

**Lappeenranta University of Technology**

School of Business & Management

International Marketing Management

*Marianna Sainio*

**HOW TO REACH MORE POTENTIAL GLOBAL B2B CUSTOMERS TO FINNISH  
HIGH TECH COMPANY WEBSITES**

Case Teknosavo

Supervisor: Professor Sanna-Katriina Asikainen

Examiner: Professor Hanna Salojärvi

## **ABSTRACT**

<b>Author:</b>	Marianna Sainio
<b>Title:</b>	How to Reach More Potential Global b2b Customers to Finnish High Tech Company Websites
<b>School:</b>	LUT, School of Business and Management
<b>Master's program:</b>	International Marketing Management
<b>Year:</b>	2016
<b>Master's Thesis:</b>	LUT – Lappeenranta University of Technology 96 pages, 28 figures, 11 tables and 2 appendices
<b>Examiners:</b>	Sanna-Katriina Asikainen, Hanna Salojärvi
<b>Keywords:</b>	Website Visibility, Search Engine Optimization (SEO), Attractive Online Information, Website Effectiveness, Influence Tactics, Business-to-Business (b2b) Buying

This thesis examines the optimization of a website in terms of creating website visibility and interesting and attractive online information, with the aim of finding ways how the case company can increase the number of online visitors for the websites, who would eventually contact the case company, and become customers. The theoretical part concentrates on website visibility, academic knowledge about search engine optimization, integrated marketing communications, website effectiveness and influence tactics (mostly non-coercive) in an online b2b buying context. The empirical part included an experiment of two weeks on the case website. Search engine optimization requires the most relevant key terms and keywords to be selected and carefully implemented to meta descriptions of the most informational pages. The information visible to visitors on these pages was also optimized to make it interesting and purposeful for the targeted audience. The most suitable influence tactics were implemented to certain pages to attract the website visitors to contact the case company. The results suggest that relevant key terms in meta descriptions do improve, or maintain the same high, ranking a page has on search engine result pages, but this is not directly connected to the amount of visitors to the website. The number of visitors does not either affect the amount of customer contacts the company received during the experiment period.

## TIIVISTELMÄ

<b>Tekijä:</b>	Marianna Sainio
<b>Tutkielman nimi:</b>	How to Reach More Potential Global b2b Customers to Finnish High Tech Company Websites
<b>School:</b>	Kauppateieteellinen tiedekunta
<b>Master's program:</b>	Kansainvälinen markkinointijohtaminen
<b>Vuosi:</b>	2016
<b>Pro gradu-tutkielma:</b>	LUT – Lappeenranta University of Technology 96 sivua, 28 kuvaa, 11 taulukkoa ja 2 liitettä
<b>Tarkastajat:</b>	Sanna-Katriina Asikainen, Hanna Salojärvi
<b>Avainsanat:</b>	Verkkosivunäkyvyys, Hakukoneoptimointi (SEO), Integroitu markkinointiviestintä (IMC), Verkkosivuvaikuttavuus, Vaikuttamiskeinot, Yritysten välinen (b2b) ostaminen

Pro gradussa tutkitaan verkkosivujen optimointia parantamalla niiden näkyvyyttä sekä luomalla kiinnostavaa ja houkuttelevaa informaation sisältöä. Lopullinen tarkoitus on löytää tapoja, miten kävijöiden määrää voidaan lisätä, niin että he ottaisivat yhteyttä yhtiöön, ja täten heistä saataisiin uusia asiakkaita. Työn teoreettisessa osassa tutkitaan verkkosivunäkyvyyttä, hakukoneoptimointia, verkkosivuja osana integroitua markkinointiviestintää, verkkosivuvaikuttavuutta, sekä vaikuttamiskeinoja yritysten väliseen ostamiseen Internet-ympäristössä. Työn empiirinen osuus koostui kahden viikon kokeilujaksosta, jota varten tehtiin muutoksia verkkosivujen informaation sisältöön muutamassa osassa. Ensimmäiseksi tiettyjen sivujen metakuvauksia optimoitiin valikoiduilla avainsanoilla, jotta ne saisivat paremman sijan hakukoneiden tulossivuilla. Samojen sivujen kävijöille näkyvää informaation sisältöä optimoitiin myös, ja sivuille lisättiin tiettyjä vaikuttamiskeinoja rohkaisemaan kävijöitä ottamaan yhteyttä yritykseen. Tuloksista voidaan päätellä, että metakuvauksien optimointi parantaa, tai ylläpitää jo korkeaa, sijaa hakukoneissa, mutta tämä ei ole suoraan sidoksissa kävijämäärään tai yhteydenottojen määrään, jotka eivät muuttuneet merkittävästi kokeilun aikana.

## ACKNOWLEDGEMENTS

*“There are no shortcuts to any place worth going.”*

*Beverly Sills*

For me, the process of completing my master’s thesis has been one of the most challenging experiences yet in my life. Although it took a little longer than planned, required more resources than hoped, and was all-consuming at some point, I am still grateful for every step of the way, because each of them taught me something new. This last year has been quite emotional, exciting and nerve-racking, while I’ve been balancing with the last months of my university studies and beginning adult life filled with work and other responsibilities. However, all good things come to an end, and now it is time for new adventures.

First of all, I would like to thank Teknosavo for giving me this thesis opportunity, providing me with help whenever and whatever I needed, as well as for their dedication to making the best result together on the website texts. It has given me motivation to strive for the best possible outcome. Sanna-Katriina has been an irreplaceable help to me, always staying encouraging and constructive. Thank you for all the ideas and the excellent guidance throughout the whole process, and of course for focusing on the positive. I could not have hoped for a better mentor.

My parents have always been there for me, in every possible way, and especially during my university studies. I want to thank you for all that you have given and taught me over the years. Also a great, big shoutout to all my friends, old and new, who have endured with me during the last year and being there for me when I needed to vent. Thank you all for being the most essential part of my university experience in Lappeenranta. Without each and every one of you, it would not have been the same.

Most importantly, I want to thank my other half for endless patience, support and love, as well as believing in me especially when I didn’t believe in myself.

Lappeenranta, 16.5.2016

Marianna Sainio

## TABLE OF CONTENTS

1 INTRODUCTION .....	5
1.1 Background of the study .....	6
1.2 Research objectives and research questions .....	7
1.3 Theoretical framework.....	9
1.4 Key definitions.....	10
1.5 Literature review .....	11
1.6 Research methodology and data collection .....	13
1.7 Limitations and delimitations .....	15
1.8 Structure of the thesis .....	16
2 DIGITAL MARKETING AND WEBSITE VISIBILITY .....	18
2.1 Search engine marketing.....	20
2.1.1 How does a search engine operate.....	21
2.1.2 Organic search vs. paid search.....	22
2.2 Search engine optimization.....	23
2.2.1 On-page and off-page optimization .....	24
2.2.2 Black and white hat methods .....	25
2.2.3 SEO practices to avoid.....	25
2.2.4 Organic results vs. paid search .....	26
2.3 Chosen methods for improving website visibility in a search engine .....	27
3 CREATING INTERESTING AND EFFECTIVE WEBSITES .....	28
3.1 Marketing communications role .....	29
3.2 Integrated marketing communications (IMC) .....	30
3.3 Website effectiveness .....	32
3.3.1 Informativeness.....	33
3.3.2 Usability.....	33
3.3.3 Quality of information .....	34
3.4 Methods chosen for creating interesting and effective websites .....	34
4 USING INFLUENCE STRATEGIES IN ONLINE B2B BUYING CONTEXT TO IMPROVE ATTRACTIVENESS.....	36
4.1 B2B customer life cycle.....	37
4.2 Differences between consumer and business purchasing .....	39
4.2.1 Decision-making unit and time period of purchase .....	40
4.2.2 The buyer-seller relationship and marketing .....	41
4.3 Categorization of influence tactics .....	42

4.3.1 Information exchange .....	44
4.3.2 Recommendations.....	45
4.3.3 Inspirational appeals .....	45
4.3.4 Promises.....	46
4.4 Influence process and B2B buying characteristics .....	46
4.4.1 The process of influence .....	47
4.4.2 B2B buyer orientation on influence process .....	48
4.5 Appropriate influence strategies chosen for online attractiveness.....	49
5 EMPIRICAL STUDY.....	51
5.1 Company introduction .....	51
5.1.1 Competition and clients .....	52
5.1.2 Value proposition.....	52
5.1.3 Marketing, contacting customers and selling .....	53
5.2 Methodology and research methods .....	54
5.3 Data collection .....	56
5.3.1 Keywords and ranking on Google .....	56
5.3.2 Visitor data.....	63
5.3.3 Influence tactics on the website .....	66
6 ANALYSIS AND RESULTS.....	69
6.1 Keywords and ranking on Google .....	70
6.2 Visitors data .....	76
6.3 Influence tactics on the website .....	79
7 DISCUSSION AND CONCLUSIONS .....	84
7.1 Summary of key findings.....	84
7.1.1 Increasing visibility of the website .....	85
7.1.2 Creating interest for the website and the company .....	88
7.1.3 Influence tactics online improving company attractiveness .....	90
7.2 Conclusions.....	92
7.3 Managerial implications .....	93
7.4 Limitations and further research suggestions .....	95
REFERENCES .....	97
APPENDICES	
Appendix 1. Meta descriptions	
Appendix 2. Changes made in the body texts	

## LIST OF FIGURES

Figure 1. Theoretical framework of the thesis a priori .....	9
Figure 2. Structure of the thesis .....	17
Figure 3. Example of a Google result page with both sponsored (red) and organic (blue) listings.....	23
Figure 4. Informational antecedents of website effectiveness (modified from Chakraborty et al., 2004) .....	32
Figure 5. Role of influence tactics online .....	37
Figure 6. B2B customer life cycle (Miller, 2012; Chaffey & Ellis-Chadwick, 2012).....	38
Figure 7. Screen shot of debarking control ranking.....	58
Figure 8. Screen shot of drum filling measurement ranking .....	59
Figure 9. Screen shot of chip quality ranking .....	59
Figure 10. Screen shot of debarking process ranking .....	60
Figure 11. Screen shot of log measurement ranking .....	61
Figure 12. Screen shot of page structure.....	63
Figure 13. Screen shot from Google Analytics of visitor data (10.8.2015-31.1.2016) .....	64
Figure 14. Top channels of traffic before experimenting .....	65
Figure 15. Framework of thesis a posteriori .....	70
Figure 16. Screen shot of debarking control ranking.....	71
Figure 17. Screen shot of drum filling measurement ranking .....	71
Figure 18. Screen shot of chip quality ranking.....	72
Figure 19. Screen shot of debarking process ranking .....	72
Figure 20. Screen shot of log measurement ranking .....	73
Figure 21. Screen shot of wood room automatic control ranking .....	74
Figure 22. Screen shot of wood handling automation ranking .....	74
Figure 23. Screen shot from Google Analytics of compared visitor data.....	77

Figure 24. Top channels of traffic on the reference and experiment time periods .....	78
Figure 25. Screenshot of "Solutions" with information exchange.....	80
Figure 26. Screenshot of "On-line measurement systems" with recommendation.....	81
Figure 27. Screenshot of "24/7 data collection and reporting" with inspirational appeal ...	82
Figure 28. Screenshot of "Benefits" with promises .....	83

## **LIST OF TABLES**

Table 1. Research design .....	13
Table 2. Propositions .....	14
Table 3. “ <i>Marketing channels Influence Strategy definitions</i> ” (adapted from Frazier & Summer, 1984; Kumar & Beyerlein, 1991; McFarland et al., 2006) .....	44
Table 4. Buyer orientation with process of influence .....	47
Table 5. Research design and propositions.....	55
Table 6. Keywords provided from the company .....	57
Table 7. Keywords implemented on the website .....	62
Table 8. Statistics from first 6 months of websites.....	64
Table 9. Summary of influence tactics used on the website.....	67
Table 10. Summary of the ranking development.....	75
Table 11. Statistics from the experiment period compared to the reference period .....	76



## 1 INTRODUCTION

During the 21<sup>st</sup> century, marketing as known in the past has undergone dramatic changes with the increased use of Internet, the emergence of social media and intelligent use of technology in marketing and sales. Marketing methods that were successful in the past, are no longer seen as viable as before, and they do not reach customers as they did before (Halligan & Shah, 2014). Marketing is continuously evolving, and at the moment a few of the current trends in marketing are search engine optimization (SEO), information content creation and moving further away from traditional marketing channels (e.g. print media, television, and advertising) or combining these with more modern ones. New channels of communication emerge and are developed on a daily basis as more and more consumers and businesses are using them for personal and professional purposes. (Wind & Mahajan, 2001; Merisavo et al., 2006; Gillin & Schwartzman, 2011; Chaffey & Ellis-Chadwick, 2012; Halligan & Shah, 2014) Marketing today needs more understanding of companies' own customers and how they want to be contacted. Many business-to-business (b2b) buyers search information online before any purchase, and it is important to not only reach them in the digital environment, but also provide relevant information they can find easily and make them recall the companies they come across. In order to remain successful, companies need to represent themselves well and appear salient on their own websites and social media channels, in addition to carrying out business activities immaculately (Yle, 2013).

This thesis focuses on a focal firm, Teknosavo, which is a small-sized high tech firm headquartered in Savonlinna, Finland. They operate internationally selling cutting edge high tech solutions in b2b wood processing and pulping industries. Founded in 1988, the company has developed strong engineering competencies in electrical, mechanical, software and automation processes. Due to domestic economical situations during the past 25 years, the company has seen both glory days as well as challenging years from which they are only now starting to recover from.

Currently, Teknosavo has a huge need for new and modern marketing activities. Finding appropriate marketing practices is key for this particular company to achieve the profit growth of their objectives and targets. They are in a unique business with great and truly value-adding solutions for their customers, but they lack modern marketing and sales competencies within own personnel. They especially feel that the redesign of their websites and

other online activity and online presence is topical. For this need they have outsourced the website designing for an external branding agency and the new websites are public from August 2015 onwards. For now, most of the contacting and selling is still done "in the field" when meeting prospects and educating them about the company and the solutions (e.g. at tradeshows). This is very inefficient in the long-term and an outdated practice compared with the new possibilities that could be used. Teknosavo has unique solutions compared to current competition and there is growth potential in the market, as well as potential to claim ground online too. Companies with long history, entrenched business practices and older personnel can have a hard time adjusting to these profound changes, whereas younger companies with personnel of millennials are more agile from birth and attract professionals equipped with skills to thrive in modern active, social and changing business environments (Chaffey & Ellis-Chadwick, 2012, 6).

At the moment, there is only little information about Teknosavo online, and as they operate globally, it is quite hard for prospects to come across the company casually. Prospects must really put efforts in their quest and search for Teknosavo specifically on search engines and on the internet. Actually in this line of business, and at the current phase of the technology adoption life cycle, crossing the chasm, according to Moore (2006, 12) many potential customers do not even know to look for the solutions that Teknosavo is providing. Thus, it would be important for the company to have ways they can be more relevant and present in an online environment to reach potential decision-makers, indirectly and directly.

## **1.1 Background of the study**

There is a huge gap Finnish companies have about digital marketing and about staying active in their industry's viral communication channels (Yle, 2013), apart from global start-ups. Companies need to rethink their marketing and sales strategies especially concerning their online visibility and social presence.

More commonly, many b2b companies globally are struggling with the new rules and practices of modern marketing. The traditional marketing methods (e.g. TV, advertising, trade shows, cold calling), aren't so effective anymore and aren't bringing enough added value for the customer or the companies. But with complex products and services combined with several stakeholders in the buyers' decision-making process, it can be hard for b2b companies

to begin applying modern marketing tactics in their business. (Gillin & Schwartzman, 2011) Social media, blogs and podcasts can feel more suitable for consumer marketing. Is it really beneficial for companies selling solutions in wood processing to get involved in such marketing practices? Because of the product complexity and lengthy buying processes requiring a lot of information before the purchase decision, it is considered valuable for both parties, that there is a lot of information available about the products and services with a possibility for interaction with the selling companies (Gillin & Schwartzman, 2011; Steenburg et al., 2011). Well composed and usable websites are today considered as a big part of a good customer service (Yle, 2013), even in b2b markets.

This thesis offers a front row seat to a very unique and interesting set-up with a small high tech company offering groundbreaking solutions to its customers. Competitors are asked by their customers whether they can deliver Teknosavo's products, which demonstrates the quality of Teknosavo's solutions, as well as the demand for them. The company has ambitious profit margin and growth objectives for the next years. Yet, they lack marketing knowledge and they could be more effective in customer contacting and selling. The company is obviously gaining a good reputation, but with that they need to activate themselves if they want to get a head of competitors also in marketing and sales.

## **1.2 Research objectives and research questions**

The ultimate aim of this study is to find ways how the case company can increase the number of online visitors for their websites, who can eventually turn into prospects and customers. This will include an experiment how to attract more visitors to the websites, which entails practices of search engine optimization and utilizing Google Analytics. Ultimately the long-term goals for the company itself is to increase sales, but it is not part of this research. Academic goal of the thesis is to identify ways how the website ranking can be improved on search engine result pages, and find the right mechanisms to influence b2b buyers on the websites.

In order to reach the aim of the study, actual useful website information content will be created for the firm in question to find out the optimal mix of content. There will be suggestions for the company to stay socially active and up-to-date in their industry's communications. Since the case company is a pioneer in its field of business and does not have a lot of

buzz going on in the Web, they feel like they could benefit from a more proactive role in making targeted advertising (i.e. local search) with specific projects and finding themselves more contacts and prospects via Internet. However, as they do not yet obtain that much marketing and sales expertise, they first need to acquire the knowledge before they can actually be successful in their aspirations.

An ancillary objective is that with the completion of this thesis, there would be a change in the mindset and long-term perspective of marketing inside the case company. The topics in this research aren't a single project which can then be forgotten, but require continuous improvement and monitoring in order to be truly successful. The current marketing mindset at the company is not thought throughout and concerns more sales interactions and passive web presence.

Research questions are results of the balance from what the case company wants to achieve with the thesis and from the appropriate literature researched. The main research question is in line with the research objectives and pursues to provide a holistic view of the research as a totality. Sub-research questions aim at complementing different parts of the research in order to answer the main research question. Each sub-research question suggests also a part of the research methodology.

### **Primary research question**

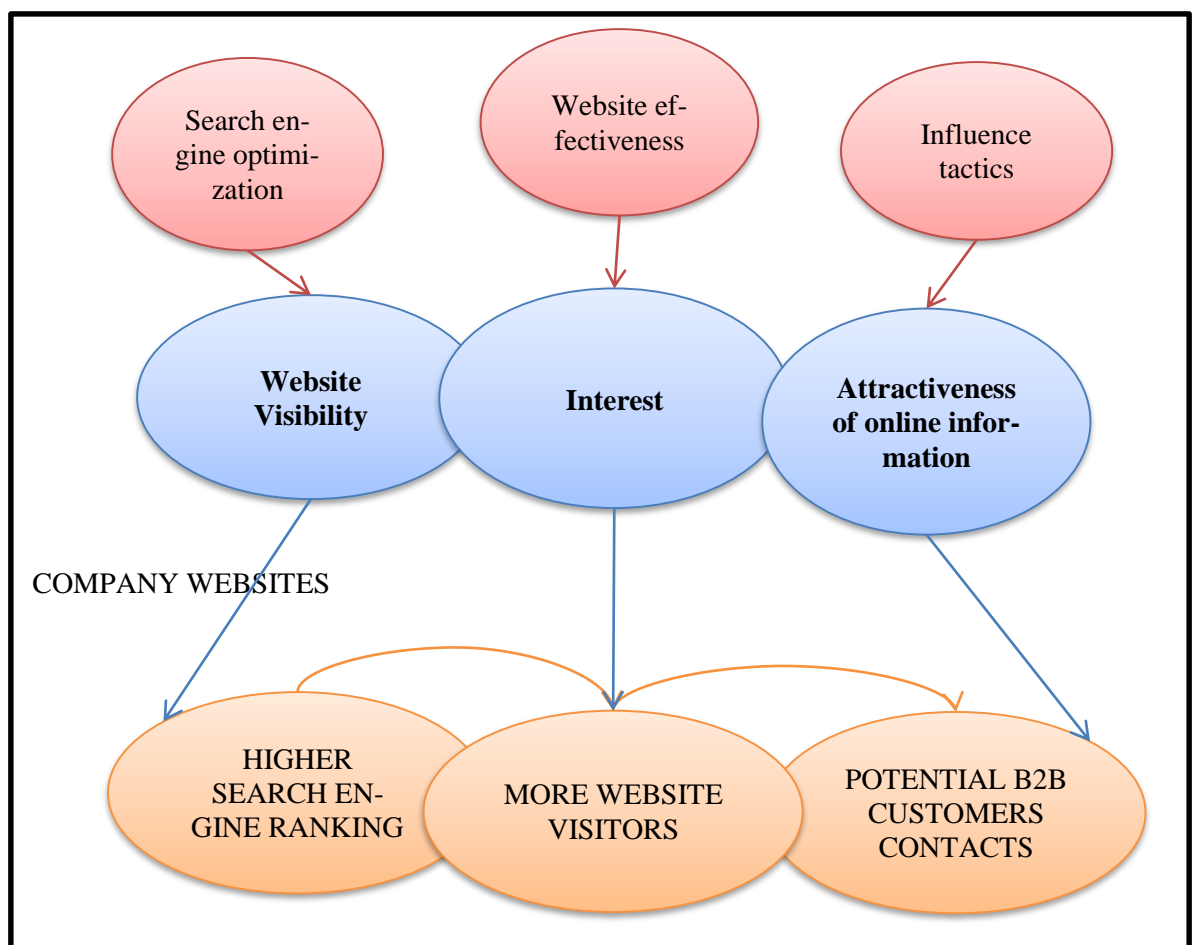
- How to reach online more potential customers to company websites?

### **Sub-research questions**

- How to increase the visibility of the websites by improving the search engine result page ranking?
- How to create interest for the websites and the company by optimizing information content?
- How can influence tactics be effectively used in an online environment to improve company attractiveness?

### 1.3 Theoretical framework

Figure 1 presents the theoretical framework of the thesis. The presumption of the thesis is also that the customers know the websites and have maybe already found them, and thus all of the concepts are presented inside the frame of “company websites”, because they are in the main focus of the thesis. In the middle are the focus points for the thesis; improving the website visibility, creating interest and increasing attractiveness of online information. The literature focuses on these concepts. These concepts depict the sub-research questions, and are one upon the other because the concepts cross each other as well as are linked to each other. These concepts are linked to the research methodology by search engine optimization, website effectiveness and influence tactics, that are very essential in the empirical part too. In the bottom, the aims are presented, and these are also connected to another. This framework is kept simple and to the point.



**Figure 1. Theoretical framework of the thesis a priori**

## 1.4 Key definitions

In this chapter, the key concepts of the study are defined. These concepts are considered important and relevant. For some of them, it was challenging to find scientific definitions, which is an indication that there is need for future research for them.

**Website visibility.** How well a website is visible on the Internet consists of many things. If the website is well composed in terms of keywords in body text, titles, meta information, and in addition is linked multiply on other websites, the chances of more people finding the website are higher (Weideman, 2009).

**Interest on Online Content.** Anything that can be viewed, read or shared on the Internet is considered online content (e.g. videos, e-books, text and audio). The amount of online content grows exponentially all the time as an increasing number of individuals join the Internet and create their own content. According to Scott (2009, 107-108) and Halligan and Shah (2014, 23) great and remarkable content is the best way to get people on your website. There is also research showing that information in an online context is considered more credible than in any other media (Robinson et al., 1998; Jansen, 2010).

**Attractiveness of online information.** Information content on a website is attractive for the visitors when it is useful and helpful to them (Jeong & Lambert, 2001). To get an idea of what pages on the website are the most relevant for the visitors, website traffic is a convenient tool to use to see where the most traffic happens and where does it come from (Ghandour, 2015).

**Search Engine Optimization (SEO).** Search engine optimization can be described with several different definitions. Each is correct and focus on different parts. The definition in this thesis is that, SEO is part of search engine marketing, which aims at making the website more relevant for search engine users, which includes improving the website content which provides better visitor satisfaction (Berman & Katona, 2011). Other definitions are more concerned with making the websites more attractive to the search engines (e.g. Curran, 2004; Malaga, 2007).

**Company Website as Digital Marketing.** Miller (2012, 6) aptly summarizes that digital marketing means marketing to current and potential customers online, that is via Internet. He points out, that the biggest difference from traditional marketing, are the channels used; websites, emails, social networks (Miller, 2012, 6). In other words, digital marketing can be

defined as a company function that aims at achieving marketing objectives through digital technologies (Chaffey & Ellis-Chadwick, 2012, 10).

**Website effectiveness.** Websites today are for many firms one of the most important online marketing communications channels (Chakraborty et al., 2004). However, websites need to be effective in their communications, or otherwise they are not worthwhile. The effectiveness of a website, in terms of how well it shapes the perceptions the visitors have of the company in question in a certain way, can be measured by threefold criteria: informativeness, usability and quality of information (Chakraborty et al., 2004)

**Influence tactics.** Influence strategies are ultimately ways to use power in b2b buyer-seller relationship (Frazier & Summers, 1984), and in the context of inter-organizational computer-mediated communication, i.e. the websites, it is very common to employ influence tactics to emphasize information search, cooperation and social pursuits (Kettinger & Grover, 1997). The goal of any influence attempt is to affect some modification of the target's behavior.

