms of volume and reduced sales efforts from the firm.

Demographics play an important role in the market segmentation strategy. Starting the segmentation strategy using demographic variables helps the firm understand which regions are worth pursuing based on the industry that is being considered. As the results of this master's thesis have shown, educational services and public administration customers are particularly attractive in regions such as Australia and France, whereas customers in the telecommunications industry might remain attractive in other regions such as Canada.

Overall, it can be concluded that paying special attention to current customers is very important since these customers have the potential of generating recurring sales on a yearly basis, with a reduced amount of sales effort required for these sales. At the same time, the firm should keep in mind the customer capabilities, purchasing approaches, and personal characteristics of new customers when making new offers or creating new marketing plans to pursue new customers.

The case company should then pay special attention to overcome the challenges mentioned in section 2.6, especially the fear of losing sales volume by focusing on the selected segments. Marketing approaches that the firm has used in the past have proven to not be very substantial in terms of costs, therefore creating new marketing campaigns focused on the selected segments should be within the possibilities of the firm.

6.3 Theoretical contribution of the research

As it was mentioned in section 2.5, literature on market segmentation in technology industries is scarce, particularly in applications related to software firms. While there are plenty of sources citing the nested model to market segmentation by Shapiro and Bonoma (1984), only one study analysing a practical application of the model to a technology firm was found, presented by Weinstein (2011). In this study, Weinstein (2011) follows the nested model as a conceptual framework for market segmentation and applies it to Citrix Systems in an effort to identify new business opportunities in a very specific software market.

This study follows a similar approach, with the difference that the information used was information that companies may already have available at hand but might be using only for other purposes. Rather than using third party secondary information, this study uses data that directly reflects interactions with the product and service offered by the firm,

ranging from only a website page visit to an actual purchase. By using this information, not only does the report offer a way to structure the data to obtain the most relevant information, but also provides an overview of how actual customers in the industry interact with the product.

This study contributes to market segmentation research by providing an application of a well-studied model which does not have however many published applications. In the same way that Weinstein's (2011) application of the model served as a guideline for this study, the application presented in this thesis may help other firms in business markets and more specifically in the technology industry to guide them through the definition of relevant segmentation variables within the nested model to market segmentation and through the use of internal data to evaluate and select market segments.

This model worked well for the case company given that it has an emphasis on business markets and technology industries, however the inner most levels of the nested model remain very difficult to evaluate. Although the company keeps a comprehensive database of customer information in their CRM system, it is still difficult to keep records of more intrinsic characteristics of the people conducting business and making purchases. Therefore, the model used for this study works well in cases where there is a greater understanding of both the current and potential customer base, and when there is information available to be structured and analysed to obtain the most valuable data for the firm in question.

6.4 Limitations and suggestions for future research

The accuracy of the data used for the analysis limits the results of the study; given that data from the CRM system which is populated by employees of the company, this is subject to human error and possible missing entries. Another limitation for the study is the highly specific nature of the firm's product offer, therefore the applicability of the framework, although it can be useful as a guideline for other studies, is limited. Additionally, the author of the study is a full-time employee of the case company, giving them a deeper understanding of the company's current situation and providing extra leverage over other researchers.

Future research should be conducted for those industries that were excluded from this study, given that there is a large group of customers and potential customers that were not included due to a very loose definition of the industry they belong to. Although the three main industries that this study focus on are the most profitable, they represent 28% of the total opportunities in terms of potential revenue. This study focuses on what groups should the firm focus their marketing efforts on but does not address how to address these market segments. Future research could be conducted to formulate a marketing strategy on how to address specific marketing segments.

REFERENCES

- Abratt, R. (1993), Market segmentation practices of industrial marketers. *Industrial Marketing Management*, 22(2), 79–84.
- Brassington, F., Pettitt, S. (2007), *Essentials of Marketing*, 2nd edition, London: Pearson Education Limited.
- Burk Wood, M. (2004), *Marketing Planning principles into practice*, 1st edition, London: Pearson Education Limited.
- Burns, A. C., Bush, R. F. (2006), *Marketing research*, 5th edition, Upper Saddle River: Pearson Education Limited.
- Cooper, D. R., Schindler, P. S. (2003), *Business research methods*, 8th edition, New York: McGraw-Hill.
- Du Plessis, E., Human, S. P. (2009), Reflecting on "meaningful research": A qualitative secondary analysis. *Curatationis*, 32(3), 72-79.
- Foedermayr, E. K., Diamantopoulos, A. (2008) Market segmentation in practice: Review of empirical studies, methodological assessment, and agenda for future research. *Journal of Strategic Marketing*, 16(3), 225–263.
- Freytag, P. V., Højbjerg Clarke, A. (2001), Business to Business Market Segmentation, *Journal of Industrial Marketing Management* 30, 473–486.
- Golafshani, N. (2003), Understanding Reliability and Validity in Qualitative Research. *The Qualitative Report*, 8(4), 597-606.
- Hollensen, S. (2011), *Global marketing, a decision-oriented approach*, 5th edition, London: Pearson Education Limited.
- Hooley, G., Piercy, N. F., Nicoulaud, B. (2012), *Marketing strategy and competitive positioning*, 5th edition, London: Pearson Education Limited.
- Hutt, M. D., Speh, T. W. (2013), *Business marketing management: B2B*, 11th edition, Australia: South-Western Cengage Learning.
- Kalafatis, S. P., Tsogas, M. H. (1998), Congruence of adopted segmentation strategies and perceived effectiveness of segmentation bases. *Journal of Segmentation in Marketing*, 2(1), 36–63.

Kotler, P. (2003), *Marketing management: Analysis, planning, implementing, and control*, Upper Saddle River: Prentice Hall, p. 102.

Kotler, P., Keller, K. L. (2016), *Marketing management*, 15th edition, London: Pearson Education.

Laiderman, J. (2005), A structured approach to B2B segmentation. *Database Marketing & Customer Strategy Management*, 13(1), 64-75.

Laughlin, J. L., Taylor, C. R. (1991), An approach to industrial market segmentation. *Industrial Marketing Management*, 20(2), 127–136.

Metz, C. (1999), AAA Protocols: Authentication, Authorization, and Accounting for the Internet. *IEEE Internet Computing*, 3(6), 75-79.

Miraz, M. H., Ali, M., Excell, P. S. (2017), Cultural, Economic and Societal Impacts on Users' Behaviour and Mobile Broadband Adoption Trends. *Annals of Emerging Technologies in Computing (AETiC)*, 1(1).

Mitchell, V-W., Wilson, D. F. (1998), Balancing Theory and Practice: A Reappraisal of Business-to-Business Segmentation. *Industrial Marketing Management* 27, 429–445

McDaniel, C., Gates, R. (1996), *Contemporary Marketing Research*, 3rd edition.

Palmer, R. A., Millier, P. (2004), Segmentation: Identification, intuition, and implementation. *Industrial Marketing Management*, 33(8), 779–785.

Plank, R.E. (1985), A critical review of industrial market segmentation. *Industrial Marketing Management*, 14(May), 79-91.

Powers, T. L., Sterling, J. U. (2008), Segmenting business-to-business markets: a micro-macro linking methodology. *Journal of Business & Industrial Marketing*, 23(3), 170-177.

Rew, L., Koniak-Griffin, D., Lewis, M. A., Miles, M., O'Sullivan, A. (2000), Secondary data analysis: New perspective for adolescent research. *Nursing Outlook*, 48(5), 223- 229.

Riege, A. M. (2003), Validity and reliability tests in case study research: a literature review with “hands-on” applications for each research phase, *Qualitative Market Research: An International Journal*, 6(2), 75-86.

Roberts, P., Priest, H., Traynor, M. (2006) Reliability and validity in research. *Nursing Standard*, 20(44), 41-45.

Sayre, S. (2001), *Qualitative methods for marketplace research*, London: Sage Publications.

Shapiro, B. P., Bonoma, T. V. (1984), How to Segment Industrial Markets. Harvard Business Review, May 1984

Sherif, V. (2018), Evaluating preexisting qualitative research data for secondary analysis. Forum: Qualitative Social Research, 19(2), Art. 7.

Simkin, L. (2008), Achieving market segmentation from B2B sectorisation. Journal of Business & Industrial Marketing, 23(7), 464-474.

Simkin, L., Dibb, S. (1998), Prioritising target markets. Market Intelligence & Planning, 16(7), 407-417.

Stenbacka, C. (2001), Qualitative research requires quality concepts of its own. Management Decision, 39(7), 551-555.

Trivedi, N., Asamoah, D. A., Doran, D. (2016), Keep the conversations going: engagement-based customer segmentation on online social service platforms. Information Systems Frontiers (2018) 20:239-257

U.S. Census Bureau. (2017), North American Industry Classification System. Available at: <https://www.census.gov/eos/www/naics/2017NAICS/2017_NAICS_Manual.pdf> [Accessed on 29.08.2018].

Vitale, R., Giglierano, J., Pfoertsch, W. (2011), Business-to-business marketing: Analysis and practice, 1st edition, Upper Saddle River: Prentice Hall.

Weinstein, A. (2011), Segmenting technology markets: applying the nested approach. Marketing Intelligence & Planning 29(7), 672-686.

Weinstein, A. (2014), Target market selection in B2B technology markets. Journal of Marketing Analytics, 2(1), 59-69.

Zaghloul, S., Jukan, A. (2007), Relating the AAA and the Radio Access Rates in 3G Cellular Networks. IEEE Communications Letters, 11(4), 363-365.

APPENDIX A: GOOGLE ANALYTICS REPORT.