**B2B Buying.** According to (Hutt & Speh, 2013, 34-35) in business-to-business buying is determined what products and services are needed, where to find them as well as evaluating, choosing and purchasing among alternative brands. B2b buying generally involves several people in the decision making process, different goals and complex interactions (Webster & Wind, 1972).

## **1.5 Literature review**

The literature review aims at building the theoretical basis of the thesis and providing a conception for the reader of on what the research founded on. According to Hirsjärvi et al. (2013, 121) the purpose of a literature review is to go over from which perspectives and how the subjects have already been studied and researched by others, as well as to connect the research at hand to the previous literature (Yin, 2014, 195-196). This literature review begins with an overview of the main theories behind the mindset of the thesis. Many of the concepts of this thesis overlap and related together, which is why the theory also synthesized in some parts. Main theoretical concepts of this thesis are digital marketing, search engine optimization, websites as marketing channels, website effectiveness, influence tactics and b2b buying behavior.

Digital marketing, and especially search engine optimization, are still taking shape within academic literature, and thus they both still need further research, especially in the context of b2b buying. Digital marketing has a bit more established role and it is the context for many new developments in marketing and sales. Many have focused on digital or online marketing, such as Wind and Majahan (2001), Miller (2012), Chaffey and Ellis-Chadwick (2012), Gillin and Schwartzman (2012), and Halligan and Shah (2014). Academic research about the specific best practices of search engine optimization may be, however, challenging to perform to bare long-term academic significance for multiple reasons. First of all, different search engines are popular in different countries and regions, and only a few are used very actively globally. Secondly, search engines evolve at a huge pace and change continuously what they observe on websites, and what they consider relevant for the user searches. Many researchers have been interested in how search engines work, how they could be employed in marketing activities, and what are the worst practices to perform in search engine optimization and should be avoided.

As more and more companies compose integrated marketing communications strategies, that combine different kinds of marketing channels from offline and online context to provide a more effective and coherent message to customers, the significance of websites as a marketing channel has increased. Marketing communications are also embedded in the efforts of optimizing the website content for the case company, to improve the website effectiveness in terms of information content. This is based on i.a. Geissler (2001), Palmer (2002), Chakraborty et al. (2004) and Hair et al. (2009), who have identified what attributes of websites are the most attractive for b2b buyers.

Influence tactics and b2b buying fit quite well together and both are extensively researched literary concepts, although less in the online context. B2b buying literature gives understanding how customers think and behave in different stages of the purchase process, and how this can be beneficial to take into consideration in the marketing practices by the case company. B2b buying has interested academics for several decades and this thesis bases knowledge to several different academics from Webster and Wind (1972) to Hutt and Speth (2013). Influence tactics are most researched by Frazier and Summers (1984), Frazier and Rody (1991) and McFarland et al. (2006).



## 1.6 Research methodology and data collection

Qualitative data from the company is gathered by experimenting what kind of keywords get the highest ranking in the search engine result pages and thus generate the most traffic to the websites. In addition to keyword experimenting there will be other optimization practices conducted and additional content creation for the influence tactics.

Considering the research questions and the practical settings of the study, combination of experimenting and case study seems appropriate. The case consists of the Teknosavo websites, on which the experimenting is done. According to Yin (2014, 9-24), both experimenting and case study are suitable when the phenomenon being studied is contemporary rather than historical, and when research questions are more explanatory than analytical. With the background of this thesis and the needs of the individual company, this study would achieve best results following an explanatory research method (Yin, 2014, 238). However, this thesis has also characteristics from exploratory research method, since the concepts aren't yet well-established and there is a lot of experimenting involved (Hirsjärvi et al., 2013, 138). The research methods are presented in the table 1.

**Table 1. Research design**

<b>What is measured?</b>	<b>Concept</b>	<b>Actions</b>
Search engine result page ranking	Visibility	Relevant keywords are to be implemented to the information content and meta information
Number of visitors	Visibility	Keyword implementation and higher rankings will attract more visitors
Bounce rate	Interest	The information content is optimized to be influential, relevant and interesting enough to entice the visitors to browse the websites
Number of emails	Attractiveness	Influence tactics that promote contacting the firm are implemented to the information content

The propositions behind the research methods are presented in table 2. These are basic assumptions about, how the empirical experiment is supposed to affect the websites. Proposition 1. relates to the search engine result page ranking development, but is dependent also of the search engine users, and what do they search for. Proposition 2. is derivative from proposition 1, as it has been researched that the first three results on the first result page gain the most clicks. In proposition 3., the right and relevant information is assumed to make the website interesting and attractive for the visitors to spend more time on the site. Proposition 4. refers also to time spent on page and pages browsed per visit, which are proposed to increase as the website is made more attractive.

**Table 2. Propositions**

<b>P1.</b> The more there are relevant keywords on a website, the higher the ranking is on the search engine result page
<b>P2.</b> The higher the ranking of a website is on the search engine result page, the higher the number of new visitors
<b>P3.</b> The more interesting the website information content is, the more visitors will browse more than the landing page, and thus the bounce rate will be lower
<b>P4.</b> The right and relevant information content will make the website more attractive for the visitor and entice them to contact the company

In this case, the best way to research the creation of visibility for the websites, is to measure the ranking the websites have in the search engines while using different relevant search terms, and how the ranking develops after search engine optimization practices have been utilized. The keywords, which contribute the ranking of the websites, are gathered by using Google Analytics and also from key terms provided by the case company. By collecting data from Google Analytics, it is possible to see what keywords are already being used to arrive on the site. These keywords are considered as most relevant and will hopefully improve the ranking of the website in the search engine result pages, once they have been implemented on the case website. In other words, the goal is that more search terms used would match the keywords on the websites. Currently there are no specific keywords used on the websites.

The increase of visibility is also measured by the number of visitors on the website, number of which can be assumed to be linked to the ranking of the pages. The number of visitors accounts as to how many people know about the site and thus also about the company. The number of visitors on the website can be assumed to be near the total number of people online having seen the company, as the company marketing does not yet include any other online channels other than email marketing. Email marketing ultimately also aims at channeling more visitors to websites.

Bounce rate of a website is a percentage of how many visitors leave after browsing only the first page they land on, and is appropriate for measuring the interest website visitors have on the website information. The smaller the bounce rate, is the better, because it implies that the website is interesting enough to view several pages.

The improvement of attractiveness of the sites needs to take into account the actions performed on the sites. Currently, there are only two call-to-actions on the websites; downloading a brochure and contacting the company via email. From these calls-to-action it can also be researched how attractive the company is considered. Attractiveness of the site is also improved with the implementation of online influence tactics that promote the current call-to-actions on the website and measured also by bounce rate. From Google Analytics it can be measured how many emails have been sent out from the sites as well as how many times the brochure has been downloaded. These are meant to multiply as the ranking develops and there are more visitors to the sites. The information content should be unique and appropriate, including surprise elements.

## **1.7 Limitations and delimitations**

Since this study is mainly carried out to serve the needs of the case company, there are several practical limitations, including industry (wood processing and pulping) and market (business-to-business) as well as the focus on specifically high tech solutions. Some review of stakeholder websites and online presence is going to be done for light benchmarking and key word search.

More theoretical delimitations include that the purpose of this study is not to measure how many contacts and site visitors actually develop a long-term relationship with the firm. Measurement observes how to increase the number of visitors and visits on the websites. In

addition, measuring financial results (e.g. return on investment) is not a part of this research. Adequate financial results usually require a mid-long focus of observation (2-3 years) and this cannot be included to the time frame of this thesis.

Concerning search engine optimization, this thesis will not take into consideration so-called “black hat” techniques, which aim to improve the ranking of the website in a search engine without affecting the quality of the site, e.g. search engine manipulation (Berman & Katona, 2011). Search engine advertising is also excluded from the thesis, in other words paid search methods (Barry & Charleton, 2009).

As the company has a desire to improve their online marketing, the more traditional marketing tactics (advertising in TV, print media, going to tradeshow etc.) are not given much attention in this thesis. Viral marketing (creating online word-of-mouth, Jurvetson, 2000) is also excluded from this thesis. Staying active online requires a big change in the everyday business practices for any business professional, and especially in this case a change in the sales and marketing mindset is needed which can take a long time.

Most of the coercive influence tactics (threats, requests, legalistic pleas) and ingratiation as a non-coercive tactic, are delimited. They are usually used in personal selling situations and are the most effective on these terms. At this point, the case company is not able to specifically identify the website visitors and form a relationship with them yet, it is challenging to employ these strategies efficiently. The buyer orientations of the website visitors are also unknown, and they can only be assumed.

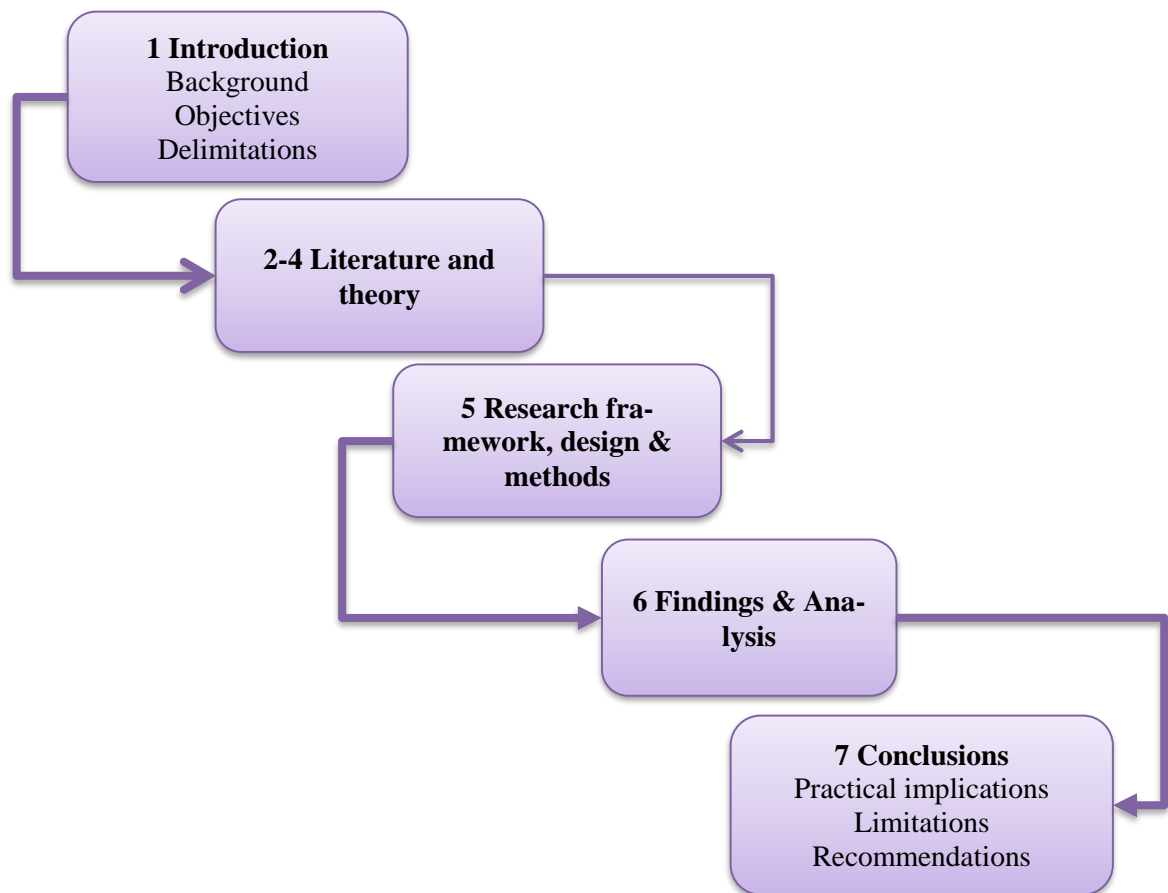
## **1.8 Structure of the thesis**

The structure of the thesis follows the traditional order and is shown in figure 2. The theoretical part of the thesis reviews what academia already knows about the topics of this thesis and considers what can be applied in this particular case. Each of the main concepts are discussed in the chapters 2-4.

The empirical part of the research focuses on the firm-specific experimenting, i.e. it covers the search engine optimization and content creation in terms of using influence tactics. First there is an assessment of the current situation on which the suggestions of improvement are based. Then it will be found out what are the ways how these improvements could be done

and what can be done with current resources. Implementation phase describes how the flow of the active part of the research.

Results include the website optimization and some notations of how the new marketing practices are conducted in the company. Conclusions will draw the whole thesis together and provide answers for the research questions based on the results and the whole research process.



**Figure 2. Structure of the thesis**

## **2 DIGITAL MARKETING AND WEBSITE VISIBILITY**

Digital marketing is the result of increased usage of Internet and computers among consumers from the mid 1990's onwards. The high-speed development of technology has been one of the biggest enablers of the marketing shift (Wind & Mahajan, 2001, 23). Marketing in general and the use of different communications channels has evolved rapidly during the past twenty years, and digital marketing is rather a natural step for marketers in order to keep up with the change of the business environment (Merisavo et al., 2006, 25-26; Miller, 2012, 6). The change of the medium is the biggest difference compared to traditional medium; the message and purpose is ultimately the same then before, according to Miller (2012, 6). From this move the integrated marketing communications have become more popular. Digital marketing is yet to be established as a comprehensive concept, as it still has several different alternative names, e.g. internet marketing, web marketing, e-marketing, online marketing (Chaffey & Ellis-Chadwick, 2012, 10; Miller, 2012, 6). Digital marketing seems the most appropriate term as it includes different forms of appropriate technologies and digital platforms used to interact with audiences (Chaffey & Ellis-Chadwick, 2012, 10).

Customers have been empowered by technology (Wind & Mahajan, 2001, 10; Baker, 2014, 403), and they have become the center point of successful marketing rather than sole focus on marketing plans (as in the past). Since customers in almost all industries globally have increased bargaining power over companies and competition is fierce, it is more critical than ever to remain relevant to current and potential customers (Porter 2001; Constantinides 2004; Garau 2008), as well as to stay in the customers and b2b buyers' minds. Customers have more leverage over companies with such huge amounts of information available, which manifests for example in lower switching costs which has led to that switching suppliers is much easier and more frequent than previously. Customers will choose the companies they remember and recognize online.

According to Merisavo et al. (2006, 32-33) digital channels have enabled customers to choose the content, channels and timing of marketing. Thus the importance of knowing and understanding customer interests and channel preferences correctly has increased and signified (Merisavo et al. 32). Wind and Mahajan (2001, 23) discuss that the new [digital and technology-based] business environment requires marketers to be able to focus on the profoundly changing customer needs and behavior while establishing strong relationships with

these customers as well as other stakeholders. The new digital marketing is about knowing how to communicate *with* customers (Merisavo et al., 2006, 105) and how to build sustainable loyalty among them (Wind & Mahajan, 2001, 23). Merisavo et al. (2006, 38) also remind that companies should pursue dialogues with their customers and “go from telling and selling to listening and learning”. The online environment encourages and enables bidirectional information transfer, and is an interface for customer service, which is also why the marketing methods need to be adjusted accordingly.

Miller (2012, 25-26) proposes the differences between digital marketing in business-to-business companies and business-to-consumer companies. One of the most obvious differences overall between the two, is the length of the sales process and the nature of complexity, which relate to the multiple decision makers involved and the process of building a relationship (also Moriarty, 1983, 1-2; Gillin & Schwartzman, 2011, 6-8). Messaging in B2C is more emotionally driven (e.g. low prices), whereas b2b marketing is fact-based and educative for the business customers. Considering differences in websites, Miller (2012, 26) reminds that b2b marketing requires more text-driven and steady content with inbound links for additional information, as well as tools that encourage contacting from customers, not necessarily impulse purchases as business-to-consumers, b2c, websites. B2c websites also need to serve multiple customer groups, but b2b websites can focus on building the websites for a smaller, well-targeted group of industry-specific professionals. (Miller, 2012, 26) Merisavo et al. (2006) already pointed out almost ten years ago that business-to-business companies have been much slower to adapt the digital marketing practices than business-to-consumer companies, although digital marketing was already becoming the prevalent form of marketing. Miller (2012) verifies the statement and agrees that b2b companies still have a lot to learn and to adapt, which has also been noticed by others, e.g. Gillin and Schwartzman (2011), and Halligan and Shah (2014). However, Gillin and Schwartzman (2012, 5) also note that in the year 2010 57 % of b2b marketers were using social media channels compared to 15 % in 2007, which indicates a clear increase.

It could be summarized that the main feature of digital marketing is to help and educate customers so that they can gather the information they need in order to make informed decisions about their purchase, and to build a relationship with the customers in order to gain their trust and loyalty, in addition to benefit the company by remaining visible by being

where the customers are and remind them about the company's offering. The customer relationship can be strengthened if the customer feels they received help in information search, can discuss and interact with the company, are able to ask for help and give feedback as well as able to participate in product development and feel like they are cared for and remembered in the company (Merisavo et al. 2006, 36). Miller (2012, 112-122) discusses, how websites should be designed while keeping the different stages of buying continuum in mind and these elements quite well respond to the needs of the customers according to Merisavo et al (2012). Digital marketing also provides many tools and measures that are helpful for marketers to better track their influence and impact of promotion, as well as to clarify their reach in the targeted customer groups and measure the brand awareness they obtain in the market.

## **2.1 Search engine marketing**

A very essential part of digital marketing and gaining site awareness for the company websites today are search engines. Ranking high in search engines improve the online visibility of the website, as more people find in the search engine. Search engines have become the starting point for almost every purchase made in both consumer and business markets (Panda, 2013), and there are approximately 5.9 billion Google searches done every day (Halligan & Shah, 2014, 45), which makes Google the most popular search engine in the world (Curran, 2004; Miller, 2012, 128). In addition to Google, the other most popular search engines globally are Yahoo! and Bing (Malaga, 2007; Barry & Charleton, 2009; Panda, 2013), but some newcomers are also getting recognition, e.g. Baidu, the leading Chinese search engine (Berman & Katona, 2011). Miller (2012, 130) introduces several search sites focusing specifically on b2b information queries. As Google is the biggest and most popular search engine, this thesis focuses solely on it. Search Engine Marketing (SEM) has become one of the most important online marketing instruments as the amount of Internet users has multiplied and an increasing number of purchases start with the help of a search engine (e.g. Google, Yahoo or Bing) (Merisavo et al., 2006, 26; Ghose & Yang, 2009; IAB, 2011; Nabout et al., 2012). SEM is a broader concept of online marketing strategy than just buying ads on the search engine result pages. SEM includes search engine optimization (SEO) for natural results, pay-per-click listings (PPC), key word optimization and analyzing the results and



other tactics, which ultimately aim at improving the ranking the site has on Search Engine Result Pages (SERPs) (Panda, 2013).

Online search has become a daily activity as majority of the world's population uses search engines several times during one day (Browne et al., 2007), so it is no wonder that search engine marketing has been developed, and interest towards it has grown exponentially from the late 1990's (Monesson, 2008). Search engine marketing is essentially an important part of modern marketing mix, and getting found in search engines by the target audiences is one the most important goals of modern marketing professionals (Bruemmer, 2002; Barry & Charleton, 2009). Within the daily nearly 6 billion Google searches, there is most certainly queries also relating to almost every industry in the world (Halligan & Shah, 2014, 45). In other words, search engines account for majority of the traffic company websites receive (Miller, 2012, 124).

### *2.1.1 How does a search engine operate*

The search engines provide results for their users based on the user-used search terms. Google offers the most relevant results as top results, and these results match the search term the most. This is why it is important to know what search terms company's target customer group most uses when searching information for decision making, in order to make the company's sites more relevant in these searches. From Google Analytics it can be observed what keywords have been used when visitors have landed on a specific page on the site.

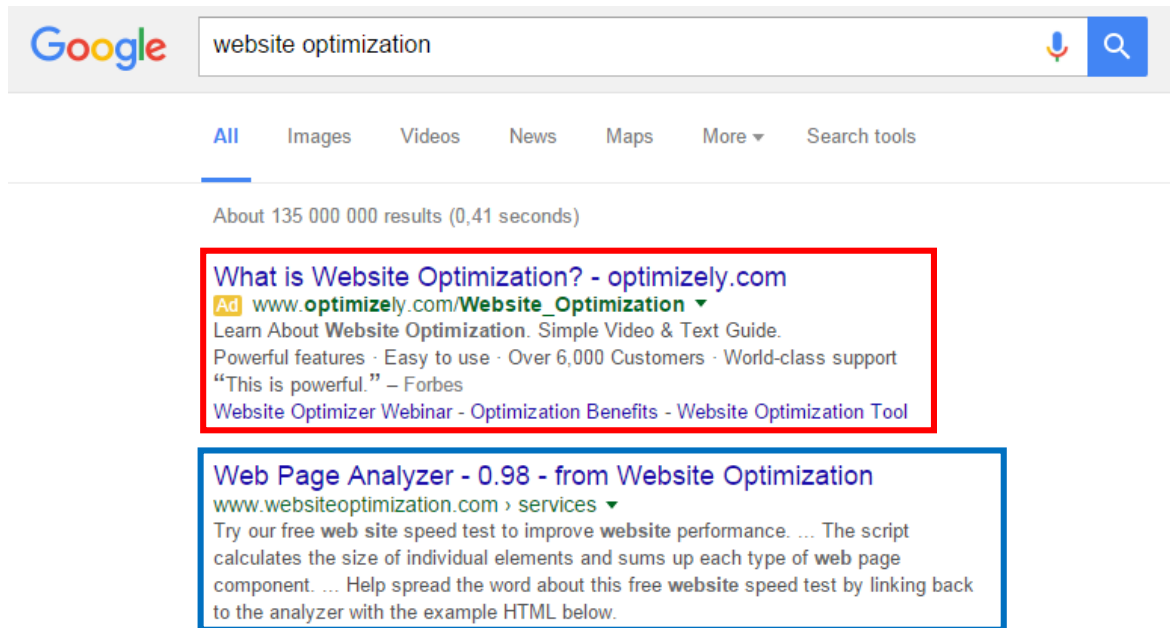
Simply put, search engine is a database of web pages (i.e. an index). It has two components, offline and online. Offline component collects hypertextual documents and thus is a method of finding web pages and building and an index of them. Online component enables users to search web pages from the index and in addition to order and classify these documents to select to most relevant ones. (Henzinger, 2007; Malaga, 2007; Xiang et al., 2010; Miller, 2012, 126) Search engines can be quite cryptic, since they are using secret algorithms, on which they base their search engine result page (SERP) listings and these algorithms changes quite often (Malaga, 2007). For example, it is widely known that the algorithm Google uses, is their best kept secret and it changes with specific intervals. What is known about the three most used search engines at this time (Google, Yahoo, Bing), is that they base the search

results on the *relevance* of the website content compared with the searched keywords (Malaga, 2007; Halligan & Shah, 2014, 49). However, all search engines have a unique way of ranking the importance of websites in their indexes (Curran, 2004). These methods can vary in terms of what elements on the page the search engine considers when assessing the relevance of the page.

### 2.1.2 *Organic search vs. paid search*

Search engine marketing consists of various different strategies and techniques which all ultimately aim at increasing the visibility and ranking of websites in search engine result pages (SERP's), for example website promotion, content optimization, contextual advertising, paid submissions and paid placements (Sen, 2005; Barry & Charleton, 2009; Miller, 2012, 124; Panda, 2013). These search engine marketing methods can be categorized within two main groups; search engine optimization (SEO) and paid search (Barry & Charleton, 2009) (see figure 3).

Search engine optimization involves techniques that improve the content of the websites to be more relevant and keyword rich (Monesson, 2008; Barry & Charleton, 2009), so that the website has a higher ranking in the *organic* listings (Sen, 2005; Hissom, 2010; Miller, 2012, 125; Halligan & Shah, 2014, 46). Paid search includes many methods, and the common factor is that they all require some amount of payments to the search engines. In paid placement the marketers pay the search engines so that their website appears on the sponsored section when certain keywords are used in the search (Sen, 2005; Barry & Charleton, 2009). Pay-per-click (PPC) is the form of advertising with paid placement where the company pays a certain amount every time the advertisement link is clicked (Panda, 2013). Paid inclusion and paid submission are used interchangeably. They both mean practice of paying the search engines to index the website and to index them more quickly than under free submission (Sullivan, 2002; Sen, 2005; Barry & Charleton, 2009). On the SERP's, sponsored listings are most usually on the right side of the page next to the organic listings, or on the top of the page as in figure 3. Sponsored links on a SERP always have a clear sign that they are advertisements. Organic listing results are highlighted in blue and sponsored listings in red in figure 3.



**Figure 3. Example of a Google result page with both sponsored (red) and organic (blue) listings**

It has been widely recognized that the ranking of the website on search engine result pages has a direct correlation on how much traffic is generated to the website (Miller, 2012, 125). Majority of search engine users (89 %) only view the first page of the results, and 92 % do not go further than the third result page (SEMPO, 2007; Malaga, 2008; Barry & Charleton, 2009; Halligan & Shah, 2014, 47). Most users also only focus on the first ranked results within the first result page, and according to Halligan and Shah (2014, 47) the top-ranked website captures staggering 42 % of all the traffic.