Country	Users	New Users	Sessions	Bounce Rate	Pages / Session	Avg. Session Duration
United Sta	3802	3777	4523	73,67%	2,16	72,31
India	2142	2132	2526	74,11%	1,80	54,49
Australia	1309	1288	1765	62,83%	2,48	104,68
Germany	765	744	1155	44,76%	3,27	125,38
United Kin	705	692	956	51,99%	3,06	138,21
Canada	480	475	683	61,49%	2,96	123,37
France	399	390	606	47,85%	3,21	147,80
Spain	398	376	634	50,32%	3,04	141,05
Netherland	392	384	590	45,93%	3,49	195,65
Italy	375	371	573	51,83%	2,99	130,08
Indonesia	351	347	455	58,90%	2,45	126,75
Brazil	349	349	420	67,38%	2,34	110,92
Finland	317	290	2276	36,03%	3,21	246,39
Turkey	271	266	354	56,21%	2,99	139,19
Iran	257	254	302	81,13%	1,85	76,49
Russia	248	243	304	61,84%	2,63	139,87
Philippines	234	234	279	73,48%	2,01	73,73
Portugal	201	195	377	48,01%	3,27	190,00
Sweden	199	196	319	42,32%	3,44	164,52
Malaysia	197	191	280	58,21%	2,76	121,85
South Africa	181	178	247	52,63%	2,63	112,43
Taiwan	171	168	230	57,83%	2,86	111,37
Ukraine	163	160	222	56,31%	3,19	192,08
Singapore	159	154	253	59,29%	2,80	130,79
Vietnam	155	150	275	46,91%	3,19	189,80
Hong Kong	147	146	222	49,55%	3,24	183,68
Czechia	145	143	273	49,08%	2,83	166,88
Belgium	142	133	213	51,17%	3,14	141,97
Switzerland	131	123	189	51,32%	3,64	122,79
Poland	126	121	164	58,54%	2,35	111,87
Colombia	108	106	177	57,06%	2,85	113,70
New Zealand	108	102	184	42,93%	3,32	204,90
Austria	100	95	201	39,30%	3,14	113,55
Lebanon	96	96	111	65,77%	2,59	103,79
Israel	82	80	117	57,26%	2,33	103,26
Denmark	80	79	122	49,18%	3,67	143,61
Sri Lanka	76	76	111	55,86%	2,38	105,48
Slovakia	68	66	109	55,96%	2,87	237,48
United Arab	67	62	100	58,00%	2,96	178,69
Serbia	65	64	90	54,44%	3,06	117,20
Chile	61	60	92	40,22%	3,57	159,13
Tunisia	58	57	77	57,14%	2,95	131,38
Croatia	51	49	69	56,52%	3,46	166,30
Cyprus	46	46	70	48,57%	3,16	126,46

Norway	45	45	72	50,00%	2,44	131,68
Greece	39	39	55	52,73%	3,20	139,45
Kuwait	38	35	69	50,72%	3,38	212,22
Estonia	23	23	34	52,94%	3,32	168,21
Tanzania	20	20	31	58,06%	3,52	155,13
Laos	18	18	20	85,00%	1,70	137,70
Guatemala	15	16	28	53,57%	2,21	111,04
Jamaica	15	15	18	72,22%	1,50	101,22
Monteneg	15	15	20	55,00%	2,40	139,80
Angola	14	14	27	25,93%	4,00	205,81
Belize	14	14	23	39,13%	5,26	179,39
Puerto Rico	12	12	16	31,25%	3,38	129,25
Maldives	11	11	13	69,23%	2,15	141,46
Liechtenst	10	10	50	24,00%	4,44	200,42
Macau	10	10	12	33,33%	3,00	48,75
Mozambiq	10	10	12	75,00%	2,25	42,42
Bosnia & H	9	9	9	77,78%	1,78	6,11
Barbados	9	8	11	63,64%	1,64	62,91
Sudan	9	9	9	77,78%	1,22	14,78
Uganda	9	9	10	80,00%	1,50	14,20
Zambia	9	9	10	60,00%	2,30	86,20
Guadeloup	8	6	16	25,00%	5,50	233,75
Honduras	8	8	11	72,73%	1,73	28,55
Namibia	8	8	16	43,75%	3,06	281,81
Papua Nev	8	8	13	46,15%	3,38	152,69
Trinidad &	8	8	15	73,33%	3,53	182,13
Yemen	8	8	10	100,00%	1,00	0,00
Brunei	7	7	7	71,43%	2,57	30,14
Bahamas	7	7	24	20,83%	8,96	354,75
Cape Verd	7	7	9	44,44%	2,67	182,00
Guyana	7	7	15	53,33%	3,27	49,53
Madagasc	7	7	7	42,86%	1,86	80,86
Mali	7	7	8	87,50%	1,25	12,75
Malta	7	7	7	71,43%	1,29	32,57
Paraguay	7	7	7	85,71%	1,14	1,86
Chad	7	7	18	38,89%	3,67	274,78
Gabon	6	5	7	85,71%	1,29	132,57
Cayman Isl	6	5	6	50,00%	4,17	24,83
Mauritius	6	6	6	66,67%	1,33	2,17
Uruguay	6	6	6	100,00%	1,00	0,00
Bhutan	5	5	7	71,43%	1,29	3,86
Curaçao	5	5	7	57,14%	1,57	206,43
Haiti	5	5	5	80,00%	1,20	1,40
Iceland	5	5	6	66,67%	2,33	9,33
Senegal	5	5	5	80,00%	1,80	2,60
Togo	5	5	5	80,00%	1,20	11,60

Uzbekistar	5	5	7	57,14%	2,14	43,14
Andorra	4	4	5	20,00%	2,80	264,60
Benin	4	4	4	100,00%	1,00	0,00
Botswana	4	4	4	50,00%	3,50	74,25
Fiji	4	4	4	100,00%	1,00	0,00
Kyrgyzstan	4	4	4	75,00%	7,25	295,75
Swaziland	4	4	4	0,00%	4,50	212,25
Aruba	3	3	3	66,67%	1,67	22,00
Bahrain	3	3	4	50,00%	6,25	410,00
Grenada	3	3	4	75,00%	1,25	2,25
Moldova	3	3	3	0,00%	2,67	30,33
Nicaragua	3	3	3	100,00%	1,00	0,00
Sierra Leor	3	3	3	66,67%	2,00	249,67
Suriname	3	3	3	100,00%	1,00	0,00
Antigua &	2	2	2	0,00%	2,50	36,50
Burkina Fa	2	2	2	100,00%	1,00	0,00
Gibraltar	2	2	4	75,00%	1,25	48,75
Gambia	2	2	2	100,00%	1,00	0,00
Equatorial	2	2	2	100,00%	1,00	0,00
Jersey	2	2	4	75,00%	1,25	238,75
Liberia	2	2	2	100,00%	1,00	0,00
Martinique	2	2	4	50,00%	5,00	165,25
Malawi	2	2	2	50,00%	2,00	50,50
French Pol	2	2	2	0,00%	2,50	13,50
Rwanda	2	2	2	100,00%	1,00	0,00
Sint Maart	2	2	6	50,00%	4,00	299,17
American !	1	1	1	0,00%	7,00	136,00
Burundi	1	1	1	0,00%	2,00	1,00
Congo - Br	1	1	1	0,00%	2,00	106,00
French Gui	1	1	2	50,00%	1,50	8,00
Guernsey	1	1	1	0,00%	2,00	64,00
Greenland	1	1	1	100,00%	1,00	0,00
Guinea	1	1	2	0,00%	2,50	2,00
Comoros	1	1	1	100,00%	1,00	0,00
St. Lucia	1	1	1	0,00%	4,00	48,00
Lesotho	1	1	1	0,00%	2,00	884,00
	24551	24222	32999	63,16%	2,41	100,48

APPENDIX B: RESULTS FROM ANALYTICS REPORT

Australia	1309	1288	1765	62,83%	2,48	104,68	1	1	1	3
Germany	765	744	1155	44,76%	3,27	125,38	1	1	1	3
United Kin	705	692	956	51,99%	3,06	138,21	1	1	1	3
Canada	480	475	683	61,49%	2,96	123,37	1	1	1	3
France	399	390	606	47,85%	3,21	147,80	1	1	1	3
Spain	398	376	634	50,32%	3,04	141,05	1	1	1	3
Netherland	392	384	590	45,93%	3,49	195,65	1	1	1	3
Italy	375	371	573	51,83%	2,99	130,08	1	1	1	3
Indonesia	351	347	455	58,90%	2,45	126,75	1	1	1	3
Brazil	349	349	420	67,38%	2,34	110,92	0	1	1	2
Finland	317	290	2276	36,03%	3,21	246,39	1	1	1	3
Turkey	271	266	354	56,21%	2,99	139,19	1	1	1	3
Russia	248	243	304	61,84%	2,63	139,87	1	1	1	3
Portugal	201	195	377	48,01%	3,27	190,00	1	1	1	3
Sweden	199	196	319	42,32%	3,44	164,52	1	1	1	3
Malaysia	197	191	280	58,21%	2,76	121,85	1	1	1	3
South Afric	181	178	247	52,63%	2,63	112,43	1	1	1	3
Taiwan	171	168	230	57,83%	2,86	111,37	1	1	1	3
Ukraine	163	160	222	56,31%	3,19	192,08	1	1	1	3
Singapore	159	154	253	59,29%	2,80	130,79	1	1	1	3
Vietnam	155	150	275	46,91%	3,19	189,80	1	1	1	3
Hong Kong	147	146	222	49,55%	3,24	183,68	1	1	1	3
Czechia	145	143	273	49,08%	2,83	166,88	1	1	1	3
Belgium	142	133	213	51,17%	3,14	141,97	1	1	1	3
Switzerlan	131	123	189	51,32%	3,64	122,79	1	1	1	3
Poland	126	121	164	58,54%	2,35	111,87	1	1	1	3
Colombia	108	106	177	57,06%	2,85	113,70	1	1	1	3
New Zeala	108	102	184	42,93%	3,32	204,90	1	1	1	3
Austria	100	95	201	39,30%	3,14	113,55	1	1	1	3
Lebanon	96	96	111	65,77%	2,59	103,79	0	1	1	2
Israel	82	80	117	57,26%	2,33	103,26	1	1	1	3
Denmark	80	79	122	49,18%	3,67	143,61	1	1	1	3
Sri Lanka	76	76	111	55,86%	2,38	105,48	1	1	1	3
Slovakia	68	66	109	55,96%	2,87	237,48	1	1	1	3
United Ara	67	62	100	58,00%	2,96	178,69	1	1	1	3
Serbia	65	64	90	54,44%	3,06	117,20	1	1	1	3
Chile	61	60	92	40,22%	3,57	159,13	1	1	1	3
Tunisia	58	57	77	57,14%	2,95	131,38	1	1	1	3
Croatia	51	49	69	56,52%	3,46	166,30	1	1	1	3
Cyprus	46	46	70	48,57%	3,16	126,46	1	1	1	3
Norway	45	45	72	50,00%	2,44	131,68	1	1	1	3
Greece	39	39	55	52,73%	3,20	139,45	1	1	1	3
Kuwait	38	35	69	50,72%	3,38	212,22	1	1	1	3
Estonia	23	23	34	52,94%	3,32	168,21	1	1	1	3
Tanzania	20	20	31	58,06%	3,52	155,13	1	1	1	3
Guatemala	15	16	28	53,57%	2,21	111,04	1	1	1	3
Monteneg	15	15	20	55,00%	2,40	139,80	1	1	1	3
Angola	14	14	27	25,93%	4,00	205,81	1	1	1	3
Belize	14	14	23	39,13%	5,26	179,39	1	1	1	3
Puerto Ric	12	12	16	31,25%	3,38	129,25	1	1	1	3
Maldives	11	11	13	69,23%	2,15	141,46	0	1	1	2
Liechtenst	10	10	50	24,00%	4,44	200,42	1	1	1	3
Macau	10	10	12	33,33%	3,00	48,75	1	1	0	2
Guadeloup	8	6	16	25,00%	5,50	233,75	1	1	1	3
Namibia	8	8	16	43,75%	3,06	281,81	1	1	1	3
Papua Nev	8	8	13	46,15%	3,38	152,69	1	1	1	3
Trinidad &	8	8	15	73,33%	3,53	182,13	0	1	1	2
Bahamas	7	7	24	20,83%	8,96	354,75	1	1	1	3
Cape Verdi	7	7	9	44,44%	2,67	182,00	1	1	1	3
Chad	7	7	18	38,89%	3,67	274,78	1	1	1	3
Andorra	4	4	5	20,00%	2,80	264,60	1	1	1	3
Kyrgyzstan	4	4	4	75,00%	7,25	295,75	0	1	1	2
Swaziland	4	4	4	0,00%	4,50	212,25	1	1	1	3
Bahrain	3	3	4	50,00%	6,25	410,00	1	1	1	3
Moldova	3	3	3	0,00%	2,67	30,33	1	1	0	2
Antigua &	2	2	2	0,00%	2,50	36,50	1	1	0	2
Martinique	2	2	4	50,00%	5,00	165,25	1	1	1	3
French Pol	2	2	2	0,00%	2,50	13,50	1	1	0	2
Sint Maart	2	2	6	50,00%	4,00	299,17	1	1	1	3
American S	1	1	1	0,00%	7,00	136,00	1	1	1	3
Congo - Br	1	1	1	0,00%	2,00	106,00	1	0	1	2
Guinea	1	1	2	0,00%	2,50	2,00	1	1	0	2
St. Lucia	1	1	1	0,00%	4,00	48,00	1	1	0	2
Lesotho	1	1	1	0,00%	2,00	884,00	1	0	1	2