## 2.2 Search engine optimization

Search engine optimization (SEO) is often confused with search engine marketing, but they are different concepts, as can be seen from the previous chapter. Search engine optimization is one part of search engine marketing, and focuses specifically on the diverse content on the websites. The definition of search engine optimization varies across academic literature, but the integrative feature is that it aims at improving the *visibility* a website has on search engine results pages (Curran, 2004; Hissom, 2010; Halligan & Shah, 2014, 46-48). Visibility is foremost improved by optimizing the information and other content, and consequently these

actions are assumed to increase the traffic to the website (Malaga, 2008; Killoran, 2010; Miller, 2012, 125), once the website is found on a higher ranking on the SERP.

### *2.2.1 On-page and off-page optimization*

There are several different components of websites that can be modified when optimizing them for search engines. One popular categorization is to two groups: on-page optimization, where site owner can control the components; and off-page optimization, which is outside the direct control of the website owner (Halligan & Shah, 2014, 53; 58). On-page components include e.g. page content, meta tags, site navigation, URL's, page titles and keywords (Curran, 2004; Malaga, 2007; Malaga, 2008; Halligan & Shah, 2014, 55). Within on-page optimization, there are also two sub-groups; components visible for site visitors (e.g. body text, inbound links), and components visible for search engines (meta information). Off-page optimization is mostly concerned with inbound links coming to one's website (Halligan & Shah, 2014, 58). For example, for Google the amount of external websites linking to the SEO marketer's website is an important part of the ranking criteria (Brin & Page, 1998; Curran, 2004).

While the off-page components are not less important than the on-page components, it is however easier for marketers to first focus on the site content in order to later on attract the external (i.e. inbound) links. What is suggested to do before anything else, is figuring out the most essential keywords and key terms (Malaga, 2008; Halligan & Shah, 2014, 50-52), which requires for the optimizer to think like the potential site visitor or a customer (Curran, 2004). What kind of search terms are they using that would make your website particularly interesting for them? Keywords are also important for search engines to determine what the site is about (Miller, 2012, 131). A unitive discovery among different literature is, that the best results of visibility are most often achieved when the relevant keywords are used in both title tags (title element in the HTML code of a website) and throughout the body text (Curran, 2004; Malaga, 2007; Barry & Charleton, 2009; Hissom, 2010; Halligan & Shah, 2014, 53). However, keywords have to be used naturally and any kind of keyword stuffing (i.e. using keywords where they do not fit to the rest of the text) is considered inappropriate (Killoran, 2010; Miller, 2012, 135).

### *2.2.2 Black and white hat methods*

The ethicality of search engine optimization techniques has also been one subject of interest for practitioners especially, but to researchers as well. Search engine optimization techniques are divided into white hat and black hat methods (Malaga, 2008; Hissom, 2010; Berman & Katona, 2011; Chen et al., 2011; Halligan, 2014, 61). White hat SEO consists of widely accepted methods that strive for more relevant information on the website content and these methods follow the given guidelines of major search engines (Berman & Katona, 2011; Chen et al., 2011) White hat methods help search engines to deliver quality for their users (Halligan & Shah, 2014, 61).

Black hat methods are considered by most sources as “cheating” and can lead to the website being banned from the search engines (Malaga, 2008). They focus on manipulating the search engines (Hissom, 2010), as well as deceiving the website visitors and search engine users, and may end up making the websites really unattractive for them (Berman & Katona, 2011; Halligan & Shah, 2014, 61). Some black hat optimizers even go as far as stealing legitimate content from other websites or take measures to have their competitors penalized or banned from search engines (Malaga, 2008).

### *2.2.3 SEO practices to avoid*

Malaga (2008) lists the worst search engine optimization practices and names cloaking, invisible elements and doorway pages as the worst on-page techniques. In cloaking the optimizer will set up an individual page in addition to the actual website, which is invisible to users and aimed at several search engines. The cloaked page can be text-only with highly optimized content. (Malaga, 2008) Cloaking is an extremely dishonest method since it provides different content to the users than for the search engines (Halligan & Shah, 2014, 62-63).

Invisible elements can be added to the websites, so that site visitors cannot see them but search engines find them (Malaga, 2008; Halligan & Shah, 2014, 63). Most commonly used technique is white text (usually just keywords) on a white background. As search engines read the site literally (Killoran, 2010), they will discover the keywords and may confuse the site as relevant based on that.

Each doorway page will focus on a specific keywords or key terms and redirect visitors to the actual websites (Malaga, 2008; Halligan & Shah, 2014, 63). However, Curran (2004) encourages the use of doorway pages, as they can be seen as external links to the website, which can increase search engines' interest in the website. This is an example of how the methods can also be considered from many viewpoints, as well as that the practices of using them aren't yet established profoundly. The use of black hat methods is clearly something marketers should avoid when getting involved with search engine optimization (Halligan & Shah, 2014, 61), but the situation is also a bit illogical since black hat sites can rank really high and push the legitimate sites down in the SERP's (Malaga, 2008).

#### *2.2.4 Organic results vs. paid search*

There is still a significant amount of controversy among scientists, for example on the fields of marketing research, telecommunications and technology, as well as among practitioners, about the best practices in search engine optimization. What is also yet to establish, is whether search engine optimization and natural search listings are more valuable in attracting more website visitors than sponsored listing from paid search methods. Jansen and Resnick (2005) and Hissom (2010) argue that organic listings are more often viewed [than sponsored listings] and thus are more valued by marketers, but Barry and Charleton (2009) and Panda (2013) claim on the other hand, that paid search techniques are more efficient in generating more website traffic from search engine result pages.

The contradiction is also reinforced by Sen (2005), who points out that buyers using search engines trust and follow organic listings more than sponsored ones, but at the same time states that most online marketers in fact prefer paid placements over search engine optimization. Halligan and Shah (2014, 63-64) also make the remark, that it can be dangerous to become too reliant solely on the paid search methods as the prices can vary very quickly, especially when the placements are auctioned with bids. Search engine optimization as a field of research is however rather dynamic and the scientific results of best practices can quite possibly differ from e.g. one field of business to another.

### **2.3 Chosen methods for improving website visibility in a search engine**

The visibility of the website is in this case considered to best be improved when the rankings of the website pages on search engines are high. Since there aren't yet any other online channels in marketing use by Teknosavo, the search engine optimization is chosen as an appropriate method for the empirical part of this study. Other method to get more visibility for the website would have been to invest in paid search. However, with search engine optimization the improvement of the ranking is more controllable, and a practical reason is that there has not been directed any budget to be used on paid search. Also within SEO the focus is in on-page optimization, as the off-page optimization would again be quite out of the optimizer's hands, and in this case would require more resources.

The relevance of the certain pages is assumed to improve with using more keywords in the body texts and meta descriptions of the webpages. Although title elements and URL's are also important in SEO, they are not modified, as it could break some internal linkages on the page. These are also already very well optimized by the brand agency when they had created the website. The most relevant keywords are chosen by Teknosavo as well as from the Google Analytics data, while considering which would be used by the target customer group if they were searching for companies providing solutions for the wood handling processes.

### **3 CREATING INTERESTING AND EFFECTIVE WEBSITES**

Websites can be used to build customer relationships and attract especially b2b industrial buyers (Geissler, 2001; Hair et al., 2009). But for a website to gain frequent visitors and them making contact to the company itself, some methods of appealing to and persuading the customers are needed on the site. Interesting websites are composed of many different factors for the b2b buyer visitors, and these factors need to be carefully implemented. The homepage of the website is of critical importance, because it most likely is the first page a user lands to, and based on it, they make a decision to either browse other pages as well or leave the site. (Geissler, 2001) Homepage needs to gain the attention of the web user for them to be interested enough to browse on the other pages.

Ultimately, a website is a form of communication and can be used as one channel of the integrated marketing communications (Sheehan & Doherty, 2001). The common objectives of having a website is to generate more business, establish online presence, gain exposure and visibility as well as to provide customers with free information (Geissler, 2001). By emphasizing the communication aspect, sharing information becomes more and more important to not only customers but also to other stakeholders (Geissler, 2001). Sharing information is also one the most convenient and effective influence tactics available and used for especially b2b buyers (Frazier & Summers, 1984; McFarland et al., 2006). In the online context, providing enough clear and relevant information is crucial, because the buyers are unable to evaluate the product before their purchase. Websites need to increase buyers perceived benefits and mitigate possible risks, in order to encourage the website visitors to contact the company (Kolesar & Gabraith, 2000; Yan et al. 2009)

There are several attributes to what seems appealing and attracting to b2b managers with specific buying objectives. The most important factor that b2b managers appreciate on websites which they need in their daily activities, is usability and functionality (Chakraborty et al., 2004; Hair et al., 2009). The websites they find most persuading are simple to use, easy to navigate and find, informative and intuitive, fast-loading and the information is easy to find and to the point. To further improve the online customer experience of the b2b buyers browsing the website, is to add some elements that enable the users to start a dialogue with the specific service personnel of the company, as well as to interact with other customer to



enhance the feeling of community. (Geissler, 2001; Palmer, 2002; Hair et al., 2009) Company websites are no longer static electronic brochures that simply introduce the company and their offering to potential customers surfing the web but rather interactive environments that aim to recreate the customer experience in the online environment. The quality and attractiveness of the website improves with the fresher and dynamic content which helps the site to stay updated. Updated content is also an important attribute for the search engines when they rank and sort the websites in their indexes. In order to create value with marketing and selling in the online environment, companies need to identify the specific motivators affecting their customers and exploit them on the websites so that the buyers will want to transact with the company (Kolesar and Gabraith 2000).

### **3.1 Marketing communications role**

Marketing communications of a firm include several marketing activities, channels, messages and objectives that the firm wants to promote to their external audience; current customers, prospects, competitors, shareholders, investors etc. The activities have usually taken place in many forms mostly in the offline context, prior to integrated marketing communications (IMC), which combines the efforts of marketing communications in both offline and online contexts to make a coherent ensemble of the firm's ultimate message. Marketing communications have traditionally been one of the four main elements in the marketing mix, which consists of the 4P's: product, price, *promotion*, and place) (Hartley & Pickton, 1999), and marketing communications include all the various channels, strategies and methods used to promote products and services and to communicate their benefits and value propositions, ensuring consumers and businesses are aware of the products and services companies are offering (Rowley, 1998). A corporate website is by definition of ultimate purpose a marketing channel for the firm to reach potential customers, gain online exposure, promote products and educate customers and prospects of the industry and the company.

Previously marketing communications have been used to serve mass marketing in the forms of advertising, direct communications, personal selling, sales promotions and public relations in various media channels, e.g. newspapers, television, radio and magazines. This was effective enough when customers didn't have so many other places to search for information

and because companies didn't know their customers that well and thus didn't either understand their needs and motives all so comprehensively (Schultz, 1993; Mooradian et al., 2014, 376-378). However, the dramatic changes mainly caused by the extensive developments of technology in the recent past, have forced businesses to rethink their marketing communications into a more effective design (Baker, 2014, 404). Since the late 1980's especially information and communications technologies have seen unprecedented developments and innovations that are already a huge part of everyday life for millions of people but unheard of not so long ago, e.g. Internet and mobile phones. With the emergence of Internet and other technological innovations, marketing communications began to evolve towards integrated marketing communications, which brings together the best of offline and online marketing. Websites as a channel for marketing communications needs also promotion in other channels that lead to the site.

### **3.2 Integrated marketing communications (IMC)**

Integrated marketing communications (IMC) started first to interest marketers and academics in the late 1980's from where IMC has established its place as a new and prevalent direction of marketing quite quickly (Schultz, 1993; Kailani, 2012). Before that, marketing communications were seen as a functional area of the organization, and they were not given that much strategic importance (Baker, 2014, 403). Baker (2014, 402-403) also states that "IMC is a concept of marketing communication planning that recognizes the *added value* of a comprehensive plan that evaluates the *strategic roles* of a variety of communication disciplines--", which further expresses the strategic aspect of IMC. Integrated marketing communications aim to combine and increase coordination between the previously discrete functions and separate departments of marketing (Hartley & Pickton, 1999), into a coherent totality that is communicated to consumers and businesses under coordinated management.

Integrated marketing communications can be seen as a part of a major paradigm shift from traditional mass marketing towards digital and integrated marketing which has been influenced by several factors ultimately leading to companies being more aware of their customers and specific segments they want to target (Kailani, 2012). For these novel business purposes, mass marketing is a waste of resources because audiences are smaller and focused,

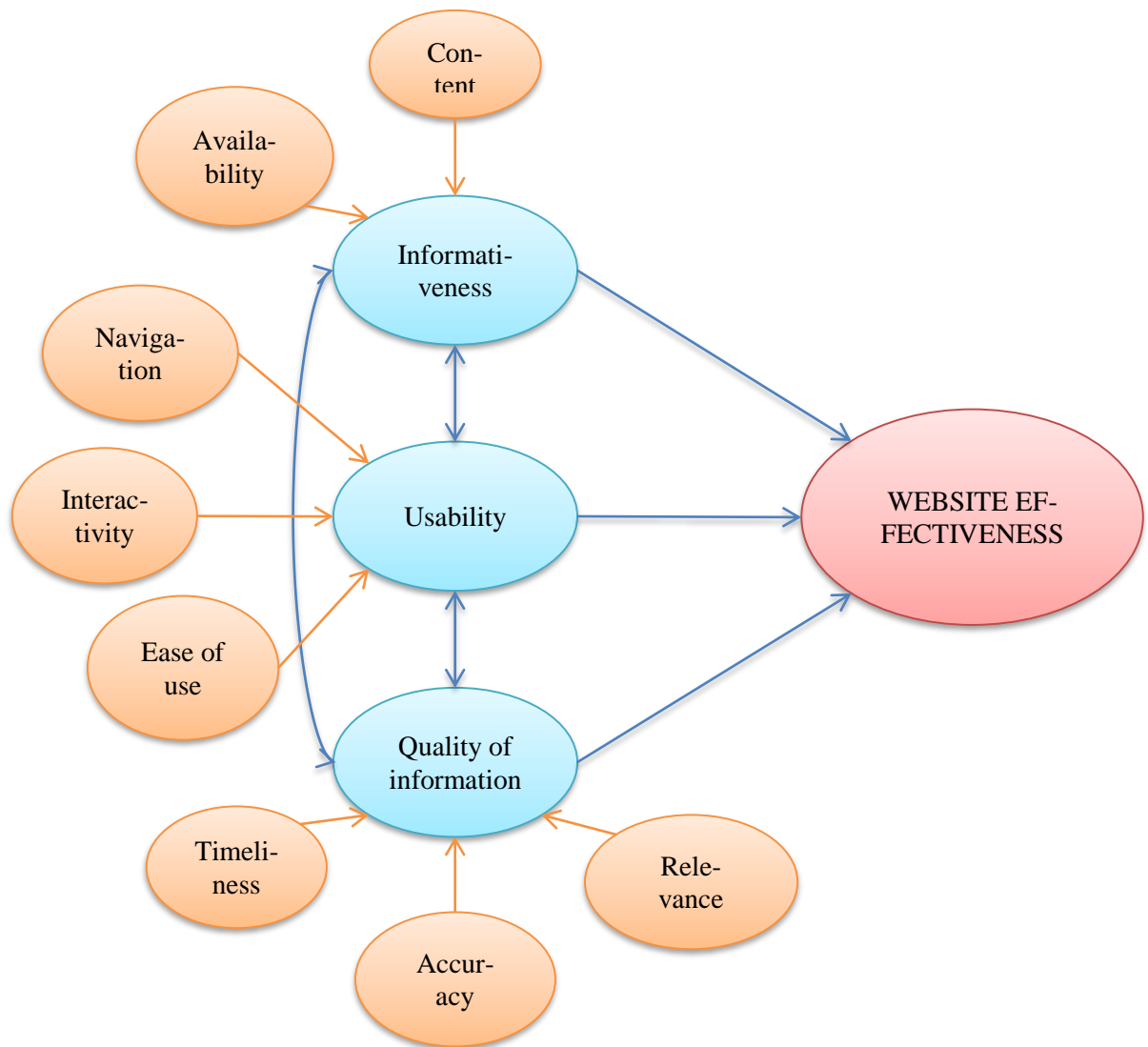
which is also very true for the case company. Modern marketing also needs to provide opportunities for dialogue in order to be effective and attractive for customers, and this is difficult to provide in the offline context. (Schultz, 1993; Hartley & Pickton, 1999; Kailani, 2012; Baker, 2014, 401) In order to reach the fragmented audiences, companies need to align their marketing efforts and marketing communications objectives with the overall strategic goals of the company to ensure that all is done for the same purpose. That is also what is done with this thesis in terms of considering what is the biggest needs of Teknosavo, in order for them to achieve the strategic growth objectives set for the near future.

As already mentioned, advances in the field of technology have been the biggest driving factor behind the emergence of integrated marketing communications, since new technology has given customers more power in terms of information search, purchasing and interaction with companies and with each other (Schultz, 1993; Baker, 2014, 404; Mooradian, 2014, 376). Media has also become very fragmented, and thus more and more marketers have lost their faith in mass marketing which then is losing effectiveness compared with digital marketing (Hartley & Pickton, 1999). Consequently, there is need for more impact and effectiveness. Costs of both reaching the fragmented audiences and the use of fragmented media have been driving the shift towards more integrative and digital marketing (Hartley & Pickton, 1999; Baker, 2014, 404), since it can provide more cost-efficient solutions and added value. In the past, promotional functions have been seen as only cost-creating (Baker, 2014, 419), but through the integration and successful management of marketing communications, they can deliver better value for both customers as companies because the offerings are communicated more precisely and audiences are reached more effectively.

Although there are many incentives to move completely away from the traditional marketing methods and go all digital, it is not necessarily the only way. Miller (2012, 51) reminds that not all companies have yet moved their purchasing online, some industries are slow when it comes to employing new technologies, and that online and offline marketing can be used to attract *different* customers. This also why it is important to identify the purchasing processes of own target customers and factors affecting them in their information search and decision-making processes.

### 3.3 Website effectiveness

Websites today are for many firms one of the most important online marketing communications channels, since a website can act as a base for every other online media, and a gateway for the website visitors to find critical information (Chakraborty et al., 2004). However, websites need to be effective in their communications, or otherwise they are not worthwhile. The effectiveness of a website, in terms of how well it shapes the perceptions the visitors have of the company in question in a certain way, can be measured by threefold criteria: informativeness, usability and quality of information (Chakraborty et al., 2004) (see figure 4).



**Figure 4. Informational antecedents of website effectiveness (modified from Chakraborty et al., 2004)**

Companies with long history, entrenched business practices and older personnel can have a hard time adjusting to these profound changes, whereas younger companies with personnel of millennials are more agile from birth and attract professionals equipped with skills to thrive in modern active, social and changing business environments (Chaffey & Ellis-Chadwick, 2012, 6).

### *3.3.1 Informativeness*

The primary purpose of any website is to provide information (Chakraborty et al., 2004). On a corporate b2b website the information is targeted to the various stakeholder groups of the company; current customers, prospects, investors, authorities, competitors etc. One of the most crucial element of website effectiveness according to Chakraborty et al. (2004), is the informativeness of the website. Informativeness is not the same as the amount of information on the site, but the ability to make the information available, how it is provided and how valuable it is (Chakraborty et al., 2002; Mazaheri et al., 2012; 2014). When information is easily accessible and available for the website visitors, it reduces their search costs and they are able to make use of the information more efficiently (Bakos, 1997), which promotes positive perceptions of the visitors of the company itself. According to several researchers, e.g. Park et al. (2003), Richard (2005) and Hausman and Siekpe (2009) informativeness means accurate, up-to-date, useful, relevant, knowledgeable information which helps consumers to make a choice with less effort. Information effectiveness is also more prominent today in the early steps of buyer decision-making as search engines like Google update their algorithms in intervals, to ensure its search results are helpful, precise and up-to-date.

### *3.3.2 Usability*

Another critical element of the website effectiveness, is the usability of the website, which refers to how the user perceives and interacts with the website (Barnes & Vidgen, 2002; Chakraborty et al., 2004). In other words, usability means users' ability to utilize the information provided by the website, which increases with good navigational and interactive features (Palmer, 2002). A website has a high usability when it easy and simple to access and also to use. An important component which affects the ease of use, is navigability (Bauer et al., 2002). These elements help the website visitors to find relevant information easily and

quickly, which ultimately makes the information more usable for them (Chakraborty et al., 2004). Interactivity of a website increases the feeling of a community for the visitors (Geissler, 2001; Palmer, 2002; Hair et al., 2009), which then enhances the online customer experience and thus further improves the website effectiveness (Chakraborty et al., 2004). The more there is interactivity and consequently higher usability of information, the website is perceived more interesting. Interactivity encourages visitors to make some actions and aims at turning visitors from “lookers” to buyers. (Chakraborty et al., 2004) When a website is usable and thus relevant for the visitors, their commitment towards the site increases (Bauer et al., 2002) as they feel the website information is of value for them.

### *3.3.3 Quality of information*

The final essential element of website effectiveness is the quality of information, which according to Barnes and Vidgen (2002) signifies the quality of the content on a website and the suitability of the information from the user’s perspective. Quality of information shapes the perceptions of website visitors (Chakraborty et al., 2004), which is why it is crucially important that the information content is well optimized and implemented on the website. According to Lockwood (2013) when the website visitors consider the web-based information clear and compelling, they are more likely to comply with company provided recommendations and are more motivated to buy. Quality of information is improved when the website provides relevant, timely and accurate information. Technological advances have provided means to easily keep websites updated, which is really important because website users’ expectations are high, and they are unwilling to accept outdated, inaccurate and unbelievable information. (Chakraborty et al., 2004) This kind of information will alienate the visitors from coming back to site and leaves them with poor perceptions of the company.

## **3.4 Methods chosen for creating interesting and effective websites**

By ensuring all of the website effectiveness criteria is met on the case website, there's a better chance to make the website more interesting for the visitors & potential customers. When the websites are provided with accurate, up-to-date and relevant information with options to contact the company, the website is more interesting and helpful for the visitors.

However, the usability element is not in this study focused on in so much detail, since the navigational factors are designed by the external brand agency, and it was their request that these would not be disturbed to avoid breaking any internal linkages. This would create additional costs for Teknosavo. Although the usability isn't modified, the website is quite easy to use as it is, the pages are already coherently presented and simply titled to make information easy to find. On the website there is at the moment only a little interactivity; contacting the company via email or either by telephone. Contacting Teknosavo is promoted on the website and the visitors are more clearly encouraged to do so as a result of this study. At the moment there isn't an option to make contact to other customers, and this not focused on in the empirical part.

From the website effectiveness perspective, the informativeness and quality of information are more in the focus in the study, as the empirical experimenting aims to adjust the information content to, not only be more relevant for the search engine, but also to be more interesting, more relevant and more influential for the website visitors, who hopefully would also be potential customers. The information content that is visible for the visitors on the website, is filled with accurate information describing and presenting the solutions and services the company offers, and how they will benefit their customers' business. The body texts are confirmed to be understandable, knowledgeable, interesting and useful as they have been designed to serve the potential customers information search needs. The information is ensured to be easily accessed and the search engine optimization will improve the findability of the website.

#### **4 USING INFLUENCE STRATEGIES IN ONLINE B2B BUYING CONTEXT TO IMPROVE ATTRACTIVENESS**

The attractiveness of a website can be indicated by the number of contacts made and other call-to-actions performed. These actions could be increased if the website is influential enough to attract the visitors to make contact and to take an interest of the company. Different influence strategies can be utilized to communicate the source company's wishes to the target (in this case the website visitor). The influence strategy literature has contributions to both consumer and business markets. As these two markets differ quite a lot of by buyer-seller relationships and buyer characteristics, it is important to make clear distinctions as to which market the focus on. Influence strategies have been researched especially in selling literature, but their applicability to website marketing isn't yet established, although today a lot of the buying and decision making processes take place online.

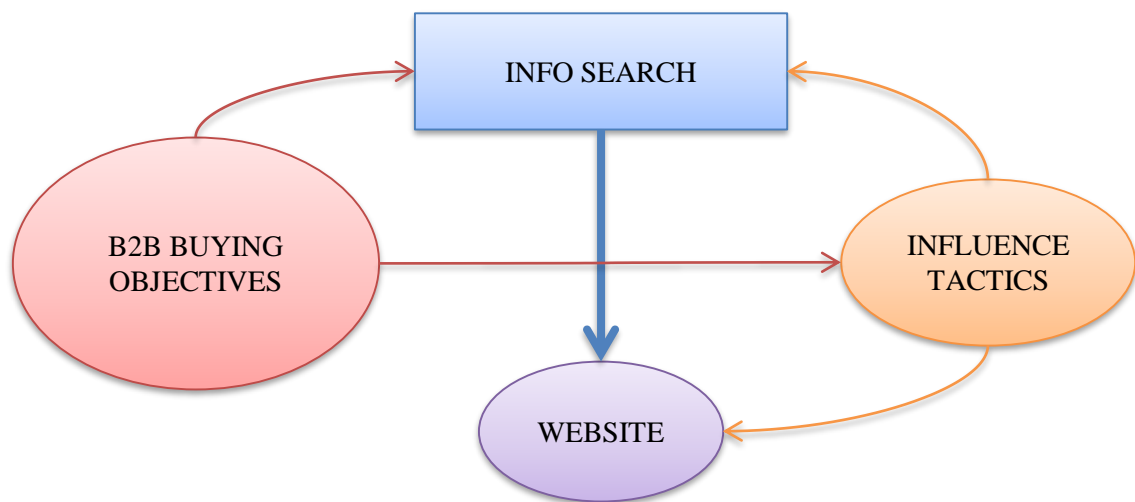
Many of the influence strategy research focus on b2b buyer-seller relationships. Industrial purchasing (also called b2b buying, organizational buying etc.) and decision making has been in the interest of academia for several decades already, the first researches dating back to 1960's and 1970's (e.g. Webster & Wind, 1972) and becoming more popular in the 1980's (e.g. Moriarty, 1983). The organizational buying behavior (OBB) model (Robinson et al., 1967) has been widely used in academia and is considered one the most useful concepts in organizational buying (Anderson et al., 1987; Van Winter, 2014). Since the technology revolution from the late 1990's onwards, interest of research has moved more towards to the digital buying (e.g. Hutt & Speh, 2013). Despite the interest for industrial buying research, during the 1980's industrial buying was still much less researched than consumer buying for numerous reasons (Moriarty, 1983, 4; Anderson et al., 1987).