APPENDIX C: OPPORTUNITY REPORT FROM CRM

Industry	Billing Country	Parent Account	Amount
Technology	Australia		
Telco	Austria		7074,00
Technology	Australia		208080,00
Education	Australia		3186,00
Telco	Canada		5400,00
Telco	Canada		100800,00
Telco	Singapore		3186,00
Telco	Singapore		3960,00
Technology	India		0,00
Technology	France		86400,00
Technology	France		183240,00
Technology	France		16200,00
Technology	France		25560,00
Technology	France		25560,00
Technology	France		118080,00
Technology	France		63190,80
Technology	Japan		14112,00
Technology	Japan		14112,00
Technology	USA		14112,00
Health	USA		1026,00
Automotive	New Zealand		3186,00
Technology	Iran		0,00
Technology	Iran		141058,80
Technology	Iran		36766,80
Technology	Iran		141058,80
Technology	India		100800,00
Technology	India		0,00
Education	USA		3780,00
Technology	Malta		127800,00
Telco	Spain		14112,00
Technology	The Netherlands		14148,00
Education	Australia		3780,00
Government	Australia		1674,00
Technology	Australia		100800,00
Technology	PORTUGAL		161280,00
Education	Israel		15390,00
Finance	Austria		0,00
Finance	Austria		3780,00
Government	Germany		7074,00
Technology	Canada		3780,00
Technology	China		14112,00
Technology	China		14112,00
Technology	China		14112,00
Telco	Belgium		0,00
Telco	Belgium		0,00
Education	Czech Republik		324,00
Technology	Germany		16200,00
Technology	Germany		0,00
Finance	USA		126360,00
Telco	France		118656,00
Technology	Australia		3780,00
Telco	Italy		7074,00
Technology	India		14112,00
Technology	India		14112,00
Technology	USA		14112,00
Technology	India		28224,00
Technology	Brasil		0,00
Technology	USA		100800,00
Technology	USA		90000,00
Telco	UK		0,00

Technology	Taiwan		28224,00
Consulting	Italy		0,00
Technology	Australia		0,00
Technology	Australia		12600,00
Technology	Brazil		14112,00
Technology	UK		0,00
Technology	Canada		3780,00
Technology	France		0,00
Technology	France		118656,00
Technology	France		86400,00
Finance	Germany		16200,00
Finance	Germany		0,00
Technology	Azerbaijan		16200,00
Health	Canada		7074,00
Technology	Germany		14112,00
Technology	Czech Republik		7074,00
Education	Sweden		3780,00
Telco	Taiwan		84960,00
Technology	USA		127800,00
Government	Australia		5760,00
Government	Finland		1944,00
Technology	US		147240,00
Technology	US		23040,00
Technology	Australia		0,00
Technology	Israel		0,00
Technology	New Zealand		6480,00
Technology	New Zealand		0,00
Technology	GERMANY		183240,00
Education	Canada		3186,00
Technology	Germany		0,00
Government	India		14112,00
Education	USA		0,00
Technology	United Kingdom		11160,00
Energy	USA		11340,00
Education	Australia		5400,00
Education	USA		5292,00
Technology	USA		90180,00
Telco	Samoa		3780,00
Telco	MARTINIQUE		81990,00
Telco	Italy		16200,00
Education	USA		3780,00
Technology	Hong Kong		14112,00
Technology	USA		3780,00
Telco	Elisa		689360,40
Technology	USA		155196,00
Technology	Australia		2700,00
Government	UK		3186,00
Technology	Tunisia		0,00
Technology	USA		1620,00
Education	THE NETHERLANDS		6480,00
Technology	Sweden		885830,40
Technology	Sweden		657460,80
Technology	Sweden		357739,20
Technology	Australia		2268,00
Technology	Colombia		540,00
Telco	USA		127800,00
Technology	United Kingdom		0,00
Technology	United Kingdom		10800,00
Technology	USA		10800,00
Education	USA		5400,00

Telco	Belarus		18144,00
Technology	USA		3186,00
Technology	USA		0,00
Transportation	France		11880,00
Technology	Spain		474663,60
Technology	Spain		16200,00
Telco	Greece		0,00
Health	Germany		2700,00
Technology	United Kingdom		5400,00
Technology	United Kingdom		0,00
Technology	The Netherlands		2700,00
Technology	Taiwan		14112,00
Technology	Italy		0,00
Research	UK		0,00
Research	UK		3780,00
Technology	Taiwan		540,00
Gambling and Casinos	UK		1026,00
Technology	India		14112,00
Education	UK		0,00
Technology			3186,00
Education	Australia		10119,60
Technology	Russian Federation		3888,00
Energy	Sweden		16200,00
Telco	AUSTRALIA		37080,00
Education	USA		54540,00
Education	Nederland		0,00
Technology	Australia		3186,00
Education	Netherlands		4320,00
Education	Sweden		6372,00
Technology	New Zealand		0,00
Aviation	Hong Kong		324,00
Technology	China		30600,00
Technology	USA		7074,00
Technology	Austria		3186,00
Technology	Brasil		0,00
Technology	US		12960,00
Technology	Denmark		6696,00
Telco	France		24750,00
Telco	France		5324,40
Technology	USA		2160,00
Technology	USA		14112,00
Education	USA		3088,80
Technology	Spain		0,00
Technology	Spain		30600,00
Technology	Oman		62280,00
Technology	United Arab Emirates		5760,00
Education	Portugal		2343,60
Education	Poland		3240,00
Telco	SAUDI ARABIA		68040,00
Telco	SAUDI ARABIA		7020,00
Technology	USA		14112,00
Technology	France		14112,00
Technology	EL SALVADOR		52560,00
Technology	USA		14112,00
Technology	USA		85320,00
Technology	Malaysia		45540,00
Technology	MALAYSIA		9000,00
Technology	India		0,00
Technology	TURKEY		0,00
Education	The Netherlands		972,00

Technology	USA	3240,00
Technology	Malaysia	10800,00
Education	UK	0,00
Technology	United Kingdom	16200,00
Technology	United Kingdom	3960,00
Education	Sweden	6372,00
Education	Belgium	3780,00
Education	Switzerland	0,00
Education	Switzerland	60570,00
Education	Switzerland	0,00
Technology	Croatia	80640,00
Technology	Croatia	18144,00
Technology	Croatia	80640,00
Technology	Croatia	118080,00
Telco	Croatia	1340424,00
Energy	Sweden	7992,00
Technology	Germany	5760,00
Research	USA	3186,00
Technology	Philippines	14112,00
Technology	USA	0,00
Education	Sweden	2700,00
Education	Sweden	16200,00
Trading	United Kingdom	3780,00
Trading	United Kingdom	0,00
Procurement		
outsourcing	France	147600,00
Education	United States	2700,00
Technology	France	102240,00
Health	The Netherlands	2700,00
Technology	Germany	3780,00
Technology	Switzerland	7200,00
Technology	India	14112,00
Government	Australia	19800,00
Technology	Portugal	21222,00
Technology	Finland	14112,00
Technology	Finland	7074,00
Technology	UAE	127800,00
Technology	USA	5760,00
Government	Canada	2700,00
Government	TRINIDAD & TOBAGO	3780,00
Government	Estonia	0,00
Technology	Brazil	3240,00
Education	Australia	7020,00
Education	Australia	9000,00
Education	Australia	6480,00
Education	Australia	6480,00
Telco	Mongolia	18360,00
Education	Canada	6426,00
Technology	Hong Kong	127800,00
Technology	New Zealand	4428,00
Technology	Australia	30960,00
Telco	Australia	3661,20
Telco	Australia	75600,00
Telco	Australia	3330,00
Telco	Australia	90990,00
Telco	Singapore	0,00
Technology	Germany	6480,00
Technology	Australia	0,00
Technology	Australia	3240,00
Telco	Sweden	16200,00
Telco	Sweden	0,00