Why this thesis is interested in influence strategies and industrial purchasing, is to gain more understanding about the process from customers' perspective and employ the insights to the practices of the case company. In order to choose the most efficient influence strategy in a specific time and relationship, it is crucial for a company to know their own customer segments, customer preferences, needs and information search patterns. Choice of influence strategy is clearly dependent on the characteristics of the target of the influence (Erez et al., 1986), i.e. industrial buyers in this case. However, as it hard to predetermine who are the



users of a website, the influence tactics must be chosen based on the targeted segments of potential clients, and these segments are in the end assumptions.

Extensive knowledge about the needs and preferences of customers is deeply beneficial for modern companies, in order to provide valuable information for their customers exactly how and when customers prefer to receive it. The subject of industrial purchasing on the web is topical for this thesis since in 2010 over 70 % of business buyers started purchases with a web search (Miller, 2012, 7), and the amount increases every year. These web searches include utilizing search engines and specific search terms, which the thesis is going exploit in finding the most relevant ones for Teknosavo. Figure 5 presents a visual demonstration of influence tactics' role in the industrial buying process. Buyer attributes affect which influence tactics are chosen and implemented on the websites. B2b buyers will search appropriate information based on their buying and organizational objectives, and then find the websites. The influence tactics on the website are assumed to be effective enough to make the buyer behave in the intended way. First of the b2b buying context is more thoroughly introduced after which is presented more about the influence tactics.



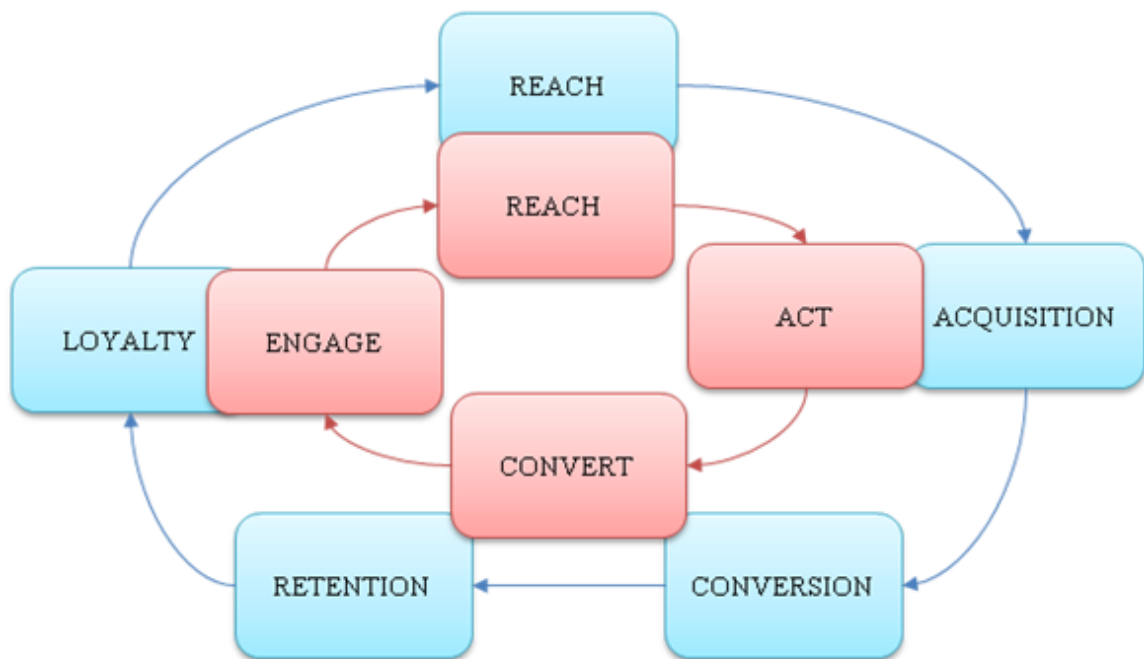
**Figure 5. Role of influence tactics online**

#### **4.1 B2B customer life cycle**

The customer life cycle from the seller's perspective has been illustrated in figure 6. It is a synthesis of two; blue cycle is according to Miller (2012, 40) and red one is by Chaffey and

Ellis-Chadwick (2012, 28-29). They differ a bit from each other but have the same basic idea behind them, which is why they are presented in a synthesis.

Life cycle models are very useful from the marketing point of view to design what kind of marketing tactics are the most effectual in each phase. These models are also designed to help marketers understand, manage and improve the commercial value digital marketing delivers for their company or organization (Chaffey & Ellis-Chadwick, 2012, 28). Through analyzing in which phase each target customer groups are, it can be identified how aware they are of the specific company or a brand and how they could be reached and influenced in terms of making them interested about the offering of the company.



**Figure 6. B2B customer life cycle (Miller, 2012; Chaffey & Ellis-Chadwick, 2012)**

The life cycle naturally begins with the reach, which is also the most relevant phase from the point of view of this thesis. Maybe more than in any of the other phases, in reach marketing has a pivotal role (Miller, 2012, 29). In reaching for the customers through digital marketing, companies need to build brand awareness on other sites and in offline media, drive for web presence and spread their message in carefully selected channels so that the potential customers are affected by the communication (Chaffey & Ellis-Chadwick, 2012,

28-29; Miller, 2012, 42). This is basically also the empirical goal of the thesis, and in the most acute marketing interests of Teknosavo.

Evans and Wurster (1999) describe reach as the amount of customers a business can connect with and then how many products or services the company can offer to them. Chaffey and Ellis-Chadwick (2012, 524) define reach simply to be the number of unique individuals who view a specific advertisement. Reach has been somewhat difficult to measure in the past, but in digital marketing technological measurement systems can be used (e.g. click rates of online advertisements). However, it is important to keep in mind, that reach is not equal to awareness, without exact measurement and surveys, it only assumes potential awareness (Miller, 2012, 42). In this case, reach is considered to be the number of unique individuals viewing the company websites and from that other measures are also used in the empirical part of the thesis.

Miller (2012, 43) suggests that the best digital marketing methods for reach are search engine marketing, search engine optimization, advertising as well as blogs and public relations. These all aim at being “out there” so that customers can come in contact with the company. Traditionally also trade shows and conferences, telemarketing and direct mail have been seen as effective methods for reaching the customers (Miller, 2012, 43). For improving the awareness and visibility of the company websites, search engine optimization and content creation are also chosen as the most appropriate methods. The company is also very actively visiting industrial trade shows and conferences, since they feel like that is also one the most efficient ways of making new client contacts and getting global recognition for their solution, specifically in their own industry. They have at the moment outsourced some of their marketing efforts, as Teknosavo is buying direct mail and further content creation services from a brand agency.

## **4.2 Differences between consumer and business purchasing**

The characteristics of industrial purchasing differ considerably from consumer purchasing, and there are various from different point of views. Hutt and Speh (2013, 4; 6) use a simplified classification to define business markets that takes into consideration the nature of the customer (intended customer) and how the customer uses the product (intended use). Theoretically, although business and consumer markets are different considering customers, the

intended use of some products can be the same in both markets. This brings additional complexity to the classification of business markets. For the case company, it can be noted however that their solutions are only for industrial buyers, and do not have applicability in consumer markets. Following the classification of different business market customer types by Hutt and Speh (2013, 5), it can be defined that Teknosavo has commercial customers (more specifically manufacturers) as opposed to institutional (foundations, universities etc.) or governmental (e.g. national governments, municipalities) customers. Majority of the customers aren't either frequent buyers due to the nature of the solutions in Teknosavo's offering. The solutions are bought once after joint projects, during which is defined how well the solutions fit in the customer's facilities, and later on supporting solutions are possibly sold.

#### *4.2.1 Decision-making unit and time period of purchase*

The biggest difference in business-to-business buying compared to business-to-consumer (B2C) buying is that decisions are made in larger groups, often called decision-making units (DMU), whereas consumers do purchases more based on impulse (Moriarty, 1983, 1). Buyer behavior is thus totally different (Hutt & Speh, 2013, 14). A decision-making unit (DMU) is at the center of the purchase process. After the acknowledgement of the purchase need, DMU is the organizational organ searching for information about the possible alternatives, assessing these alternatives and ultimately making the decisions on what to buy and where. These groups include people from different functional areas of the company (e.g. from development, finance, purchasing) and from different organizational levels, so there are different authority figures. Personal backgrounds are also a factor in DMU's, as people involved have varying needs and motives affecting the purchasing process. (Webster & Wind, 1972; Moriarty, 1983, 1-2; Gillin & Schwartzman, 2011, 6-8) What the business marketers often should aim at, is identifying the key opinion leaders, i.e. those are the people who have the most power within the DMU to affect the decisions made (Hutt & Speh, 2013, 16). These people aren't necessarily always the ones with the highest organizational position. The DMU's could be analyzed quite carefully in order to identify the patterns on decision making they and what they are based on, whether or not several different individuals search for background information as well as where and how is the information sought, what is the most important and attractive information for them and how could they be reached most

efficiently and effectively. Once the targeted opinion leaders and the role of the DMU have been identified, the most appropriate influence strategies can also be chosen and applied when contacting the corporations, either online or in personal selling situations.

The buying cycles of b2b buying are also different and usually much longer compared to consumer buying, because there are a lot of moving parts in business sales and thus a high degree of complexity (Webster & Wind, 1972; Moriarty, 1983, 2). For example, with Teknosavo and their clients, the time period from the first negotiations and the actual purchase of the solutions can range from six months to two years. Teknosavo offers their clients a possibility to first try out the equipment and “rent” it prior to actual purchase. Usually in the industrial buying process, there is so much monetary resources at stake and several people involved (i.e. the DMU), that the process needs more time. Industrial buying has always a formal dimension and requires business contracts, which can include a lot of detailed information, and the making out of which also takes resources and time, which is quite rare in consumer buying (excluding buying property or a car etc.). (Webster & Wind, 1972; Moriarty, 1983, 1-2; Gillin & Schwartzman, 2011, 6-8)

#### *4.2.2 The buyer-seller relationship and marketing*

The buyer-seller relationship differs significantly from consumer markets, since high degree of complexity is also factored from the fact that in business-to-business buying process forming a long-term relationship and commitment to one another, is in most cases an additional interest of both buyer and seller (Moriarty, 1983, 1-2; Gillin & Schwartzman, 2011, 6-8; Hutt & Speh, 2013, 17). Complexity and interest for commitment arise as well from personal and organizational risks the buying process bears for both the buyer and the seller; bad decisions can lead monetary losses on either end, or affect professional careers of the decision makers (Moriarty, 1983, 2). The organizational risks of the seller can be somewhat reduced by careful consideration where and to whom target their marketing efforts and what kind of tactics to use. Because of the high risks and specific complexity of the exchange process, information aspect is actually very important in b2b buying, and especially in online context because the buyers are unable to physically evaluate the product.

B2b marketing has to focus more on the value of the purchase rather than the experience it brings (Gillin & Schwartzman, 2011, 6-8), which is why business marketers must have a

clear value proposition for their customers. A successful value proposition has both points of parity and points of difference compared to the alternative offerings, and these elements have to be the ones that matter the most for the target customers. The business marketers must also have efficient ways to communicate their value proposition, so that it demonstrates the company has an educated understanding of the business priorities of the customer. (Hutt & Speh, 2013, 13) Appropriate marketing communications are an important part of the management of a professional business-to-business relationship.

Although there are clear distinctions separating consumer buying and business buying into very different fields, they are still linked together in practice. Demand of b2b markets is essentially derived from B2C markets (Hutt & Speh, 2013, 14-15). Even if the business-to-business buying differs from business-to-consumer buying, the DMU still consists of individuals, that can be influenced and analyzed the same as the regular consumers, and this is why some same practices can be applied to both customer orientations, they just need be from different aspects.

### **4.3 Categorization of influence tactics**

Influence strategies are ultimately ways to use power in b2b buyer-seller relationship (Frazier & Summers, 1984), and in the context of inter-organizational computer-mediated communication, i.e. the websites, it is very common to employ influence tactics to emphasize information search, cooperation and social pursuits (Kettinger & Grover, 1997). The goal of any influence attempt is to affect some modification of the target's behavior, which in this case is to get them interested about the solution Teknosavo offers and entice a desire to acquire them. See table 3 for the most established tactics discussed in the literature. The most effective influence strategies have been identified as rational persuasions, which aim to emphasize the benefits the target will gain from some specific behavior and thus compliance of the influence attempt.

The strategies can be roughly categorized in two groups; noncoercive and coercive. Noncoercive strategies require a lot of time and resources to be effective, but they are more beneficial for the b2b buyer-seller relationship in the long-term. This group includes information exchange, recommended actions, which both are strategies for a perceptual change of the intended behavior, as well as ingratiation and inspirational appeals, which instead aim to

satisfy psychological needs of the target by maintaining a meaningful relationship and remaining as an attractive alternative (McFarland et al., 2006). These strategies should be deployed when the goals of the source firm and the target are aligned and they both share a common interest towards a certain behavior (Frazier & Summers, 1984; McFarland et al., 2006). This is quite often the case with industrial purchasing relationships, when the relationship is of equal importance to the parties and they both benefit from it.

The coercive strategies include promises, threats, legalistic pleas, requests etc., which are needed in circumstances when a source company needs the target company to take action which is not necessarily always in the target's best interest. If a source lacks power in a b2b relationship, it may be forced to use coercive strategies in order to make their demands known. Extensive and frequent use of coercive strategies may be ineffective and harmful for long-term relationships, as many industrial buyer-seller relationships are. (Frazier & Rody, 1991) All coercive tactics aren't relevant in this case, and only promises are focused more thoroughly. It is seen more as a tactic more effective than the others as it is the most suitable to execute on the website.

**Table 3. “Marketing channels Influence Strategy definitions” (adapted from Frazier & Summer, 1984; Kumar & Beyerlein, 1991; McFarland et al., 2006)**

<b>Influence strategy/tactic</b>	<b>Traditional definition</b>	<b>Nature of the tactic</b>
Information exchange	The source discusses general issues and procedures to try to alter the target’s general perceptions without stating a request	Noncoercive
Recommendations	The source predicts that target will be more profitable if it will follow source’s suggestions	Noncoercive
Requests	The source states the actions it would like the target to take	Coercive
Threats	The source threatens the target with a future penalty if target does not comply with a request	Coercive
Promises	The source promises target a reward if the target complies with a request	Coercive
Legalistic pleas	The source cites a legalistic, contractual, or informal agreement that requires the target to perform a certain action	Coercive
Ingratiation	Involves behaviors designed to enhance individual’s interpersonal attractiveness and improve rapport with the target	Noncoercive
Inspirational appeals	A request or a proposal that arouses enthusiasm by appealing to target’s values, ideas and aspirations	Noncoercive

#### *4.3.1 Information exchange*

Information exchange refers to communication of general business information, discussing operating procedures and asking questions, without any specific advice or endorsement in order to make the target of the influence to think positively on the benefits of the offering. The source can also make some more specific suggestions to the target how it could operate



in more profitable way. On a website and on the search engines, information exchange and recommendations could be a natural way of implementing influence strategies since websites usually contain a lot of information already and call-to-actions can be used to make recommendations. However, because information exchange strategy requires a lot of time and a touch of personal contact, it may be hard to form such a connection needed based on first contact on the internet. (Frazier & Summers, 1984; McFarland et al., 2006)

Aim of information exchange is trying to alter the general perceptions the source already has about the target or seller. According to McFarland et al. (2006) the target accepts the influence attempt via information exchange because they believe the content of the influence to represents a useful solution or because it is aligned with their own orientations such as approach to solving problems.

#### *4.3.2 Recommendations*

Recommendations are simply considered logical arguments outlining possible benefits the target could acquire or harmful consequences they could avoid by following the recommendations by the source (Frazier & Summers, 1984). In other words, the source clearly communicates specific guidelines for the target to follow on how to behave, which is quite different compared to information exchange. With recommendations however, the target may get suspicious of the source company's motives if they are too obvious or not aligned with the target's motives. (Frazier & Summers, 1984; McFarland et al., 2006)

#### *4.3.3 Inspirational appeals*

Inspirational appeal is a non-coercive influence tactic that is very popular in addition to personal selling for example in motivational leadership. The source tries to influence the target by tying the objective of a task or a purchase to the internal motivation of the target. Yukl and Tracey (1992) define inspirational appeal as "a request or proposal that *arouses enthusiasm* by appealing to target's high-order values, ideals, and aspirations", which can motivate people going beyond own personal interests for the greater good. Inspirational appeal aims at invoking positive reaction in the target, which creates more positive expectancies and

which then motivates the target to the desired compliance behavior (Forgas, 1995; McFarland et al., 2006).

#### *4.3.4 Promises*

A promise as an influence tactic is used when the source promises the target gets a certain reward if they agree on source's request of specific behavior (Frazier & Summers, 1984; McFarland et al., 2006). The consequences of the compliance are mediated by the source, unlike with recommendations. Promises are beneficial for both the target and the source, which is why they are popular in personal selling. (Frazier & Summers, 1984) They evoke more positive emotions than other coercive tactics. In addition, use of promises is more tolerable than for example threats, since noncompliance won't affect the target but they are left at status quo (Venkatesh et al. 1995)

### **4.4 Influence process and B2B buying characteristics**

The characteristics of industrial b2b buying can be described to follow the categorization of influence processes, first introduced by Kelman (1958) as processes of attitude change. McFarland et al. (2006) have used the influence mechanisms of Kelman (1958) as bridge between influence tactics of Frazier and Summers (1984) and buyer orientations (Sheth, 1976), coupling these theories and thus giving them a deeper meaning and better applicability (see table 4).

The buyer orientations “represent the format, ritual or a mannerism which a buyer adopts in his interactions with salespeople”, and there have been identified three orientations; task, self and interaction (Sheth, 1976). Although they are considered for buying situations, these orientations can also be applied for the online context, because as a part of the buying process, information search and in some cases the actual purchasing takes place on websites. Buyer orientations are rooted in personality variables, socialization processes, personal lifestyles and situational factors, and they are quite stable although not considered as personality traits. (Sheth, 1976; McFarland et al., 2006).

**Table 4. Buyer orientation with process of influence**

<b>Buyer orientation</b>	<b>Process of influence</b>	<b>Influence tactics</b>	<b>Nature of the tactics</b>
Task-orientation	Internationalization	Information exchange, recommendations	Noncoercive
Interaction-orientation	Identification	Ingratiation, Inspirational appeals	Noncoercive
Self-orientation	Compliance	Threats, Rewards, Promises	Coercive

#### *4.4.1 The process of influence*

The processes of influence Kelman (1958) identified are compliance, identification and internationalization, which are all motivational processes of attitude change and result from a particular type of communication. Compliance process happens when individual accepts influence because he hopes to achieve a favorable reaction from another individual or a group (Kelman, 1958). In a buying situation, the buyer may for example hope to obtain better delivery time or more desirable credit terms. In a compliance process the coercive tactics are considered the most effective, since the target adopts intended behavior expecting to gain rewards and approval by conforming. (McFarland et al., 2006) Identification is described as a process where individual accepts influence because he wants to establish or maintain a satisfying and self-defining relationship to another individual or a group (Kelman, 1958). A buyer can e.g. “identify” with the salesperson by echoing seller’s expressions, endorsing his views or mimicking his behavior (McFarland et al., 2006). Internationalization process occurs when individual accepts influence because the content of the induced behavior, i.e. ideas and actions of which the behavior is composed, is naturally and inherently rewarding. With this process, the intended behavior is congruent with the individual’s own value system. (Kelman, 1958) In a buying situation internationalization happens, when a buyer accepts influence because the content of the influence presents a useful solution. For a internationalization process information exchange and recommendations are considered as the most

appropriate influence tactics since they attempt to alter the target's perceptions of the desirability of the intended behavior. (Frazier & Summers, 1984; McFarland et al., 2006)

#### *4.4.2 B2B buyer orientation on influence process*

Characteristics of b2b buyers combine both task and interaction oriented buyer orientation, of which neither does by themselves perfectly describe the typical b2b buyers. Very often actually, buyers naturally have multiple orientations, and only about one third has a single orientation (McFarland et al., 2006). Thus, it is most useful to know about all three identified buyer orientations, including self-orientation as well.

Task-oriented buyers most usually follow the process internationalization as they are less focused on interactions and relationships with the salespeople, but focus on the objectives of the task at the hand as well as the organizational goals, and on achieving these through the purchase (McFarland et al., 2006). Task-oriented buyers are goal-oriented, efficient and purposeful (Sheth, 1976), which is why they fit to the b2b buyer characteristics as well. They pursue to always achieve the best decision for their organization. As aforementioned, information exchange and recommendations are best suited in these situations, since they are tactics high in information and knowledge (Williams & Spiro, 1985), which enable the buyers to evaluate alternatives thoroughly and thus make a very informed decision (McFarland et al., 2006), much like many industrial buyers prefer to proceed prior to the purchase.

Interaction oriented buyers place more emphasis on relational elements rather than on specifics of a transaction. They believe that socializing is an important part of the buying process. (McFarland et al., 2006) Interaction oriented buyers follow the process of identification, since they seek to develop personally satisfying relationships first, and only after that they focus on the content of the transaction at hand (Kelman, 1958; McFarland et al., 2006). Very often b2b buyers are interested in building long-term buyer-seller relationships, as they enable frequent communication, updates and maintenance, as well as ease and expedite the buying process with frequent similar purchases. These kind of buyers look beyond the product feature and benefits, and make their decisions based on emotions (Williams & Spiro, 1985), which is actually very seldom the case with b2b buying. Influence strategies that are appropriate for impressing interaction oriented buyers, are ingratiation and inspirational ap-

peals, as they seek to elicit enthusiasm, excitement and other positive emotions, which resonate to the feeling of self of the buyer individual (McFarland et al., 2006). However, as the context of this thesis is online, it must be taken into consideration, that forming a meaningful buyer-seller relationship is difficult to begin if there isn't any means for the buyer to contact the seller. On a website this could be done by a chat with service personnel, email and other call-to-actions.

Self-oriented buyers are in most part concerned with their own well-being when considering purchases, and personal needs may outweigh organizational objectives as well as needs of task effectiveness (Sheth, 1976; Williams & Spiro, 1985; McFarland et al., 2006). Self-oriented buyers often follow the process of compliance, as they are interested in what they can gain or avoid by complying with the source's suggested behavior. Compliance aims to change the desirability of the intended behavior (Kelman, 1958). In contrast to the process of internalization, the target adopts the induced behavior because for them it is an instrument for goal accomplishment, not because they believe in the content of the behavior. (McFarland et al., 2006)

#### **4.5 Appropriate influence strategies chosen for online attractiveness**

In this case, the most suitable and applicable influence tactics for the website experimenting are information exchange, recommendations, promises and inspirational appeals. Other tactics are challenging to employ effectively specifically in an environment such as a website, as the exact visitors are unknown and thus their buyer orientations are unknown as well. Ingratiation is left outside as a noncoercive tactic, as it is difficult to use in a non-interactive environment. The chosen tactics represent all three different identified buyer orientations, and are different enough to be clearly identifiable on the website.

On the original website, there haven't been intentionally any influence tactics in use, and before the experiment, the email addresses provided on the website receive only a few potential contacts in a month specifically via the websites. The information content on the website, however, is very informative and promotes the benefits of Teknosavo's solutions in multiple ways. The texts as such could be considered as information exchange tactic, since there isn't any specific requests or suggestions what the visitors, and potential future customer, should do, or recommendations on how to behave.

Recommendations are a naturally way boost the effect of influence on the visitors. Because there isn't any interactivity on the website (chat, frequently asked questions (FAQ) page etc.), the recommendation is to contact the company. There are several pieces of contact information on the website, and it fits smoothly in the body texts of the pages to suggest the visitors to for example write an email to Teknosavo. Both information exchange and recommendations are addressed to task-oriented buyers, as these buyers respond well to influence tactics, when they are presented with useful solutions, which are high in information and knowledge as well as when the content of the influence tactic is congruent with their own orientations (Frazier & Summers, 1984; McFarland et al., 2006). These are also utilized as many of the b2b buyers can be assumed to be goal-oriented, purposeful and aim at fulfilling organizational objectives (Sheth, 1976).