Education	USA		2700,00
Technology	Singapore		6840,00
Technology	Singapore		0,00
Education	USA		0,00
Technology	AUSTRALIA		10800,00
Technology	Norway		0,00
Technology	CROATIA		100800,00
Technology	United States		3186,00
Government	USA		0,00
Technology	India		14112,00
Education	The Netherlands		0,00
Technology	Sweden		0,00
Technology	PORTUGAL		201600,00
Technology			0,00
Technology	France		7074,00
Education	USA		2343,60
Technology	USA		1026,00
Education	Canada		2700,00
Technology	Australia		3780,00
Health	Canada		15120,00
Telco	Qatar		10800,00
Technology	Switzerland		16200,00
Technology	India		127800,00
Telco	Spain		5292,00
Government	USA		2052,00
Telco	France		16200,00
Consulting	United Kingdom		0,00
Technology	Hong Kong		0,00
Technology	USA		3780,00
Technology	Spain		177397,20
Technology	Canada		1026,00
Education	Canada		2700,00
Telco	Cyprus		25560,00
Telco	Cyprus		0,00
Education	Thailand		1620,00
Telco	Ukraine		7074,00
Telco	Ukraine		7074,00
Technology	Serbia		0,00
Technology	The Netherlands		3888,00
Telco	BELGIUM		25560,00
Telco	BELGIUM		86400,00
Technology	Italy		6480,00
Technology	Italy		7074,00
Technology	Indonesia		6840,00
Transportation	France		137808,00
Technology	Brazil		3240,00
Technology	India		14112,00
Technology	India		14112,00
Technology	Israel		0,00
Technology	Netherlands		16200,00
Technology	Portugal		615,60
Government	SWITZERLAND		3078,00
Technology	Japan		5644,80
Technology	USA		0,00
Technology	VIETNAM		9990,00
Technology	South Korea		14112,00
Technology	South Korea		14112,00
Aerospace	United Kingdom		5400,00
Technology	Canada		7074,00
Research	Belgium		1620,00
Technology	Romania		16200,00

Technology	Turkey		0,00
Technology	Switzerland	██████████	1728,00
Technology	Spain		0,00
Energy	Italy		4590,00
Technology	France	██████████	0,00
Technology	Taiwan		14112,00
Technology	United Kingdom	██████████	14112,00
Hospitality	El Salvador		5760,00
Technology	USA	██████████	2700,00
Technology	USA	██████████	16200,00
Technology	USA	██████████	5940,00
Technology	USA	██████████	5940,00
Technology	Slovenia	██████████	9990,00
Technology	USA	██████████	30600,00
Technology	USA	██████████	9666,00
Energy	United Kingdom		0,00
Energy	United Kingdom		6480,00
Technology	France	██████████	14112,00
Technology	Finland	██████████	14112,00
Education	Canada		3780,00
Technology	Australia		122025,60
Hospitality	Portugal	██████████	7074,00
Technology	UK		127800,00
Technology	France		183240,00
Technology	Australia		23976,00
Transportation	France	██████████	16200,00
Transportation	France	██████████	2700,00
Technology	United Kingdom		0,00
Technology	Canada		10800,00
Technology	Canada		9990,00
Technology	Germany		183240,00
Technology	Sweden	██████████	14112,00
Technology	Japan		2160,00
Telco	New Zealand		5400,00
Technology	Czech Republic		16200,00
Technology	Czech Republic		0,00
Technology	USA		86400,00
Technology	Italy		0,00
Health	The Netherlands		16200,00
Health	The Netherlands		16200,00
Education	The Netherlands		3186,00
Technology	France		16200,00
Technology	France		3186,00
Consulting	Czech Republic		0,00
Education	USA	██████████	5292,00
Technology	Liechtenstein		0,00
Transportation	Australia		162403,20
Technology	South Africa		0,00
Technology	UNITED KINGDOM		4320,00
Telco			0,00
Telco			0,00
Telco	India	██████████	7236,00
Technology	China	██████████	14112,00
Telco	Denmark		0,00
Telco	Denmark		3780,00
Technology	USA		172800,00
Technology	India		0,00
Telco	FRANCE		10490,40
Telco	Sweden		16200,00
Telco	Italy	██████████	3780,00
Telco	Liechtenstein		4428,00
Telco	Chile		25560,00
Telco	United Kingdom		12780,00
Telco	Malaysia	██████████	88560,00
Telco	Denmark		117360,00
Telco	Denmark		0,00
Telco	Sweden		16200,00
Telco	Sweden		0,00
Telco	Sweden		0,00
Telco	Sweden		2160,00

Telco	Australia		16200,00
Technology	Portugal		0,00
Technology	Lebanon		3780,00
Aerospace	France		107280,00
Technology	UAE		6480,00
Education	UK		3780,00
Technology	South Africa		0,00
Education	USA		9990,00
Education	Canada		5400,00
Technology	United Kingdom		0,00
Technology	United Kingdom		0,00
Technology	Italy		0,00
Technology	Germany		7074,00
Technology	Japan		14112,00
Technology	USA		127800,00
Technology	New Zealand		2700,00
Technology	New Zealand		2700,00
Technology	Pakistan		0,00
Technology	Pakistan		14040,00
Education	USA		0,00
Technology	USA		14112,00
Finance	USA		3780,00
Education	Sweden		3780,00
Technology	USA		14112,00
Technology	Colombia		7074,00
Technology	Colombia		7074,00
Telco	Slovenia		7074,00
Government	USA		9990,00
Education	Portugal		615,60
Education	Portugal		2700,00
Education	Portugal		4590,00
Education	Germany		2700,00
Education	Spain		540,00
Education	Switzerland		2700,00
Education	Ireland		16200,00
Education	The Netherlands		3780,00
Education	Canada		3780,00
Education	Netherlands		4320,00
Education	Canada		5400,00
Education	Finland		2700,00
Education	USA		6840,00
Education	USA		4104,00
Education	USA		2700,00
Education	USA		7074,00
Education	Belgium		3186,00
Education	Australia		3780,00
Education	Canada		3186,00
Education	UK		1620,00
Education	USA		3186,00
Education	Australia		9990,00
Education	Slovakia		615,60
Technology	St. Maarten		3186,00
Technology	Austria		16200,00
Chemical	Germany		2343,60
Construction	USA		3186,00
Technology	Lebanon		0,00
Telco	USA		9990,00
Technology	Germany		0,00
Technology	Singapore		5400,00
Technology	BELGIUM		3960,00
Technology	India		14112,00
Technology	Japan		28224,00
Technology	Japan		14112,00
Consulting	FRANCE		215460,00