Promises are another suitable tactic, since the company is already very familiar in using them when meeting with customers face to face. Value proposition of the company is very much promoted in selling situations, and it promises the increase of productivity and savings in energy, raw material loss, and thus also monetary savings. In addition, promises affect efficiently buyers with high self-orientation, because they are primarily concerned with extrinsic rewards (Kelman, 1958; Williams & Spiro, 1985). Promises entice them to overcome the reluctance to act (McFarland et al., 2006). Self-oriented buyers in b2b buying context may consider how they themselves can benefit from the purchases made for the company, or if they could gain some personal merit or glory in the organization from some important purchases.

The industry at hand is also under observation by society, since there are a lot of pressures for wood handling industry to be sustainable, green and eco-friendly as the main resource is natural material. This is the motivation for many companies to improve their processes and operations to be more effective, and it is also what Teknosavo's solutions are designed for. Inspirational appeal with this point of view can be assumed to influence the website visitors representing potential buyers. Inspirational appeal is addressed to interaction-oriented buyers, who prefer emphasize emotional utilities of the offering and respond well when the source seeks to elicit excitement and positive emotions (Williams & Spiro, 1985; McFarland et al., 2006). As Teknosavo's solutions aim to bring sustainability and improve productivity of their customers, inspirational appeal is chosen to be utilized on the website.

## **5 EMPIRICAL STUDY**

This chapter will introduce the case company, and describe the empirical study of experimenting on the website in order to answer the research questions. The ultimate aim of this study is to find ways how the case company can increase the number of online visitors for their websites, who can eventually turn into prospects and customers. Academic goal of the thesis is to identify ways how the website ranking can be improved on search engine result pages, and find the right mechanisms to influence b2b buyers on the websites. In order to reach the aim of the study, actual useful website information content will be created for the firm in question to find out the optimal mix of content. Qualitative data from the company is gathered by experimenting what kind of keywords get the highest ranking in the search engine result pages and thus generate the most traffic to the websites. In addition to keyword experimenting there will be other optimization practices conducted and additional information content creation for the influence tactics. The research methods are presented in table 1, with propositions in table 2.

### **5.1 Company introduction**

Teknosavo has specialized in electrical, mechanical, software and automation processes in wood processing industry. Their solutions consist of systems for measuring the raw materials and optimizing various processes inside the wood processing factories. They also provide consulting services for their clients. (Kauppalehti, 2015b) Teknosavo is very involved in its clients' projects and continues the relationships with maintenance and modernization services for existing clients. Teknosavo can be described as a small-sized firm with personnel of 9 and a turnover little over one million euros (2014) (Kauppalehti, 2015b). During the past five years the turnover has fluctuated only a little staying at the one million euros for most fiscal years, except for 2013 (Kauppalehti, 2015b). The return has been profitable and in the fiscal year 2014, Teknosavo was rated as having return on investment of 33.1%, which is really good (Kauppalehti, 2015b).

### *5.1.1 Competition and clients*

According to the administration of Teknosavo, they do not have any direct competitors at the moment. Only one they mention is the Austrian Andritz, which supplies manufacturing plants, equipment and services for hydropower stations, pulp and paper industry, metal working and steel industries, as well as solid/liquid separation industries (Andritz, 2015a). But Andritz cannot be considered as a direct competitor for two main reasons. It is a multinational corporation with sales well over in the multibillions (Andritz, 2015b). More pressing feature are the solutions; the main business focus is different from Teknosavo's solutions. Domestic companies Metso (former Valmet) and Raute could be considered as competitors as well, but Teknosavo does cooperation with both of them with maintenance services and some of Teknosavo's employees work only with them. International direct competitors weren't mentioned when discussed with company administration.

Teknosavo has all the biggest domestic wood processing companies as their clients: UPM, Stora Enso, Metsä Board, Raumaster, and has also their own systems installed in almost every factory in these companies. Foreign clients include companies from United States, Russia, Spain, Austria, Sweden, Germany and Canada. In addition to these countries, Teknosavo has also external agents located in Slovakia, Portugal and Chile. Majority of all business is however conducted in Europe.

### *5.1.2 Value proposition*

Value proposition of the company promises "more speed, more capacity - more profits" which is created by their solutions efficiency compared to non-automated debarking systems. Patented solutions which they offer decrease raw material loss, provides real time information from the debarking line to the controller, who is then able to be more precise and imminent control of the line. The biggest competition the company faces is against manual controlling of the debarking lines, which is still the de facto of the industry in most factories. The industry also sets them other challenges by characteristics, traditions and old customs. Raw material brings own difficulties as a resource since it is non-standardized and procurement might need more man hours. Also raw material prices are on the rise and building the mills and factories is becoming rather expensive, which is setting back investments on them worldwide. From this perspective competitive advantage of the southern world countries



compared with northern world countries is decreasing. Decision making in the industry is also rather slow and conservative, as the monetary investments are substantial and there is naturally a huge uncertainty on the buyer's side. Without long-term experience this industry and most of the markets are difficult to enter, which on the other hand can be seen as an opportunity for Teknosavo, since they already have gained experience in the field and recognition by their current customers. One of the biggest difficulties Teknosavo faces at the moment market-wise, is power relations with clients and prospects. Teknosavo is still a small firm by all measures, so in all customer relationships power relations are slanted on the customers' side, and Teknosavo needs to be flexible and has to bend to the demands and will of the clients.

### *5.1.3 Marketing, contacting customers and selling*

At the moment and previously, marketing done by the case company has mainly consisted only of participation at trade shows and so-called "field work" as well as sending out brochures for executives the company themselves have viewed as potential customers. They began cooperation with a brand agency in 2014. Teknosavo has six foreign sales agents in Russia, Chile, Portugal, Spain, Slovakia and US, which are at the moment some of the potential growth areas. These agents all sell Teknosavo's solutions among other things, and the company should entice them to increase Teknosavo's portion of the sales they make. CEO and founder of the company has been and still remains the only sales person in the company, which is problematic since he has also a lot of administrative tasks as well. The lack of appropriate personnel combined with a culture that ignores other sales and marketing once a project is started has been affecting in past low profits and total revenues. The company has however realized the problems and is aiming at developing a more systematic way of doing sales which includes hiring new personnel as well as improving sales negotiation skills of current staff. Currently Teknosavo has only been focusing on very traditional marketing tactics, but they should consider using more of their customer references. Many of the clients of Teknosavo have been more than satisfied with their improved systems after implementing Teknosavo's patented solutions. As the market in what the company operates is still a niche and unique, there is very little word-of-mouth going around about Teknosavo, and the company could definitely benefit more from of it.

Currently Teknosavo increases the number of customer contacts by cold-calling them and receives only a few contact request from customers' end. Like mentioned, there is some word-of-mouth going around in industry networks, but the company has to work hard in order to make more contacts. The CEO and founder of Teknosavo attends several industry seminars in Finland and in other countries every year where he can present and demonstrate the benefits of their solutions to a prime audience. Because Teknosavo also innovates new solutions all the time, they often rent new products and solutions for customer for testing before the customer needs to make a purchase decision.

## **5.2 Methodology and research methods**

In this case, the best way to research the increase of visibility of the websites, is to measure the ranking the websites have in the search engines while using different relevant search terms, and monitor how the ranking develops after search engine optimization practices have been utilized. The information content should be unique, appropriate and relevant for the website visitor searching for information. The goal is that, the search terms search engine users choose, would match the keywords on the websites, and thus the ranking would improve. Research design and basic propositions are represented again in table 5.

The increase of online visibility is also measured by the number of visitors on the website, which can be assumed to be linked to the ranking of the pages. The number of visitors accounts as to how many people know about the website and thus also about the company. The number of visitors on the website can be assumed to be near the total number of people online having seen the company, as the company's marketing activities does not yet include any other online channels other than email marketing. Email marketing ultimately also aims to channel more visitors to the website, and increasing the global awareness of the company.

The creation of interest for the websites, and thus also for the company and their offering, is measured by the bounce rate. Bounce rate of a website is a percentage of how many visitors leave after browsing only the first page they land on. The smaller the bounce rate, is the better, because it implies that the website is interesting enough to view several pages.

**Table 5. Research design and propositions**

<b>What is measured?</b>	<b>Concept</b>	<b>Actions</b>
Search engine result page ranking	Visibility	Relevant keywords are to be implemented to the information content and meta information
<b>P1.</b> The more there are relevant keywords on a website, the higher the ranking is on the search engine result page		
Number of visitors	Visibility	(Keyword implementation and higher rankings will attract more visitors)
<b>P2.</b> The higher the ranking of a website is on the search engine result page, the higher the number of new visitors		
Bounce rate	Interest	The information content is optimized to be influential, relevant and interesting enough to entice the visitors to browse the websites
<b>P3.</b> The more interesting the website information content is, the more visitors will browse more than the landing page, and thus the bounce rate will be lower		
Number of emails	Attractiveness	Influence tactics that promote contacting the firm are implemented to the information content
<b>P4.</b> The right and relevant information content will make the website more attractive for the visitor and entice them to contact the company		

The improvement of attractiveness of the website needs to take into account the visitors' actions performed on the websites. Currently, there are only two call-to-actions on the websites; downloading a brochure and contacting the company via email, neither of which are promoted on the other pages before the study. From these calls-to-actions it can be researched how attractive the company is considered. Attractiveness of the website is improved with the implementation of online influence tactics, that promote the current call-to-

actions on the website, specifically email contacting. From the company server, it can be searched how many emails have been sent out from the website. The bounce rate and email contacting are meant to multiply as the ranking develops and thus there are more visitors to the website, who are assumed to find the website interesting and relevant for their search.

The empirical study is performed during February 2016. Before beginning the study, the statistics of the websites are defined. All data about the websites is retrieved from Google Analytics tool specifically for Teknosavo's website. The website was opened in August 2015 as it was built by an external brand agency for Teknosavo during the summer. The website uses Contao content management system (CMS). Only English pages are considered in the study.

### **5.3 Data collection**

The data was collected in two experiment phases. The first one focused on the relevant keywords, implementing them on the website, and thus performing search engine optimization, and this way attempting to improve the ranking of the website on a Google search result page. The second phase included implementing new information content in the form on influence tactics, on certain 4 pages, encouraging the visitors to contact the company, as well as to browse the website further than the landing page. In the first phase there wasn't any audience screening, as industry is already a niche. The second phase measured which influence tactics were the most effective in this case, in other words, from which page the visitors moved on to contacting Teknosavo. Information content of pages and selected keywords were discussed and decided together with the case company experts before publishing.

#### *5.3.1 Keywords and ranking on Google*

The information content on the website is composed by the brand agency based on materials Teknosavo had provided them. The information content on the pages, focus on the presenting the company, the solutions and services, value proposition and importance of the business. The website is somewhat optimized for search engines, e.g. page headlines and meta description, which are relevant for search engines. The page headlines are very descriptive,

and there is no need to alter them. This could also break some internal linkages on the website, which is why they were left as original.

Since there has not been any significant use of certain search terms in the natural traffic for the original websites, the keywords used in the study are provided by the case company, considering also suggestions from Google Analytics data (see table 6). All of the keywords are industry-specific, and are assumed to be relevant for the customers, when they are using search engines in a supplier search. The ones considered the most relevant by Teknosavo are bolded in the table 6. The company management decided these keywords are the most important ones from the potential customers' perspective, if they were to use search engines in their supplier prospecting. These key terms are the most general, as many search engines users do not necessarily use that specific search terms, and they also describe best the essence of Teknosavo's solutions in a few words.

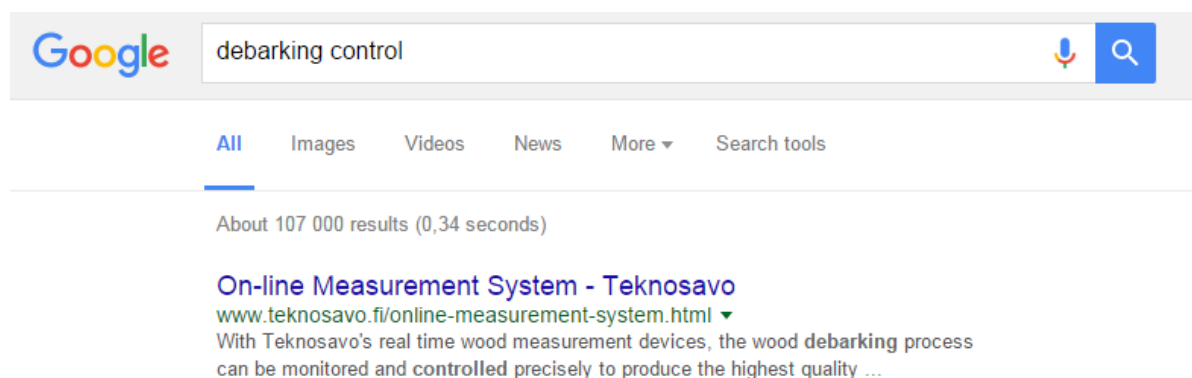
**Table 6. Keywords provided from the company**

Wood handling optimization	<b>Wood handling automation</b>	Chip handling
Pulp wood debarking	Eucalyptus debarking	<b>Debarking</b>
<b>Log measurement</b>	<b>Drum fill measurement</b>	Pulp cooking measurement
Mill automation	Quality measurement	Wood loss
Bark content	<b>Debarking control</b>	Debarking measurement
Stone detector	<b>Chip quality</b>	Log analysis
Bark measurement	Volume measurement	<b>Wood room automatic control</b>
Bark contents	Wood contents	<b>Debarking process</b>
Log volume measurement	Truck volume measurement	Laser measurement
Energy saving	Energy consumption decrease	Chip thickness measurement
Chip moisture measurement	Raw material loss decrease	Sustainable wood

These keywords are present in the original texts on the website, but they aren't as much present in the meta descriptions of the pages. Other ways to determine the relevant key terms would be to inquire current customers how they would search information, study websites and online channels of competitors and other companies in the same industry, or begin using AdWords by Google. Adwords is an online service for paid search, where companies are involved in an auction for their website to pop up as an ad when certain search terms are used.

During the weeks 5/2016 and 6/2016, some Google searches were performed for the before evaluation prior to any changes performed on the website. Key terms considered most relevant by the company were searched. Incognito-window was used to avoid Google personalization. Only the first 10 result pages were viewed, as search engine users were rarely view results past the first ten pages. If there were no results of Teknosavo's websites within these ten first pages, it was considered they are not easy to find. The tenth search engine result page gets only on average 0.1% visitors per search (Lee, 2013). "Before" results are presented as on average, since multiple searches were performed on each key term in order to gain reliability.

*Drum filling measurement* and *chip quality* had results with Teknosavo's pages present on the first result page, and *debarking control* had on average one or two results of Teknosavo pages as the very first results on the first result page (see screen shots in figures 7-9). For these key terms already found on the first result page, the aim is to improve the ranking to the top of the first result page, and for *debarking control* the aim is to remain the first result.



**Figure 7. Screen shot of debarking control ranking**

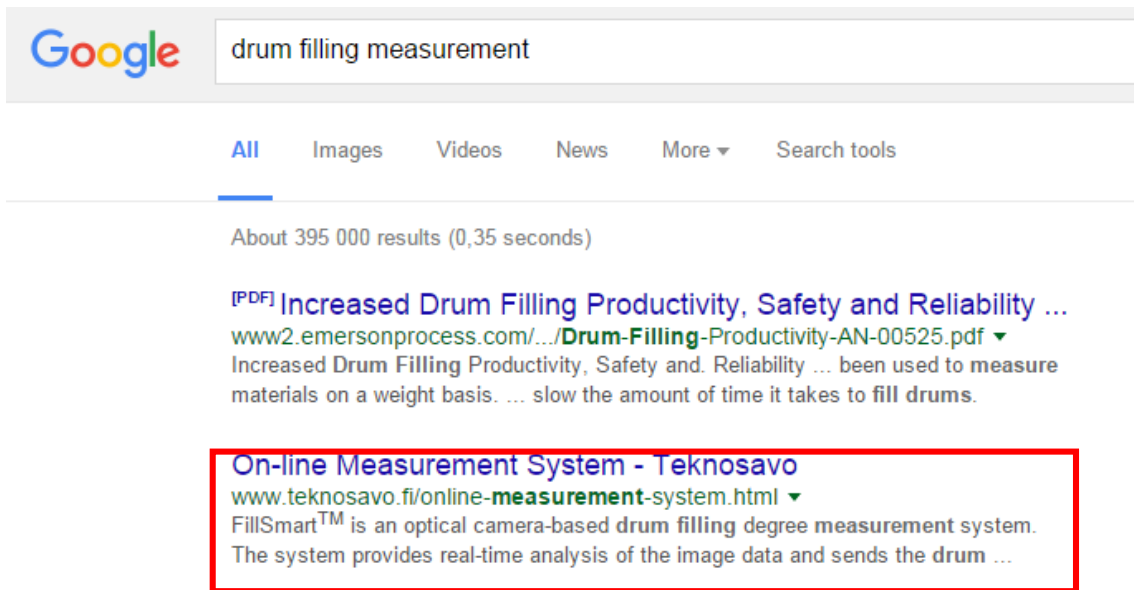


Figure 8. Screen shot of drum filling measurement ranking

**Chip Quality Surveillance - Teknosavo**  
[www.teknosavo.fi/chip-quality-surveillance.html](http://www.teknosavo.fi/chip-quality-surveillance.html)  
 Teknosavo has comprehensive experience of delivering systems for monitoring wood chip quality to optimize.

Searches related to chip quality

- wood chip quality program    fish and chip quality award
- chip quality index            quality chip tuning
- pulp chip specifications



Figure 9. Screen shot of chip quality ranking

*Debarking process* had a result of Teknosavo's page on average the third page (figure 10). This is also considered one the most important key terms to implement in the information content. *Log measurement* had results of Teknosavo pages on average on the ninth result page (figure 11), which although within the ten first, cannot be considered a significant ranking. However, *wood handling automation*, *wood room automatic control* and *debarking* didn't present any results with Teknosavo pages within the first ten results pages. For these search terms the aim is to improve the ranking to be within the first result page.

**Debarking Optimization - Teknosavo**  
[www.teknosavo.fi/debarking-optimization.html](http://www.teknosavo.fi/debarking-optimization.html) ▼  
 WoodSmart has been developed to control the entire wood debarking process in order to stabilize wood production process and optimize the degree of cleaning ...

**Debarking Dogs: Dog Bark Softening Surgery - Noise Help**  
[www.noisehelp.com/debarking-dogs.html](http://www.noisehelp.com/debarking-dogs.html) ▼  
 The surgical procedure is called vocal cordectomy, surgical debarking, or devocalization. Each of these terms is actually a misnomer, because vocal cords are ...

**Study on Nordic Pulp and Paper Industry and the Environment**  
<https://books.google.fi/books?isbn=929120384X>  
 1993  
 WOOD HANDLING The first step in most pulp mills regardless of product type, is the wood handling and debarking process. Debarking is currently done by two ...

---

**Searches related to debarking process**

<a href="#">drum debarking process</a>	<a href="#">debarking wood by hand</a>
<a href="#">log debarking process</a>	<a href="#">debarked logs for sale</a>
<a href="#">metso debarking drum</a>	<a href="#">debarking logs by hand</a>
<a href="#">debarking a dog surgical procedure</a>	<a href="#">debarking machine</a>

---

< **Go**oooooooooooo**gle** >

Previous    1 2 3 4 5 6 7 8 9 10    Next

**Figure 10. Screen shot of debarking process ranking**



Google

All Images Videos News More ▾ Search tools

Page 9 of about 284 000 000 results (0,44 seconds)

[The Application of Modern Methods to Log Measurement for ...](#)  
 gottsteintrust.org/.../the-application-of-modern-methods-to-log-measure... ▾  
 Log measurement for the purpose of determining quantity is performed to identify products along the supply chain from forest owner to processing. Measurement ...

[The Principles of Log Measurement: C. F Laver - Amazon.com](#)  
 www.amazon.com/The-Principles-Log-Measurement.../B001OYXKK8 ▾  
 The Principles of Log Measurement [C. F Laver] on Amazon.com. \*FREE\* shipping on qualifying offers.

[Guidelines for implementation of forest management ...](#)  
 www.fao.org/docrep/w8212e/w8212e08.htm ▾  
 Cutting includes all activities undertaken to fell and prepare trees for extraction, including felling a standing tree, measurement to determine best log lengths, ...

**On-line Measurement System - Teknosavo**  
 www.teknosavo.fi/online-measurement-system.html ▾  
 BarkSmart™ is an optical measurement device which continuously measures the percentage of bark in relation to the wood surface on logs after the debarking ...

**Figure 11. Screen shot of log measurement ranking**

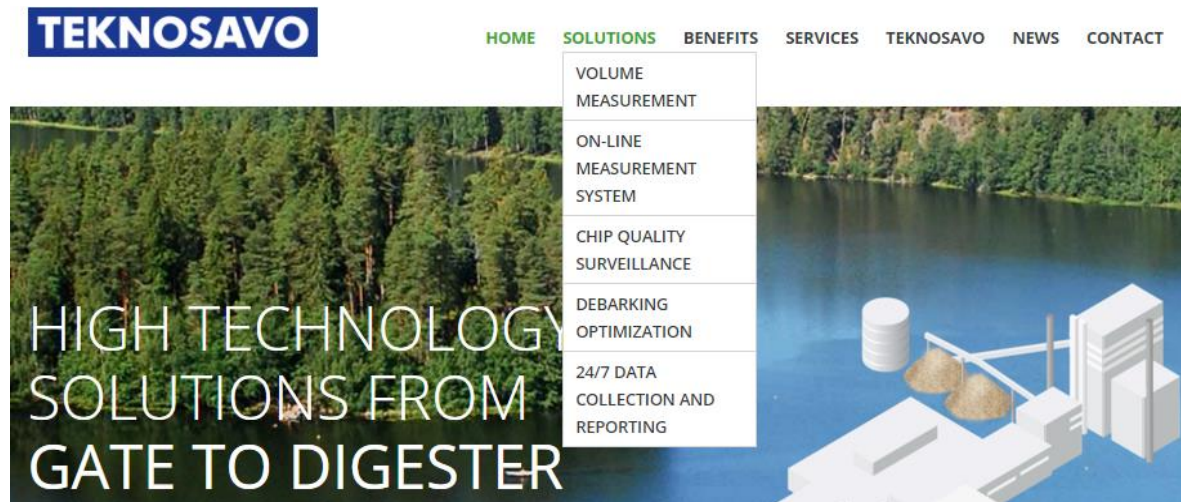
The keywords used on each experiment page are displayed in table 7. Teknosavo is also searched quite a lot, which is why the company name is in all the meta descriptions as well. All pages involved in the experiment were, however, considered at this point as individuals, to avoid keyword stuffing. Aim of the use of keywords in the body texts was also to compose a coherent entity and make sure it is understandable for the visitors. Keywords were added when they were seen appropriate in the context and made sense for the rest of text.

**Table 7. Keywords implemented on the website**

<b>Headline and URL</b>	<b>Keywords</b>
Solutions <a href="http://tekosavo.com/solutions.html">http://tekosavo.com/solutions.html</a>	Debarking control, log measurement, chip quality
Volume measurement <a href="http://tekosavo.com/volume-measurement.html">http://tekosavo.com/volume-measurement.html</a>	Debarking control, wood cleanliness, log measurement, log analysis, wood handling automation
Online measurement system <a href="http://tekosavo.com/online-measurement-system.html">http://tekosavo.com/online-measurement-system.html</a>	Debarking measurement, quality measurement, wood handling automation, productivity improvement
Chip quality <a href="http://tekosavo.com/chip-quality-surveillance.html">http://tekosavo.com/chip-quality-surveillance.html</a>	Optimize, chip handling, chip thickness, wood handling automation, wood room automatic control
Debarking optimization <a href="http://tekosavo.com/debarking-optimization.html">http://tekosavo.com/debarking-optimization.html</a>	Log debarking process, efficient debarking control, wood handling automation, wood room automatic control
24/7 data collection and reporting <a href="http://tekosavo.com/id-24-7-data-collection-and-reporting.html">http://tekosavo.com/id-24-7-data-collection-and-reporting.html</a>	Debarking, wood handling, productivity, efficiency, sustainable, wood room optimization
Benefits <a href="http://tekosavo.com/benefits.html">http://tekosavo.com/benefits.html</a>	Productivity improvement, optimization, wood handling automation, debarking control, log measurement

The keywords and key terms are implemented in the body text as well as the meta descriptions. Meta descriptions are relevant in search engine optimization, since e.g. Google algorithms take them into consideration when they provide results for a specific search. Google search engine looks at the meta description and compares them to the used search term in term of relevance (Google, 2016). Meta descriptions are not visible on the website, but as they are meant to provide a concise and accurate description of the page, they have to be in line with the actual content of the page. See appendix 1 for the exact keyword changes in the meta descriptions, and appendix 2 for keyword use information content on the experiment pages.

Figure 12 displays the whole page structure and navigational system of the website. It is kept simple, the headings are descriptive and it is very easy to find information on the website. Solutions page has multiple sub-pages, but other pages do not. The visual design of the website is pleasant, comfortable and at the time modern.



**Figure 12. Screen shot of page structure**

### 5.3.2 Visitor data

The website had been open for five months with naturally traffic before the study. During these five months, there hadn't been any significant search terms used in the traffic coming to the website. More than 1600 users have visited the site, and on average 63 % of them are new visitors instead of returning ones. The bounce rate, which indicates the percentage of visitors leaving after viewing the first page they land on, is on average 67 %, which is quite high. All internal ip-addresses have been excluded in Google Analytics to avoid distorting the visitor data and thus disturbing the actual results. See table 8 and figure 13 for statistics about visitors before experimenting.

**Table 8. Statistics from first 6 months of websites**

Month	Visits	Visits/day	Visitors	Pages/visit	Bounce rate %	New/returning visitors %
August	342	11,0	211	2,49	51,46	60,8/39,2
September	295	9,8	214	3,2	48,47	67,5/32,5
October	325	10,5	161	2,47	57,54	55,1/44,9
November	626	20,9	411	1,87	75,88	62,3/37,7
December	542	17,5	421	1,64	76,57	75,5/24,5
January	440	14,2	292	1,74	76,39	62,7/37,3

From the statistics at table 8 and in figure 13 can be observed that there is no clear trend in the amount of visits and visitors. Returning visitors are the smaller part of the visitors, which implies that there isn't yet content interesting enough for the visitors to return regularly. However, new visitors are important for raising the website awareness and visibility. The bounce rate has been increasing and correlates with the number of pages per visit. Only two pages per visit and average time of under two minutes spent page suggests also that visitors do not bother to browse much beyond the landing page.

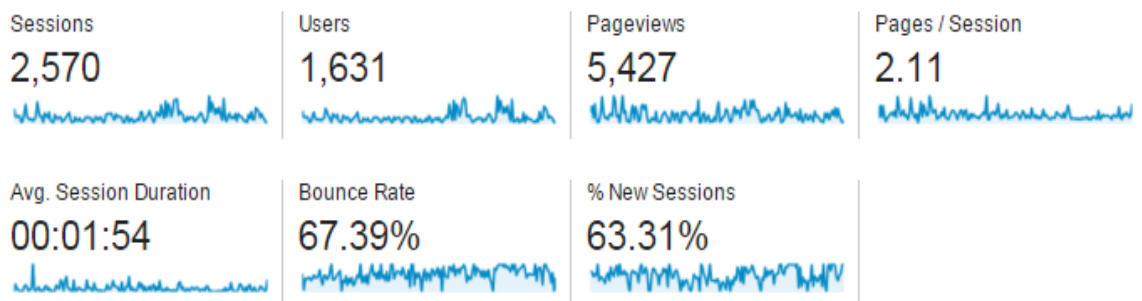
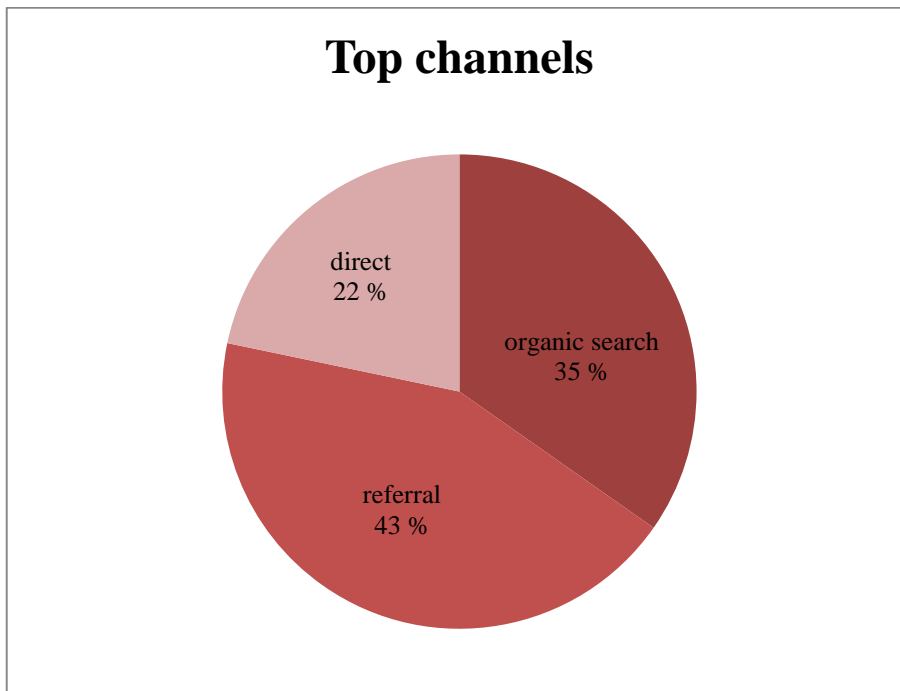
**Figure 13. Screen shot from Google Analytics of visitor data (10.8.2015-31.1.2016)**

Figure 14 represent the percentages of the top channels providing traffic to the website before the experiment. Referral links account for 43%, organic search 35% and direct traffic for 22% of the entire amount of visitors. Usually there is no specific ideal mix of the channels how much each should be. The ideal mix depends more on the nature of the website as well as on other marketing activities by the company, e.g. their own other channels that drive traffic: social media, email marketing, valuable and relevant referral links, direct traffic from returning visitors who've bookmarked the website.



**Figure 14. Top channels of traffic before experimenting**

Before the experiment, referral links provided more than 40% of all traffic the website. Referral links were found mostly on not-industry related websites, that focus on driving free traffic to any website and cannot be considered reliable, relevant or desirable for Teknosavo (e.g. traffic2cash.xyz). A handful of visitors had also landed on Teknosavo website from industry- or location-related websites, promoting local businesses or a specific industry (e.g. <http://savonlinnanyrityspalvelut.fi/>; e.g. [automaatioseura.fi](http://automaatioseura.fi/)). Organic search from search engines provided a third of the entire traffic with the most useful search term being "Teknosavo". The most traffic has been by search terms "(not provided)" by Google Analytics, which means the search information has been hidden by Google to protect its users' privacy. For the future, a "not provided" filter has been applied to site, to see what pages the visitors visit and make some conclusion about their interests based on that (Broadley, 2013). The direct traffic coming to the website means visitors are typing specifically Teknosavo.com to their browser, or alternatively they land on the website via a link from an email or a document. This accounted for 22% of the whole traffic.

### 5.3.3 Influence tactics on the website

Before the experimenting the websites can be considered a merely static form of presenting the same information online what the company provides customers and prospects in their brochures. Information content focuses on providing detailed product information for the website visitors as well as presenting reasons for improving wood handling processes for productivity, efficiency and savings. No influence tactics are in use, and there aren't suggestions to contact the company. The aim of using the chosen influence tactics, is to entice the visitor to take an interest to the solutions presented on the website, browse more than the landing page, and ultimately to contact Teknosavo via the contact information on the website.

Four different influence tactics are used on the website, each on different page; information exchange, recommendation, inspirational appeal and promises. These influence tactics were chosen because they represent all three different identified buyer orientations, and are different enough to be clearly identifiable on the website. Table 9 summarizes on what pages the influence tactics were implemented and how. In addition, appendix 2 presents how the influence tactics are being used on the pages included in the experiment. The texts in appendix 2 are color-coded; **information exchange (blue)**, **recommendations (green)**, **promises (yellow)**, **inspirational appeals (purple)**, **keywords (red)**. A mix of influence tactics was chosen, because the exact buyer orientations of website visitors are unknown, and most people have multiple orientations. With each influence tactic there was also a specific call-to-action, that encouraged visitors to make a contact to the company:

#### **Call-to-action**

*"Contact us and we can together assess, which Teknosavo's solutions for wood handling automation would provide your business the most improvement in productivity and savings."*

**Table 9. Summary of influence tactics used on the website**

<b>Headline of the page and URL</b>	<b>Influence tactic used</b>	<b>Example</b>
Solutions <a href="http://teknosavo.com/solutions.html">http://teknosavo.com/solutions.html</a>	Information exchange	<i>"The need for efficiency and productivity in wood processing industry is more pronounced than ever due to the competitive global market space."</i>
Online measurement system <a href="http://teknosavo.com/online-measurement-system.html">http://teknosavo.com/online-measurement-system.html</a>	Recommendation	<i>"With Teknosavo's real time debarking/quality measurement devices, your wood debarking process can be monitored and controlled precisely to produce the highest quality end-product."</i>
24/7 data collection and reporting <a href="http://teknosavo.com/id-24-7-data-collection-and-reporting.html">http://teknosavo.com/id-24-7-data-collection-and-reporting.html</a>	Inspirational appeal	<i>"Teknosavo's reporting applications enable real time monitoring and controlling of wood handling processes, which will increase total long-term mill productivity, efficiency and cost-effectiveness. End-products will be more sustainable and desirable."</i>
Benefits <a href="http://teknosavo.com/benefits.html">http://teknosavo.com/benefits.html</a>	Promises	<i>"Wood loss reduction by 1-4 % with optimized debarking process equals up to 1 million euros* in annual savings. *Capacity of 600 000 tons/year"</i>

Information exchange provides general information about the state of the wood processing industry and subtly leads the visitors read more about the Teknosavo solutions that are designed to improve customers' business activities by more efficient and productive processes. However, as this is in practice quite difficult to differentiate from the other the normal information content, this page is considered as the control group for the other experiment pages. Recommendations more clearly suggest that the solutions would actually benefit the customers to produce better high quality end products. These are supported by sufficient product information and presentations of how each solution Teknosavo offers have their own place and purpose in the processes of wood handling. Recommendations as an influence tactic are very knowledge and information intense, which would be attractive for the task-oriented buyers, who are very goal-oriented and interested in making the best choice for the companies' objectives.

Inspirational appeal influence tactic in this case is designed to invoke positive feelings among the website visitors about preserving the environment in the wood processing industry and performing business activities as efficiently as possible while improving productivity and providing their own customers with highest quality end products. Sustainability and efficiency are vital in today's wood processing industry and companies need long-term solutions for ensuring their production facilities are up-to-date and the most cost-effective. In this case the inspirational appeal focuses specifically on the positive characteristics of the Teknosavo solutions to be attractive for the interaction-oriented buyers who are also interested in creating a relationship with the seller company prior to purchase.

Promises utilized on the website are quite straightforward emphasizing the concrete benefits Teknosavo's solutions provide for the customers. These promises are meant to attract the self-oriented buyers who often focus on more to themselves than the organizational objectives. By purchasing Teknosavo's solutions and beginning cooperation with Teknosavo, these buyers could gain some personal satisfaction. However, professional b2b buyers aren't considered to manifest a mere self-orientation when performing purchasing for the organization.

From Google Analytics can be observed how many times visitors have been to the contact information page at some point of their behavior on the website. During the time period from August 10, 2015 to the end of January, 2016 on average almost six individuals per two weeks have been to the contact information page. However, the customer contacts via the website have been scarce. The general email address of the company had received on average 3 email per two weeks in 2016 from which only half are potential customer contacts. The personal emails hadn't received any additional contacts specifically from the website.



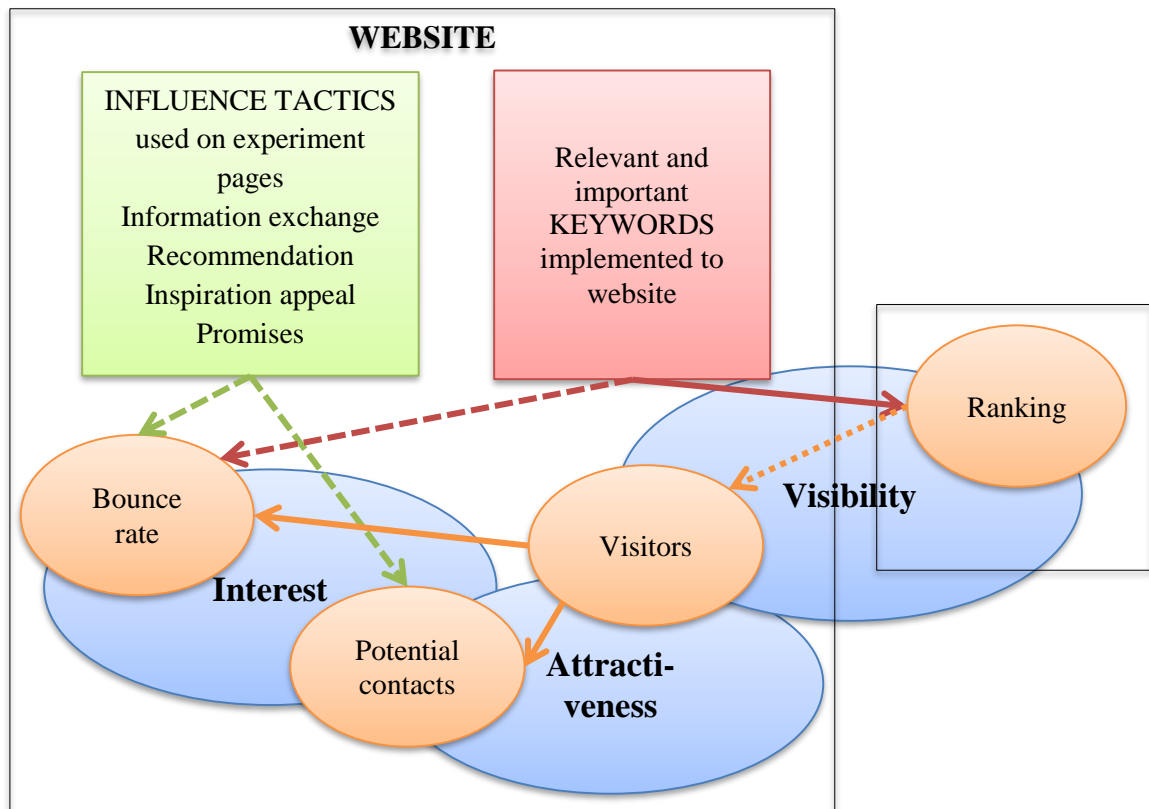
## 6 ANALYSIS AND RESULTS

The ultimate aim of this study was to find ways how the case company can increase the number of online visitors for their websites in order to eventually turn them into prospects and customers. This was approached by concepts of increased online visibility, interesting and effective websites as well as attractive and persuasive information content. Academic goal of the thesis is to identify ways how the website ranking can be improved on search engine result pages, and to find the right mechanisms to influence b2b buyers on the websites. This chapter makes an analysis of the experiment results and discusses and reflects them to key concepts of the theoretical part as well to them research questions and propositions.

The data consists of observations from Google search engine result pages, Google Analytics statistics, and number of contacts made to the case company via email. The experiment period was performed during February 2016 weeks 7 and 8 (15.-28.2.2016) and compared to a reference period of weeks 5 and 6 (1.-14.2.).

Figure 15 presents the framework of the thesis results considering the executed experiment, the main theoretical concepts (visibility, interest and attractiveness), and the different factors involved; influence tactics, keywords, search engine ranking, visitors, bounce rate, contacts. The influence tactics and keywords were implemented to specific pages on the website and these two activities had two different immediate goals. Keywords aimed at improving the ranking of the website on the search engine result pages and this was assumed to then correlate with a higher number of total visitors on the website. This was considered to increase the visibility of the case website, as the rankings on the first few result pages capture most of the total traffic.

The improved information content after the keyword and influence tactics implementation intended for a more interesting and effective website, which would be of interest for the visitors. Influence tactics aimed at increase the attractiveness of the company and their offerings, to spend more time on the website while exploring the solutions and services presented, as well as at enticing the visitors to make contact to the case company.



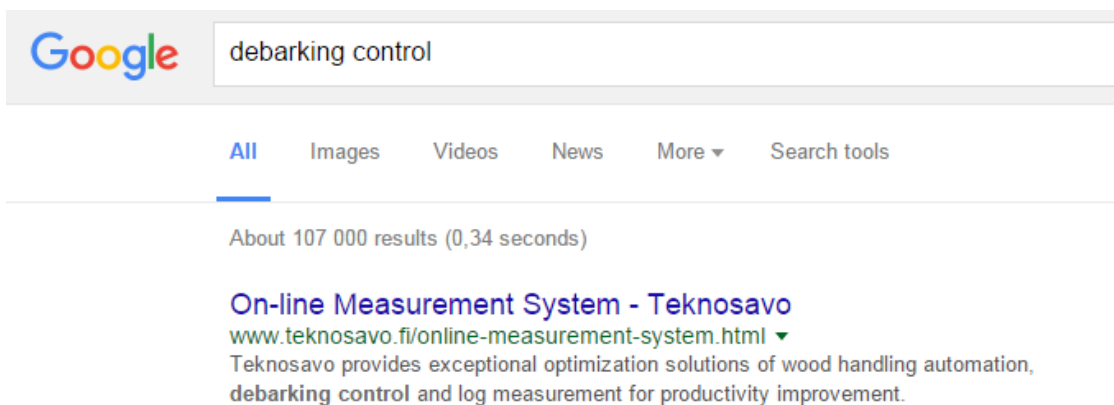
**Figure 15. Framework of thesis a posteriori**

## 6.1 Keywords and ranking on Google

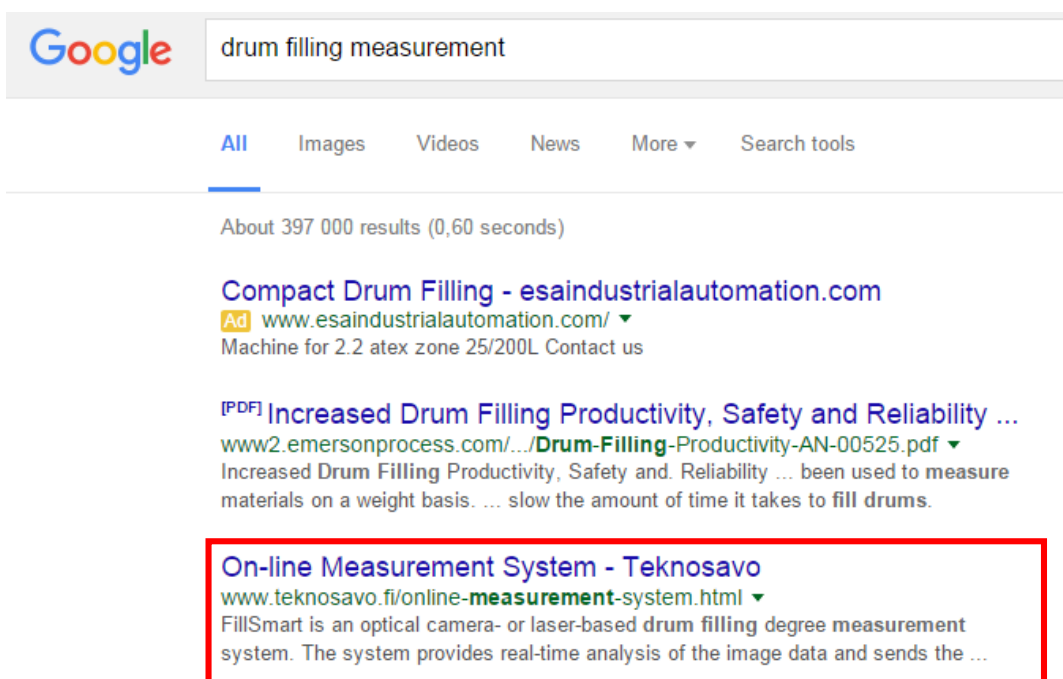
As the P1. suggests, the ranking on the search engine result pages is dependent on the volume of relevant keywords on the website. This sub-chapter identifies how the meta description optimization and key term implementation to the information content visible for both website visitors and search engines improved the rankings of the case website pages on search engine result pages (SERP's). To test how well the case website pages are present on the SERP's, multiple searches were performed to gain reliability and results are on average based on these several observations. An incognito-window was used in order to avoid Google personalization with English as the default language in order to model potential global customers.

Search terms *debarking control*, *chip quality*, and *drum filling measurement* presented results of Teknosavo pages on average on the first SERP (see figures 16-18), and *debarking control* usually presented Teknosavo pages as the first and second result on the first result

page. Results of Teknosavo pages from search terms *debarking control* and *chip quality* retained their previous rankings with minor improvements, as the results from term *drum filling measurement* deteriorated a bit, but on average was still found in the top three results. These rankings can be considered good for these particular search terms. Search term *debarking process* still presented a results of Teknosavo page on the third result page (figure 19).



**Figure 16. Screen shot of debarking control ranking**



**Figure 17. Screen shot of drum filling measurement ranking**

**Chip Quality Surveillance - Teknosavo**  
[www.teknosavo.fi/chip-quality-surveillance.html](http://www.teknosavo.fi/chip-quality-surveillance.html) ▼  
 Teknosavo has comprehensive experience of delivering systems for monitoring wood chip quality in order to provide a tool for chipping and post processing ...

[PDF] **Effects of Wood Chip Characteristics on Refining ... - Tappi**  
[www.tappi.org/content/events/07impc/07impc46.pdf](http://www.tappi.org/content/events/07impc/07impc46.pdf) ▼  
 by E Dundar - Cited by 2 - Related articles  
 used to convert wood chips to high quality papermaking fibers. In this paper an online chip characteristics measurement system CMSE (Chip Management ...

**HHSC Projects: Medicaid and CHIP Quality and Efficiency ...**  
[www.hhsc.state.tx.us/hhsc\\_projects/ECI/](http://www.hhsc.state.tx.us/hhsc_projects/ECI/) ▼  
 Medicaid and CHIP Quality and Efficiency Improvement. Texas Medicaid and CHIP are primarily provided through a statewide managed care organization ...

---

Searches related to chip quality

wood chip quality program    fish and chip quality award  
 chip quality index            quality chip tuning  
 pulp chip specifications

---

**Go**oooooooooooo**gle** >  
 1 2 3 4 5 6 7 8 9 10    Next

**Figure 18. Screen shot of chip quality ranking**

**On-line Measurement System - Teknosavo**  
[www.teknosavo.fi/online-measurement-system.html](http://www.teknosavo.fi/online-measurement-system.html) ▼  
 With Teknosavo's real time wood measurement devices, the wood debarking process can be monitored and controlled precisely to produce the highest quality ...

**Debarking | Cruel Practices | Companion Animals | The ...**  
[www.peta.org](http://www.peta.org) > Issues > Companion Animals ▼  
 Debarking strips dogs of their natural ability to vocalize and communicate. ...  
 Debarking, or devocalization, is an invasive surgical procedure that involves ...

---

Searches related to debarking process

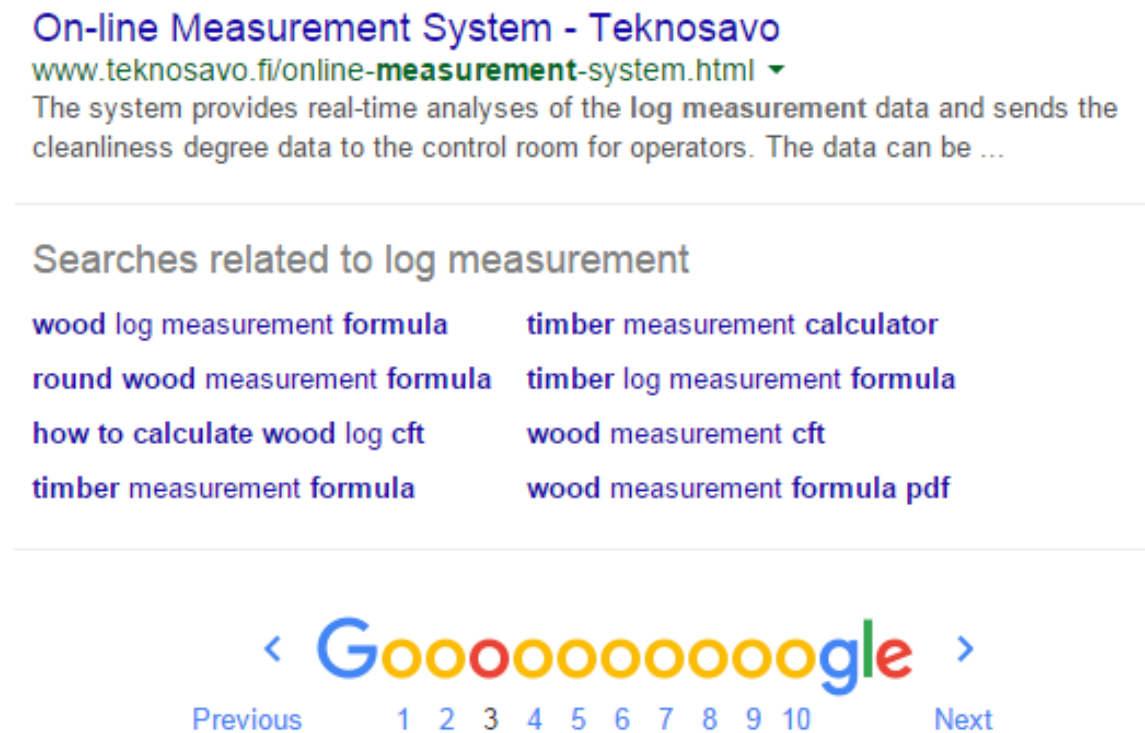
drum debarking process            debarking wood by hand  
 log debarking process              debarked logs for sale  
 metso debarking drum              debarking logs by hand  
 debarking a dog surgical procedure    debarking machine

---

< **Go**oooooooooooo**gle** >  
 Previous    1 2 3 4 5 6 7 8 9 10    Next

**Figure 19. Screen shot of debarking process ranking**

Search term *log measurement* presented results of Teknosavo pages that improved rankings from the ninth page to the third (see figure 20). Third page might be quite of a stretch, as the second page already attracts on average only 5 % of all search engine users of a in almost any search, but it is still a major improvement compared to the previous ranking.



**Figure 20. Screen shot of log measurement ranking**

The biggest improvements in the rankings of results of Teknosavo pages were observed with the search terms *wood room automatic control*, *wood handling automation* and *log measurement* (see figures 21-22), which weren't found previously in the first ten result pages and during the experiment presented results of Teknosavo pages on the second and third result pages.