Education	Germany		0,00
Telco	Australia		3780,00
Telco	Australia		30600,00
Telco	Italy		7074,00
Telco	Turkey		5400,00
Telco	Australia		2343,60
Technology	Chile		0,00
Technology	USA		6840,00
Technology	Italy		3186,00
Technology	Italy		648,00
Technology	Italy		16200,00
Technology	Italy		3834,00
Technology	Australia		0,00
Telco	Spain		18360,00
Government	Switzerland		16200,00
Government	Switzerland		16200,00
Technology	India		14112,00
Manufacturing	The Netherlands		5760,00

APPENDIX D: DETAILED LIST OF MARKET SEGMENTS.

Segment 1: A segment composed of customers in the telecommunications industry (44) located in France (49) which are not currently customers (37) and their application of the product is not critical to their business operations (44). This segment has a resulting score of 43,5.

Segment 2: A segment composed of customers in the telecommunications industry (44) located in France (49) which are customers of the company (36) addressed directly (45) and their application of the product is not critical to their business operations (44). This segment has a resulting score of 43,6.

Segment 3: A segment composed of customers in the telecommunications industry (44) located in Australia (39) which are not currently customers (37) and their application of the product is not business critical (44). This segment has a score of 41.

Segment 4: A segment composed of customers in the telecommunications industry (44) located in Australia (39) which are customers of the firm (36) addressed directly (45) and their application of the product is not business critical (44). This segment has a score of 41,6.

Segment 5: Segment composed of customers in the educational services industry (18) located in France (49) which are not currently customers (37) and are technology driven (50). This segment has a score of 38,5.

Segment 6: Segment composed of customers in the educational services industry (18) located in Australia (39) which are not currently customers (37) and are technology driven (50). This segment has a score of 36.

Segment 7: Segment composed of customers in the educational services industry (18) located in France (49) which are currently customers (36) addressed directly (45) and are technology driven (50). This segment has a score of 39,6.

Segment 8: Segment composed of customers in the educational services industry (18) located in Australia (39) which are currently customers (36) addressed directly (45) and are technology driven (50). This segment has a score of 37,6.

Segment 9: Segment composed of customers in the public administration industry (12) located in France (49) which are not currently customers (37) and are technology driven (50). This segment has a score of 37.

Segment 10: Segment composed of customers in the public administration industry (12) located in Australia (39) which are not currently customers (37) and are technology driven (50). This segment has a score of 34,5.

Segment 11: Segment composed of customers in the public administration industry (12) located in France (49) which are currently customers (36) addressed directly (45) and are technology driven (50). This segment has a score of 38,4.

Segment 12: Segment composed of customers in the public administration industry (12) located in Australia (39) which are currently customers (36) addressed directly (45) and are technology driven (50). This segment has a score of 36,4.

Segment 13: A segment composed of customers in the telecommunications industry (44) located in Germany (23) which are not currently customers (37) and their application of the product is not critical to their business operations (44). This segment has a resulting score of 37.

Segment 14: A segment composed of customers in the telecommunications industry (44) located in Germany (23) which are customers of the company (36) addressed directly (45) and their application of the product is not critical to their business operations (44). This segment has a resulting score of 38,4.

Segment 15: A segment composed of customers in the telecommunications industry (44) located in the United Kingdom (18) which are not currently customers (37) and their application of the product is not critical to their business operations (44). This segment has a resulting score of 35,75.

Segment 16: A segment composed of customers in the telecommunications industry (44) located in the United Kingdom (18) which are customers of the company (36) addressed directly (45) and their application of the product is not critical to their business operations (44). This segment has a resulting score of 37,4.

Segment 17: Segment composed of customers in the educational services industry (18) located in Germany (23) which are not currently customers (37) and are technology driven (50). This segment has a score of 32.

Segment 18: Segment composed of customers in the educational services industry (18) located in the United Kingdom (18) which are not currently customers (37) and are technology driven (50). This segment has a score of 30,75.

Segment 19: Segment composed of customers in the educational services industry (18) located in Germany (23) which are currently customers (36) addressed directly (45) and are technology driven (50). This segment has a score of 34,4.

Segment 20: Segment composed of customers in the educational services industry (18) located in the United Kingdom (18) which are currently customers (36) addressed directly (45) and are technology driven (50). This segment has a score of 33,4.

Segment 21: A segment composed of customers in the telecommunications industry (44) located in Canada (15) which are not currently customers (37) and their application of the product is not critical to their business operations (44). This segment has a resulting score of 35.

Segment 22: A segment composed of customers in the telecommunications industry (44) located in the Canada (15) which are customers of the company (36) addressed directly (45) and their application of the product is not critical to their business operations (44). This segment has a resulting score of 36,8.