Google wood room automatic control

All Images Maps Videos More Search tools

Page 2 of about 1 870 000 results (0,40 seconds)

[PDF] OPTIMIZED PERFORMANCE FOR WOOD PROCESSING.  
[www.teknosavo.fi/files/media/teknosavo\\_brochure\\_2015.pdf](http://www.teknosavo.fi/files/media/teknosavo_brochure_2015.pdf) ▼  
 systems for wood processing industries and customer projects demanding electrical, .... The measurement device sends wood cleanliness data to the woodroom control system, thus enabling real-time automatic control of debarking. The wood ...

**On-line Measurement System - Teknosavo**  
[www.teknosavo.fi/online-measurement-system.html](http://www.teknosavo.fi/online-measurement-system.html) ▼  
 With Teknosavo's real time wood measurement devices, the wood debarking process can be ... data and sends the cleanliness degree data to the control room for operators. The data ... The system provides automatic calibration and cleaning.

**Figure 21. Screen shot of wood room automatic control ranking**

Google wood handling automation

All Images Videos News Maps More Search tools

Page 3 of about 24 500 000 results (0,24 seconds)

**Kincaid Automated Roughmill Systems, Inc. | Lumber ...**  
[kincaidsystemsinc.com/](http://kincaidsystemsinc.com/) ▼  
 At Kincaid Automated Roughmill Systems, we serve the wood processing industry with a wide range of lumber handling solutions. Our specialty is providing ...

**Solutions - Teknosavo**  
[www.teknosavo.fi/solutions.html](http://www.teknosavo.fi/solutions.html) ▼  
 Teknosavo provides exceptional optimization solutions of wood handling automation, debarking control and log measurement for productivity improvement.

**Figure 22. Screen shot of wood handling automation ranking**

Search term *debarking* still didn't get any results within the ten first result pages, which may be due to also from the overpowering volume of other websites with the same key term. The P1. isn't necessarily so straightforwardly accurate as it might have seemed. The ranking of any website page is not solely contingent on the optimization activities of the website owner,

but the ranking also develops based on the search engine optimization actions of other companies and competitors on their own websites. The cocktail of all these websites compose the total ranking of the search engine result pages and this also changes over time. One company's optimization activities could push other companies page results down although they would also be relevant for the certain search. The summary of the developments of Teknosavo pages with different keywords and key terms is displayed in table 10, using the keywords as the differentiator.

**Table 10. Summary of the ranking development**

Keyword or term	Before		After	
	Page	Ranking	Page	Ranking
Debarking control	1	1/10	1	1/10
Drum filling measurement	1	2/10	1	3/10
Chip quality	1	10/10	1	8/10
Debarking process	3	8/10	3	9/10
Log measurement	9	4/10	3	10/10
Wood room automatic control	not found		4	2/10
Wood handling automation	not found		3	2/10

The results show clear improvements in the ranking of the optimized website pages on the search engine result pages with some of the keywords and key terms. However, the key terms were chosen by the case company, and weren't customer-originated. But, as the chosen key terms are the most essential in the case company's business, they can be assumed to be relevant to potential customers also. In addition, as the result pages show also other relevant websites of the other companies in the same industry and some of the competitors of Teknosavo, the key terms can be considered as important in the business. The first page rankings that were achieved by some of the key terms can be considered as very good, but although a few of the terms improved the ranking significantly (from page 9 to page 3), they most likely aren't driving as much traffic to the website as they could if they were on the first result page.

## 6.2 Visitors data

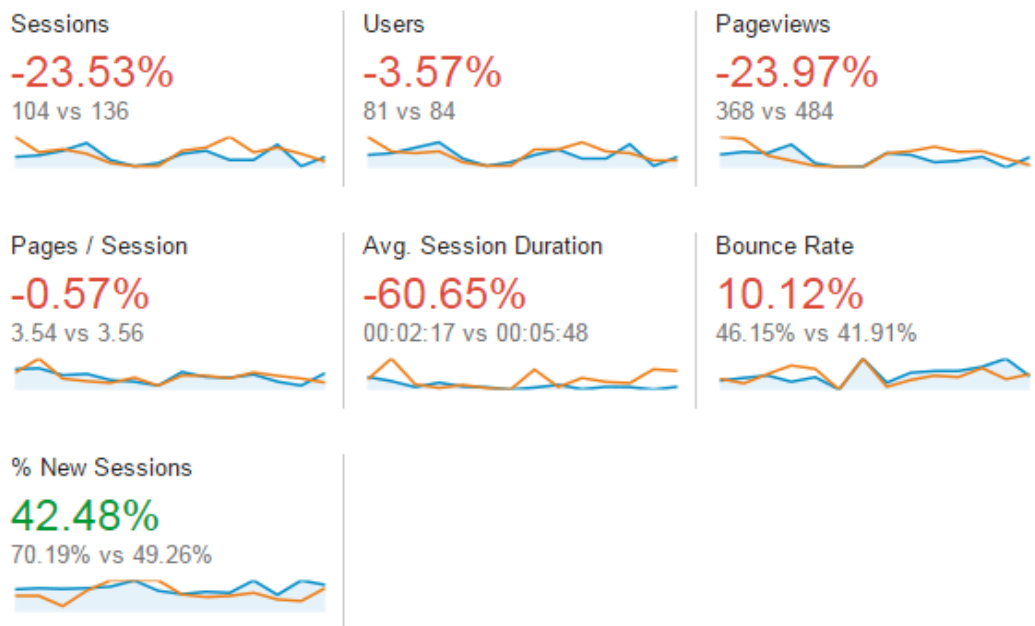
Concerning the P2., which assumes that the higher the rankings of Teknosavo pages are on the search engine result pages, the more visitors would land on the company website, this sub-chapter considers how the visitor-related data has been evolving during the experiment time period. All data is retrieved from Google Analytics. In contrary to the P2., higher rankings in this case did not directly drive more traffic to the website. During the experiment time period there were actually fewer visitors and less visits than during the reference time period. Table 11 and figure 23 present the compared visitor statistics from the experiment and reference time periods.

**Table 11. Statistics from the experiment period compared to the reference period**

Year	Weeks	Vi-sits	Visits/day	Visitors	Pages/visit	Bounce rate %	New/returning visitors %
2016	7-8	104	7,4	81	3,54	46 %	70/30
	5-6	136	9,7	84	3,56	42 %	50/50

Almost all of the developments during the experiment time period from the reference time period are absolutely negative, but not that significantly in percentages. The most important developments are that the whole month of February had less visitors than previously there had been visitors on average in one month; number of visits (“sessions” in figure 23) decreased by almost 24 %; and the ratio of new/returning visitors developed from 50/50 % to 70/30 %. However, this development that from all visitors there were 70 % new visitors as to 30 % returning visitors, could be a result of the improved result page ranking. Returning visitors could be assumed to have the website bookmarked or to have received a link in an email, which would categorize them as direct traffic.



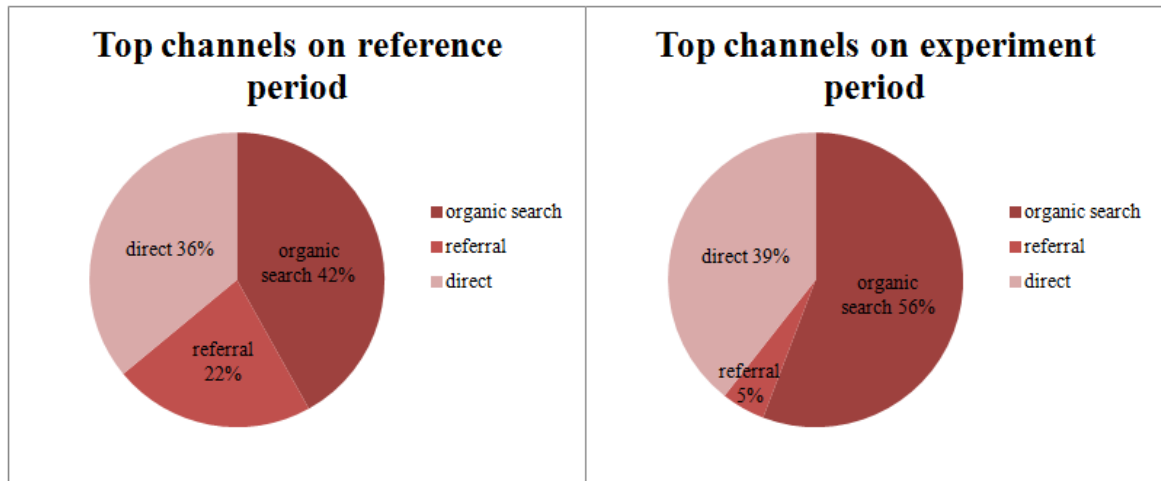


**Figure 23. Screen shot from Google Analytics of compared visitor data**

When it comes to the P3., the pages per visit were practically the same during these two time periods, which led to the lowest bounce rate of the website's whole history in one month. During the experiment time period the bounce rate had increased a bit from the reference time period (41 % to 46 %), but considering the previous monthly numbers, these are both clear improvements (compare to table 8). From the low bounce rate can be interpreted a few possible reasons behind the percentage. Firstly, the low bounce rate would mean that more than half of the visitors browsed more than the landing page during their visit. This could be a result of the visitors who found the website interesting and attractive, and wanted to explore the website further. They were intrigued by the information content and wanted to know more of the Teknosavo's solution and service offerings. On the other hand, if the website was considered challenging to find relevant information from, the bounce rate could be low as the visitors had to search multiple pages in order to find right and relevant information for them. However, as the sources of traffic show a clear increase of the visitors from reputable sources, the bounce rate most likely is low because from the total number of visitors, there has been more potential and relevant visitors on the website, who have spent more time on the site.

From figure 24 can be observed the percentages of the different channels from which visitors have come the case website during both the reference and experiment time periods. A clear development has changed as the organic search has brought more than 55% of all traffic to

the site which combined with the direct traffic is 95%. This increase of organic search and direct traffic is a good sign that more potential visitors are finding the site or already know about it and keep returning.



**Figure 24. Top channels of traffic on the reference and experiment time periods**

However, data from Google Analytics suggests that only known key term driving traffic is *debarking*. The referral traffic has decreased dramatically from the irrelevant and most referral visitors have found the case website from industry and business related indexes or other websites. Also during the experiment time period, the 5% of referral traffic only accounts for 2 visits from the total sessions.

As mentioned before, there is no right or optimal mix how the traffic should be divided between these sources, but it is a matter of the certain website and company behind it. In this the case company does not have much other kind of online marketing yet, so the referral traffic might be low also due that. If a company promotes themselves in other channels as well and are visible on other websites as well (for example, satisfied customers would have a link to the company website on their own website) could improve the quality of referral traffic. Although organic traffic was pursued in this case, it might not always serve the best interests of the certain company. In this case, if assumed that the potential customer actually tries to find suppliers online, the organic search is appropriate to provide a source of potential and essential visitors, who could find essential information for their information search. However, if the company would operate in a more competitive industry or the key terms would be very usual in many other industries as well, the attracted visitors might not be

potential customers, but misguided search engine users, who do not find what they are looking for. This is why in the analysis many different aspects must be taken into consideration, as the average time spent on page, bounce rate, number of contacts, behavior flow and many other things.

### **6.3 Influence tactics on the website**

The P4. refers to the assumption, that when there is a lot of interesting information on a website, which is relevant and right specifically for the visitors, they feel more willing and interested to know more and to acquire the presented solutions. This is proposed to entice the visitors to make contact to the case company. P4. also concludes that if the attractiveness created on the website content is high, visitors want to spend more time on the website, which in turn would result in a lower bounce rate. Bounce rate is the percentage of website visitors, who abandon the website after visiting only the first page they land on.

However, as mentioned in the previous sub-chapter, the total number of the visitors during the experiment period was quite low and this also makes it challenging to coherently analyze the impact of the used influence tactics on the pages. The tactics were used on four separate pages, and one of these was viewed as a control page, as it featured the tactic *information exchange*. Screen shots of the pages with the influence tactics are visible in figures 25-28.

From figure 25 can be observed how the information exchange tactic was used on the website. The information on this main page is directed to the professionals and experts of the wood processing industry, who are familiar with the challenges the industry faces today, and the information aims at providing the mission why Teknosavo is in business and what is their business idea. This is however very general information, and thus the page was considered as a control page, to which other pages with influence tactics would be compared to with the visitors' behavior.

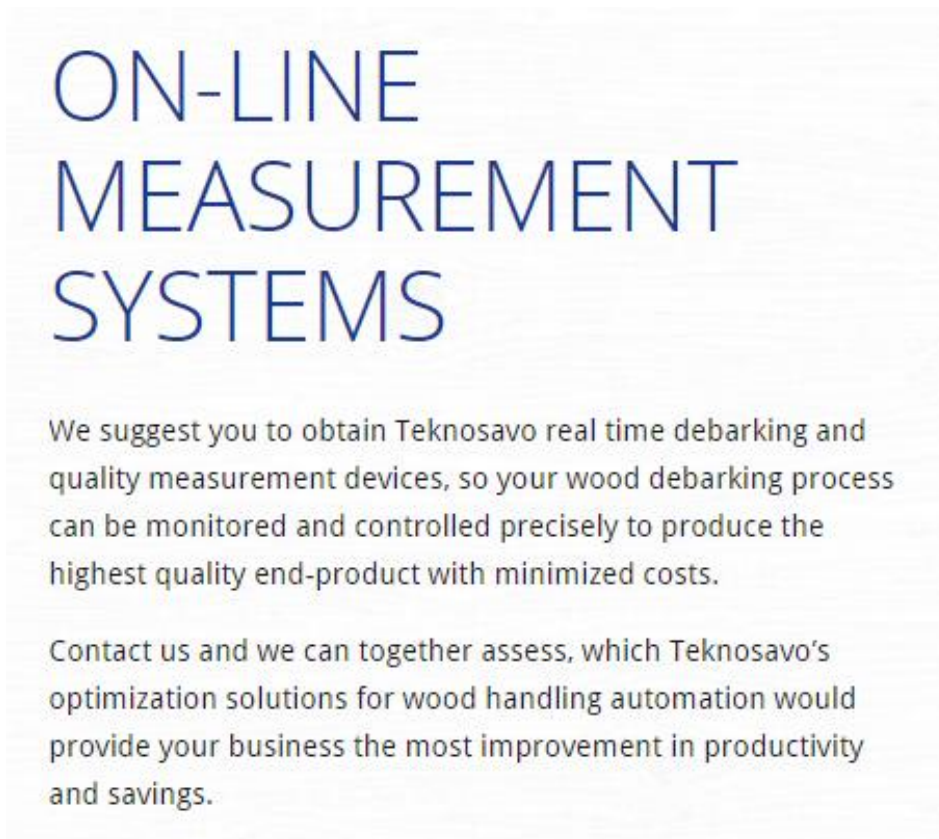
*“The need for efficiency and productivity in wood processing industry is more pronounced than ever due to the competitive global market space. Teknosavo provides exceptional optimization solutions of wood handling automation, debarking control and log measurement for productivity improvement.”*



**Figure 25. Screenshot of "Solutions" with information exchange**

Figure 26 present a different page with an influence tactic recommendation. Here, the attempt of influence is already more clear and the information suggest how the visitors should act. But, the information is still quite general and does not imply any significant sanctions or rewards of the compliance.

*“We suggest you to obtain Teknosavo real time debarking and quality measurement devices, so your debarking process can be monitored and controlled precisely to produce the highest quality end-product with minimized costs.”*



**Figure 26. Screenshot of "On-line measurement systems" with recommendation**

From figure 27 can be observed how the *inspirational appeal* tactics was utilized in an online environment. Inspiration appeal usually is best executed in a personal interaction, but could also be applied in virtual context. Here, the inspirational appeal was directed to the environmental, sustainability and green aspect of the industry, as the main resource is a natural material. Many global wood processing corporations want to be seen as sustainable and have branded them as such with projects, initiatives and various forms of cooperation with the environmental organizations. This influence tactic is aimed at appealing to these eco-friendly motives and needs of the global wood processing corporations, and is used in the most positive and enthusiastic manner.

*“Teknosavo's reporting applications enable real time monitoring and controlling of wood handling processes, which will increase total long-term mill productivity, efficiency and cost-effectiveness. End-products will be more sustainable and desirable.”*

# 24/7 DATA COLLECTION AND REPORTING

Continuous improvement in performance demands highly developed reporting applications. Teknosavo's reporting applications enable real time monitoring and controlling of wood handling processes, which will increase total long-term mill productivity, efficiency and cost-effectiveness. End-products will be more sustainable and desirable.

Contact us and we can together assess, which Teknosavo's optimization solutions for wood handling automation would provide your business the most improvement in productivity and savings.

## **Figure 27. Screenshot of "24/7 data collection and reporting" with inspirational appeal**

Figure 28 presents examples from the page upon which the *promises* tactics was used. These promises are quite straightforward and clear in what is the reward the target receives from the compliance. However, as the most wanted buyers are industrial buyers, who presumably aim at completing organizational tasks and aim at higher goals than their own personal ones, the reward is promised for the organization. The promises also reflect very well on the value proposition of the company and do not overshoot with promises impossible reclaim.

*“Wood loss reduction by 1-4 % with optimized debarking process equals up to 1 million euros\* in annual savings. This you can achieve with our solutions.*

*\*Capacity of 600 000 tons/year”*

## MORE SPEED, MORE CAPACITY – BETTER PROFITABILITY

The need for efficiency and productivity in wood processing industry is more pronounced than ever due to the competitive global market space. Teknosavo provides exceptional optimization solutions of wood handling automation, debarking control and log measurement for productivity improvement. With Teknosavo's highly developed automation, electrical, software and mechanical engineering expertise, we are able to take our customers' business to the next level.

Contact us and we can together assess, which Teknosavo's solutions for wood handling automation would provide your business the most improvement in productivity and savings.

### HIGH EFFICIENCY

Our solutions optimize the mill productivity level regardless of work shifts. Shift changes can be made without stopping the production line. This ensures the steady and good quality production level at all times.

Wood loss reduction by 1-4 % with optimized debarking process equals up to 1 million euros\* in annual savings. This you can achieve with our solutions.

\*Capacity of 600 000 tons/year

### Figure 28. Screenshot of "Benefits" with promises

During the experiment time period, in total 6 visitors had been on the customer contact page, but there were only two potential customer contact emails via the website. Click stream data from Google Analytics proves that there weren't direct or indirect behavior from the influence tactic pages to the contact information page. Thus P4., does not hold up, but is abatable. In addition, there haven't been almost any traffic to these specific pages with the influence tactics, which explains the little traffic to the contact information also. This is why the influence pages aren't compared much to the control page with information exchange. However, as the experiment lasted two weeks, the two contacts are quite well in line with the average number of email contacts via the website than in January 2016 and the reference time period.

## **7 DISCUSSION AND CONCLUSIONS**

The study aimed to find ways how the number of online website visitors can be increased, who would eventually turn into prospects and customers. Ultimately the long-term goal for the company itself is to increase sales, but it was not part of this research. Academic goal of the study was to identify ways how the website ranking can be improved on search engine result pages, and find the right mechanisms to influence b2b buyers on the websites. This chapter proposes a summary of the empirical and theoretical parts of the thesis, and considers the findings in terms of the research questions, propositions and research gaps of the study. This chapter will present sufficient answers to the research questions, as well as present managerial implications for Teknosavo to further improve their online marketing activities. Finally, limitations of the study are discussed with ideas for further research suggestions.

### **7.1 Summary of key findings**

The thesis is based on several theories and various literature references were used in order to make a coherent entity of the theoretical part for the empirical study. As an exception, due to the lack of a theoretical principal work, quite a few theoretical sources were considered within concepts of search engine optimization, and digital marketing. These are rather new concepts and haven't yet been established in the academic world, as thoroughly as they have been among the practitioners. Thereby, both concepts need still further research, but are in this case considered as depicting for the search of better online visibility.

Chakraborty et al. (2004) were viewed as the dominant theory on the website effectiveness in terms of interesting websites, and this theory was combined with the integrated marketing communications literature. Chakraborty et al. (2004) consider that the effectiveness of a website is constructed by threefold criteria. Informativeness of a website consists of the content provided on the website as well as the level of availability of that content. Informativeness is not equal to the amount of content on the website. Usability describes how easy the website is for the visitors to use, and how well they can navigate on the site. Usability also considers the interactivity on the website; can the visitors connect with the company and the other customers as well. Quality of information consists of timeliness, accuracy and relevance of the information and content on the website. Quality of information considers how



well the visitors' search of information is satisfied, and how that information fits to their needs and expectations.

Finally, the influence tactics literature was included from the principal researches of Frazier et al. (1984; 1991), and a more recent one from McFarland et al. (2006), who had combined the buyer orientations literature from Kelman (1958) and Sheth (1976) to the influence strategies. This made it quite appropriate to connect these theories to the b2b buyer behavior theory, which was considered from multiple literature sources, but focused mostly from Miller (2012) and Chaffey and Ellis-Chadwick (2012).

This sub-chapter represents answers to each sub-research questions by discussing the key findings from the theoretical part combined with the empirical study, building a comprehensive base for composing an answer to the main research question.

### *7.1.1 Increasing visibility of the website*

#### *How to increase visibility of a website by improving the search engine result page ranking?*

The visibility of a certain website or a webpage can be increased in a number of ways. It can be promoted on other online and offline marketing channels, such as social media networks, company emails, customer contacts, or in printed marketing materials. As the case company had a wish to concentrate on the online marketing, and the company does not have any other online channels (except contact emails), nor the realistic resources to use for example online media, the search engine seemed like a natural choice. The choice was also backed up by a variety of research on how to make a company website rank better on search engines. Visibility on a search engine result page in practice requires the website to rank within the first page, and at the top three results, to gain almost any traffic. The amount of traffic decreases drastically from the first page the second one, which is why the goal of the rankings for Teknosavo website, was to rank within the first page results.

The visibility of a website on a search engine depends mostly on the relevance it has on each user-generated search with certain key search words or terms. Search engines like Google and most of the others, base the ranking of the results on how well the information content of the website matches these particular used keywords. Currently, Google considers first the meta descriptions each page has, and aims at using them for matching the page with the

search keywords or terms. Meta descriptions are concise and provide the basic information of what the page is about. They are not visible for the website visitors, but are shown on the search engine result page. If the meta description isn't useful, e.g. the page does not have one, it is too long (150-180 characters is sufficient), or it does not show any matching keywords and key terms, the search engines go through the information content on the site as well. The best way for a webpage to match the used keywords and terms, would be to know what search terms does the search engine user, in this case the potential customer, use or what they would use. Combining these with the keywords of the webpage and the website should be user-beneficially offering relevant and interesting information.

The search engine optimization was mostly based on the information content, and no questionable so-called "black hat" techniques were performed. These inappropriate methods rely on deceiving both search engines and the website visitors. Use of such methods can lead to search engine banishment and general disapproval, which will weaken the company imago. Black hat techniques include doorway pages, which have nothing to do with the actual website and the content it bears; stealing information content from other websites; use of invisible elements, for example white text on a white background to increase the number of keywords on the site. Very often these kinds of techniques make the website hard to use and navigate as well as unattractive for visitors. These methods are not included in the arsenal of a reputable search engine optimizer.

Based on this information, and previous literature on search engine optimization, the meta descriptions of the most essential pages of the website were under scrutiny and optimized together with the case company personnel's opinions and suggestions that were taken into consideration. The mix of multiple keywords to implement to website was assembled by the Teknosavo administration based on what they considered were the most important key terms for their potential customers and what keywords these customers would use to search the Internet for potential suppliers. This took effort in order to think like the customer and see the search procedure from their point of view. The key terms were then reviewed a couple of times, and finally from a larger group of words, the most essential ones were chosen to be put to and emphasized in the information content of the certain pages of the website.

This was assumed to directly affect the ranking the website had on Google SERP's. In the empirical part of the study, the rankings of the website pages using the chosen key terms

were observed before and after the information content was optimized and enhanced on the certain web pages. As the key terms that were used in the searches were the same ones directly implemented to the website, a conclusion could be drawn that the website would appear on the first results very easily. This is however not the case. Only a couple of the pages were found on the first result page while using certain keywords, as they were also before the experiment. Only with one key term the result of Teknosavo page held a position within the top three results on the first page. On average, however, the Teknosavo pages were in the lower part of the first page or not on it at all. There were some clear improvements while using some of the key terms which improved the ranking Teknosavo pages from the ninth result page to the third, or from the fourth page the first page. The ranking of a certain website is also affected by the optimization actions of other organizations competing with the same audience. If they optimize their websites better, they can gain a higher ranking and push other results down. As the literature also discusses, search engine optimization should be dynamic and up-to-date with relevant and useful content for the website visitors.

Once the rankings are higher on the search engine result pages, it would be natural to assume that the amount of traffic to the website would increase accordingly. However, in this case, there was no clear connection between the level of ranking and the number of visitors. Reasons for this occurrence are multiple. First of all, potential customers might not even use Google or other search engines as a primary source for finding supplier information. The used key terms on the website might not be coherent with the ones the potential customers would use in search engines. In this study, the keywords and terms were consulted by the case company, and no customer opinions were considered. The connection between the level of ranking and the number visitors might also be weak, because the rankings were studied with the exact key terms that were also implemented on the website. However, from the total amount of visitors on the website during the experiment time period, the percentage of *new* visitors increased from 50 % to 70 %.

### *7.1.2 Creating interest for the website and the company*

#### *How to create interest for the website and the company by optimizing information content?*

Interesting and effective websites are challenging to create, as there are several aspects to consider while designing and optimizing the websites as a whole as well as the details. The aspects can be divided into three categories according to the literature; informativeness, usability, quality of information. These consist of sub-concepts, such as availability, navigation, ease of use, relevance, timeliness etc. In this case, most attention was given to the informativeness and quality of information, and usability was given lesser attention per request of the brand agency managing the architecture of the website. Informativeness and quality of information were also the most relevant categories for the study. The integrated marketing communications point of view was present throughout the study, as it was recognized that because the company also has quite a lot of offline marketing materials and is most active with offline marketing activities, the website presence is complementary action.

Informativeness according to Chakraborty et al. (2004), is separated to content and availability, and quality of information is separated to timeliness, accuracy and relevance. Availability of the case study website was aimed to be improved with the search engine optimization and the higher rankings as a result. This would be one alternative action to make the website more available to a larger crowd. The website is also available for everyone who finds it and wants to get familiarized with the content, since there is no login required and there are not any hidden pages or content for special visitors only. The content had quite a major role in this case study for obvious reasons. As the website information content was optimized at the certain pages for the search engines, also other information content than only meta descriptions was under scrutiny. Together with the personnel of Teknosavo, the texts on the experiment pages were carefully analyzed and examined in order to make justified alterations, modifications and additions to them. During this process the quality aspects; timeliness, accuracy and relevance, were priorities. The most outdated facts were updated and information was specified and defined more clearly. Relevance of the information to the targeted visitors, b2b wood processing professionals, was one the most important demand and aim for the website comprehensively. Although the usability of the website wasn't modified during the study, some analysis was performed. The website was designed from early on to serve the visitors with ultimate ease of use, and with a quite explicit navigation system,

even for a first-time user. This is, however, also a result of the fact that the website is rather simple and straightforward. The interactivity of the website is somewhat low, because the only way a visitor can contact the company is via separate email or by telephone, and there are no options to connect with other website visitors.

The changes on the website and in the information content were assumed to intrigue the visitors and entice them to explore the website further on than simply the landing page. The first page visitors encounter on a website, is referred to as a landing page, as the visitors “lands” on it from another website or from another channel. Bounce rate is the percentage of visitors who abandon the website after seeing only the landing page on that one visit. Thus, bounce rate is one of the appropriate measures for the attractiveness and appeal of the information content. Low bounce rate implies that the visitors browse several pages, and is generally considered as a very good indicator. Most often low bounce rate is connected to the time each visitor spends on the website. However, low bounce rate could also be an indicator that the website is hard to navigate and the information is challenging to locate, which would mean that the visitors have to search through many pages. A high bounce rate is not necessarily a bad thing, if the website is at the same profitable. It could mean that the pages are clear, information is easily available and visitors already find to the correct page from somewhere else. In most cases however, high bounce rate most likely is a sign that the visitors abandon the site quickly after seeing the landing page, and do not find the content interesting or worthwhile. The bounce rate is a measure of case-by-case, and it is quite difficult to define a universal scale.

In this study during the experiment time period, the bounce rate of the case study website increased approximately 5 % compared with the reference time period, from 41.91 % to 46.15 %. The increase is not very big, but together with the average time spent on page, some conclusions could be made. Average session duration decreased quite much, more than 60 %, but as the pages per session were practically the same, the results were somewhat challenging to analyze comprehensively. In this case, the explanations are multiple. A positive explanation would be that the pages on the website were more informative and clearer so that the visitors found what they were looking more quickly and easily, which enabled them to leave the site faster. On the other hand, as a negative explanation, it could be pondered if the visitors couldn't make out of the information content and abandoned the site

because the content was inappropriate for their information search, hard to read and consume or it didn't attract them enough to stay and browse several pages. There also could have been a lack of sufficient amount of target audience among the visitors.

### *7.1.3 Influence tactics online improving company attractiveness*

*How can influence tactics be used effectively in an online environment to improve company attractiveness?*

As the final concept in the thesis, influence tactics, were explored and researched to see, if they could be applied and used in an online environment. The employment of influence tactics was considered for improving the attractiveness of the company in the eyes of the visitors, as the influence tactics aim to make some behavior more desirable to the target than other. In this case the intended behavior was to make a contact to the case company on the website. Traditionally influence tactics are classified to the personal selling situations between the source and the target [of influence] (Frazier & Summers, 1984; McFarland et al., 2006), and thus the exploiting them in a virtual environment is still not researched that much. As the case company is heavily invested in the b2b markets, it was only appropriate to combine the influence strategy literature with b2b buyer behavior theory, which is plentiful. Also McFarland et al. (2006) had studied how the buyer orientations match with influence strategies, and this research was also considered useful for thesis.

Influence tactics can be categorized to noncoercive and coercive tactics. Noncoercive strategies require a lot of time and resources to be effective, but they are more beneficial for the b2b buyer-seller relationship in the long-term as they aim to subtly affect the target, instead of being more aggressive or straightforward. These strategies should be deployed when the goals of the source firm and the target are aligned and they both share a common interest towards a certain behavior (Frazier & Summers, 1984; McFarland et al., 2006), which is quite often the case with industrial purchasing relationships, when the relationship is of equal importance to the parties and they both benefit from it. Noncoercive tactics include information exchange, recommended actions, which both are strategies for a perceptual change of the intended behavior, as well as ingratiation and inspirational appeals, which instead aim to satisfy psychological needs of the target by maintaining a meaningful relationship and remaining as an attractive alternative (McFarland et al., 2006). Information exchange was

challenging in practice to differentiate enough from the regular information on the website, which is why it was then considered as the reference page. Recommendations and inspiration appeal were regarded as suitable for the study, but ingratiation was excluded as it would need a personal situation where the source can interact with the target. The coercive strategies include promises, threats, legalistic pleas, requests etc., which are needed in circumstances when a source company needs the target company to take action which is not necessarily always in the target's best interest, for example if a source lacks power in a b2b relationship. Extensive and frequent use of coercive strategies may be inefficient and harmful for long-term relationships (Frazier & Rody, 1991), which is why they weren't considered to be so appropriate for this thesis. Only promises are focused on more thoroughly from the coercive tactics, as it is a positive tactic which is beneficial for both the target and the source. It is seen more as a coercive tactic more effective than the others coercive tactics as it is the most suitable to execute on the website.

The source of the influence should always assess which tactics best apply to each customer in a specific selling situation. Because in online one does not have this kind of luxury, the influence tactics must be used in a more general way. It was assumed in this thesis, that when there is a lot of interesting information on a website, which is relevant and right specifically for the visitors, they feel more willing and interested to know more and to acquire the presented solutions. This is proposed to entice the visitors to make contact to the case company. The chosen influence tactics (four pcs.) on the case website were implemented each on a different page, and they all focused on the benefits and the positive outcomes of the solutions that Teknosavo offers. All had the same call-to-action, which encouraged the visitors to make a contact to the company, either by email or by phone (this was not specified). The data from the experiment time period shows that not that much traffic extend to these exact influence tactics pages, and from the quite small amount of visitors only a few actually made contact to the company. During the experiment period there were only six visitors on the contact information page from which the case company received only two email contacts via the website.

## 7.2 Conclusions

The main research question of this thesis addresses to define how to reach more potential customers to company websites, and this research question was then separated into three different sections; enabling the visitors to find the website easily, making the website more interesting for them, and attracting them to ultimately make contact to the case company. In other words, this study aimed to find ways how the number of online website visitors can be increased, who would eventually turn into prospects and customers. This was in practice pursued by optimizing the website pages for search engines, especially for Google; modifying and optimizing the information content to better attract the visitors and to be of relevance to them; and also applying specific influence tactics in order to increasing the customer contacts via website.

This thesis has reached its aims partially, as well as found some marketing activities the case company should not focus on. The results were quite challenging to analyze and conclude realistically and comprehensively. The search engine optimization worked quite well, and would be of value if the potential customers are known to search suppliers on the web. Most of the experiment pages eventually had a ranking on the first result page with the specific keywords used, and some even among on the first three results, which collect the lion's share of all traffic in any search. But, the searches were based on the key terms provided by the company, and thus do not represent the realistic search results of prospects and potential customers.

However, even though the rankings improved, the amount of visitors on the website does not seem to increase. As the content was optimized also for the visitors, and the goal was to make the website more relevant and interesting for them, the study cannot settle on one result. On the other hand, the pages per visit increased a little, but on the other hand at the same time bounce rate decreased. This indicates that the changes to the content didn't inflict a major difference to the visitors on how interesting they consider the website. The analytics data about the certain pages with the influence tactics does not provide any clear indications on whether the visitors were actually impressed by them, and wanted to comply and make a contact, but as there were only a few customer contacts made, it could be concluded that the visitors weren't influenced from the used tactics.



This thesis provides a stepping stone for further research on the subject of reaching more online visitors to company websites and influencing them to take an interest on the company. This thesis also helps to exclude some activities as ineffective on the matter.

### **7.3 Managerial implications**

Suggested managerial implication are discussed in this sub-chapter. There are multiple possibilities and options what the case company can choose from when planning their future marketing activities based on the results of this thesis. This chapter presents some suggestions on what Teknosavo could apply to their marketing, and what issues they should consider. As the case company does not these days have that much marketing and selling resources, they would benefit from prioritizing their marketing-related aims and sales goals by considering make-or-buy decisions before everything else.

Currently Teknosavo has bought marketing and branding services from a domestic brand agency. For specifically Teknosavo in buy-situations, the brand agency should be marketing professionals who are also familiar with Teknosavo's industry and current trends. They should be able to provide truly international and perform global marketing, in addition to regional or domestic, because Teknosavo's markets are global. One the most important feature, is that the brand agency complements on the current weaknesses of the company. At the moment, the brand agency with which Teknosavo is in business fulfills this criterion in some parts, as they have designed the website, and are familiar with the content management system, and thus are of help for the case company.

Regardless of make-or-buy, there are some key points on which Teknosavo should focus on based on this study and other options. First of all, the company website shouldn't be just a static brochure of things, but provide interesting content which is updated regularly and developed. The company could benefit more from the website, if it was more interactive and relevant for the visitors. This is something Teknosavo could consider, whether they want to put resources into developing the interactivity of the website. In a technological society websites have to be easily accessible also with all mobile devices, which is an important structural issue. New content creation is one the most important issues in modern online marketing, whether it is on social media or websites. New content creation is like fuel for the web-

site, as it not only increases the interest of search engines upon the website, which can improve the website's presence on the SERP's, but also it indicates to the visitors that the company is active and valid. Each time a company creates some new content, for example news and recent updates of their business activities, it provides possibilities for the company to share information about what they do, what is important to them, how they operate and in which markets, which all could be of interest to the potential customers. This also is an opportunity for the visitors to learn more about the company, which is naturally a positive feature for the company as well. New content creation regularly would also be beneficial for Teknosavo to focus on, in order to keep the website active and interesting.

As far as the influence tactics on the website, they could be enhanced on the certain pages and also other pages, but they should be then employed more widely across the whole website, maybe on all pages. It should be also considered, whether the website is the appropriate channel for their use, or whether the influence tactics could be more beneficial and add value if employed in another marketing communications channel. The use of influence tactics in an online environment, both noncoercive and coercive, is definitely going to be more popular in the future, as more and more shopping is done online, which is why the tactics won't have to be totally abandoned from website.

The expansion of marketing channels is also worth considering, as the website of any company could be considered as the source, to where other channels lead. At the moment, only email marketing is leading to the website. Other channels would also be effective additions to current marketing activities, not only for website traffic purposes, but also for gaining more recognition and brand awareness. As the industry in which Teknosavo operates can be considered as niche, they could consider employing more word-of-mouth marketing as a new marketing "channel". Word-of-mouth marketing and customer testimonials are efficient especially in high tech marketing, where the benefits aren't as straightforward and the customers and prospects may have a lot of doubts. Recognitions from peers might be in this as well more powerful than some brand agency generated marketing material sent by email, if the customers aren't familiar with the solutions and the company.

## **7.4 Limitations and further research suggestions**

This thesis covers quite contemporary and modern concepts as well as some more established ones, such as b2b buyer behavior and marketing communications. SEO has gained interest among both practitioners and academics, but research regarding the concept is fairly limited. Influence strategies have been studied in various contexts, and during several decades, but the application of them effectively into the online environment requires more focus and study. This sub-chapter takes a look into the limitations faced in the thesis, in both theoretical and empirical parts, as well from these viewpoints suggests needs for further research needs.

The study included several stages that required each other. In previous chapters, it has been described how well the empirical part of the study succeeded, as well how the different stages were combined with the theoretical literature. Some of the stages succeeded better than the others, as the search engine optimization part had quite good results, and the pages per visit increased a bit, indicating interested visitors. However, the ultimate results of this thesis were not that significant as there was not clear increase in the number of visitors, the traffic wasn't directed to the specific influence tactic page, and there were only a few customer contacts via the website. Multiple reasons for the poor results can be identified. First of all, there are some reasons related to the background of the thesis involving the chosen literature and theories. The combination of the main theoretical concepts of this thesis could have been more thorough, and better aligned with the empirical part of the thesis. The framework of the study should have been more narrow and concise in order to have been able to deliver holistic and comprehensive results. The propositions for the thesis weren't accurate and appropriate enough for this specific study. In future research, these concepts could be divided and better focused for studying even more smaller part of process. The combination of these concepts in future studies is most definitely interesting and needed.

There are also more practical sources for the quality of the results. The experiment time period could have been longer or extended as there no visible improvements in the targeted measures. This could have ensured better validity for the thesis. However, not as an official part of the study, but when the Google Analytics data was viewed after the experiment and compared to an even reference time period, the measures hadn't even then experienced any significant changes in either way. In the future, many studies will most likely focus more on

the analytics of marketing and as mentioned earlier, the academic input to search engine optimization is still required. The starting point of the study could also have been chosen with more precision, as it now based on assumption that the potential customers actually use search engines for searching suppliers. This might not be the case, but this would have required a customer specific data gathering prior to the study. However, the potential customers might have been reached better in another channel or channels, such as emails, social media or in offline environment. As the website has not been actively present on other relevant channels as well, the chances of driving a sufficient amount of visitors to the website solely from Google is actually pretty low. But, the investigation of customer-preferred information channels would have expanded the thesis from its current form. It could have been a previous study altogether if aimed to be of real value to the current study. With the search engine optimization, it would have given added value to the whole thesis if the keywords and key terms had been consulted with the customer base. This would have, however, also expanded the thesis quite significantly, and excluded possibilities to perform the thesis in the intended way.

There was also the assumption, that all visitors would browse more pages than one, and especially the sub-pages under “Solutions”. However, as the target visitors were wood processing industry professionals, it was justified to assume that they would be interested enough to browse through the solutions and benefits that Teknosavo offers. The influence tactics might not have been clear and visible enough for the visitors to actually be appealed and complied with them. In online context it might be quite hard to use especially noncoercive influence tactics, as they cannot be altered based on the target, and their buyer orientation, as well as because the noncoercive influence tactics require a lot of time and effort from the source in order to be effective. In the future like mentioned before, more and more shopping will take place online and the relevance of personal selling might weaken, which is why it is important and essential to explore possibilities and best practices, of how influence tactics truly are effective in an online environment. Previously the noncoercive tactics have been of interest, but also the coercive tactics in an online environment need attention in future research.

## REFERENCES

- Anderson, E., Chu, W., Weitz, B. (1987) Industrial Purchasing: An Empirical Exploration of the Buyclass Framework. *Journal of Marketing*, Vol. 51, pages 71-86.
- Andritz (2015)a Welcome to Andritz. [web pages]. [Retrieved 2.7.2015]. Available: <http://www.andritz.com/index.htm>
- Andritz (2015)b Annual report 2014. [web pages]. [Retrieved 2.7.2015]. Available: <http://www.andritz.com/gr-andritz-annual-report-2014-web-low-en.pdf>
- Baker, M. J. (2014) *Marketing Strategy & Management*. 5<sup>th</sup> Ed. UK: Palgrave.
- Bakos, J. Y. (1997) Reducing buyer search costs: Implications for electronic marketplaces. *Management Science*, Vol. 43, No. 2, pp. 1676-1692.
- Barnes, S. J. & Vidgen, R. T. (2002) An integrative approach to the assessment of E-commerce quality. *Journal of Electronic Commerce Research*, Vol. 3, No. 3, pp. 114-127.
- Barry, C., Charleton, D. (2009) In Search of Search Engine Marketing Strategy Amongst SME's in Ireland. *e-Business and Telecommunications*, Berlin, Springer, pages 113-124.
- Bauer, H. H., Grether, M., Leach, M. (2002) Building customer relationships over the the internet. *Industrial Marketing Management*, Vol. 31, No. 2, pp. 155-163.
- Berman, R., Katona, Z. (2011) The Role of Search Engine Optimization in Search Marketing. *Journal of Marketing Science*, Vol. 32 Issue 4, pages 644-651.
- Brin, S., Page, L. (1998) The anatomy of a large-scale hyper textual Web search engine. *Computer Networks and ISDN Systems*, Vol. 30, pages 107-117.
- Broadley, C. (2013) How to Unlock Your 'Not Provided' Keywords in Google Analytics, Kissmetrics blogs [web page]. [Retrieved 7.2.2016]. Available: <https://blog.kissmetrics.com/unlock-keyword-not-provided/>
- Browne, G., Pitts, M., Weatherbe, J. (2007) Cognitive stopping rules for terminating information search in online tasks. *MIS Quarterly*, Vol. 31, No. 1, pages 89-104.

- Bruemmer, P. (2002) Sea Change in Search Engine Marketing. [web page]. [Published 17.10.2002]. [Retrieved 13.7.2015]. Available: <http://www.searchengineguide.com/paul-bruemmer/sea-change-in-search-engine-marketing.php>
- Chaffey, D., Ellis-Chadwick, F. (2012) Digital Marketing – Strategy, Implementation and Practice. 5<sup>th</sup> Ed. UK; Pearson.
- Chakraborty, G., Srivastava, P., Warren, D. L. (2004) Understanding corporate b2b web sites' effectiveness from North American and European perspectives. *Industrial Marketing Management*, Vol. 34, pages 420-429.
- Chen, C. Y., Shih, B. Y., Chen, Z. S., Chen, T. H. (2011) The exploration of internet marketing strategy by search engine optimization: A critical review and comparison. *African Journal of Business Management*, Vol. 5, No. 12, pages 4644-4649.
- Constantinides, E. (2002) The 4S Web-Marketing Mix Model. *Electronic Commerce Research and Applications* 1, 57-76.
- Curran, K. (2004) Tips for Achieving High Positioning in the Result Pages of the Major Search Engines. *Information Technology Journal*, Vol. 3, No. 2, pages 202-205.
- Erez, M., Rim, Y., Keider, I. (1986) The two sides of the tactics of influence: Agentvs. Target, *Journal of occupational psychology*, Vol. 59, pp. 25-39
- Evans, P., Wurster, T. S. (1999) Getting Real About Virtual Commerce. *Harvard Business Review*, November, pages 84-94.
- Forgas, J. P. (1995) Mood and Judgement: The Affective Infusion Model (AIM), *Psychological Bulletin*, Vol. 117, No. 1, pp. 39-66.
- Frazier, G. L. & Summers, J. O. (1984) Interfirm influence strategies and their application within distribution channels, *Journal of Marketing*, Vol. 48, No. 3, pp. 43-55
- Frazier, G. L. & Rody, R. C. (1991) Use of influence strategies in interfirm relationships in industrial product channels, *Journal of Marketing*, Vol. 55, No. 1, pp. 52-69
- Garau, C. (2008) Integrated Online Marketing Communication: Implementation and Management. *Journal of Communication Management* 12, 2, 169-184.

- Geissler, G. L. (2001) Building customer relationships online: the Web site designers' perspective. *Journal of Consumer Marketing*, Vol. 18, No. 6, pages 488-502.
- Ghandour, A. (2015) Ecommerce Website Value Model for SME's. *International Journal of Electronic Commerce Studies*, Vol. 6, No. 2, pages 203-222.
- Ghose, A., Yang, S. (2009) An empirical analysis of search engine advertising: Sponsored search in electronic markets. *Management Science*, Vol. 55, Issue 10, pages 1605-1622.
- Gillin, P., Schwartzman, E. (2011) Social Marketing to the Business Customer: Listen to Your B2B Market, Generate Major Account Leads, and Build Client Relationships. New Jersey, US: John Wiley & Sons.
- Google (2016) Meta tags that Google understands. [web page]. [Retrieved 5.2.2016]. Available: <https://support.google.com/webmasters/answer/79812?hl=en>
- Hair, N., Rose, S., Clark, M. (2009) Using qualitative repertory grid techniques to explore perceptions of business-to-business online customer experience. *Journal of Customer Behavior*, Vol. 8, No. 1, pages 51-65.
- Halligan, B., Shah D. (2014) Inbound Marketing: Attract, Engage and Delight Customers Online. 2<sup>nd</sup> ed. New Jersey, US: John Wiley & Sons, Inc.
- Hartley, B., Pickton, D. (1999) Integrated marketing communications requires a new way of thinking. *Journal of Marketing Communications*, Vol. 5, pages 97-106.
- Hausman, A.V. and Siekpe, J.S. (2009) The Effect of Web Interface Features on Consumer Online Purchase Intentions. *Journal of Business Research* 62, 5-13.
- Henzinger, M. (2007) Search Technologies for the Internet. *Science*, Vol. 317, No. 5837, pages 468-471.
- Hirsjärvi S., Remes P., Sajavaara P. (2013) Tutki ja kirjoita. 15<sup>th</sup> ed. Porvoo, Finland: Bookwell Oy.
- Hissom, A. E. (2010) A Study of How Implementing Search Engine Optimization Practices and Techniques During the Development and Ongoing Maintenance of a Web site is a Key Factor In Its Overall Success. [www document]. [Published 9.11.2010]. [Retrieved

13.7.2015]. Available: [http://www.amyhissom.com/MyWritings/SEO\\_Successful\\_Web-site.pdf](http://www.amyhissom.com/MyWritings/SEO_Successful_Web-site.pdf)

Hutt, M. D., Speh, T. W. (2013) *Business Marketing Management: B2B*. 11<sup>th</sup> Ed. US: South-Western, Cengage Learning.

IAB (2011) IAB Internet Advertising Revenue Report. 2010 Full Year Results. [www document]. [Retrieved 2.7.2015]. Available: [http://www.iab.net/media/file/IAB\\_Full\\_year\\_2010\\_0413\\_Final.pdf](http://www.iab.net/media/file/IAB_Full_year_2010_0413_Final.pdf)

Jansen, J. (2010) Pew Internet Research: Online Product Research. [web page]. [Published 29.9.2010]. [Retrieved 9.6.2015]. Available: <http://www.pewinternet.org/2010/09/29/online-product-research-2/>

Jansen, B. J., Resnick, M. (2005) Examining Searcher Perceptions of and Interactions with Sponsored Results. ACM Conference on Electronic Commerce (EC'05). Vancouver, BC, Canada.

Jeong, M., Lambert C. U. (2001) Adaptation of an information quality framework to measure customers' behavioral intentions to use lodging Web sites. *Hospitality Management*, no. 20, pages 129-146.

Kailani, C. (2012) Impact of Integrated Marketing Communications on Consumer Behaviour: Effects on Consumer Decision – Making Process. *International Journal of Marketing Studies*, Vol. 4, No. 2, pages 121-129.

Kauppalehti (2015)a Teknosavo Oy. [web pages]. [Retrieved 2.7.2015]. Available: <http://www.kauppalehti.fi/yritykset/yritys/teknosavo+oy/07520148>

Kauppalehti (2015)b Teknosavo Oy:n tulos painui negatiiviseksi liikevaihdon reippaan laskun myötä. [web pages]. [Retrieved 2.7.2015]. Available: <http://www.kauppalehti.fi/5/i/yritykset/tulostiedote/tiedote.jsp?selected=kaikki&oid=20140201/13916106517790>

Kelman, H. C. (1958) Compliance, Identification, and Internalization: Three Processes of Attitude Change, *The Journal of Conflict Resolution*, Vol. 2, No. 1, pp. 51-60



Kettinger, W. J. & Grover, V. (1997) The use of computer-mediated communication in an inter-organizational context, *Decision Sciences*, Vol. 28, no 3, pp. 513-555

Killoran, J. B. (2010) Writing for Robots: Search Engine Optimization of Technical Communication Business Web Sites. *Technical Communication*, Vol. 57, No. 2, pages 161-181.

Kolesar, M.B. and Gabraith, R.W. (2000) A Services-Marketing Perspective on E-Retailing. *Internet Research: Electronic Networking Applications and Policy*, 10, 5, 424-438.

Kumar, K. & Beyerlein, M. (1991) Construction and validation of an instrument for measuring ingratiation behaviors in organizational settings, *Journal of Applied Psychology*, Vol. 76, No 5, pp. 619-627

Lee, J. (2013) Search engine Watch: No. 1 Position in Google Gets 33% of the Traffic [Study]. [web page]. [Published 20.6.2013]. [Retrieved 29.2.2016]. Available: <https://searchenginewatch.com/sew/study/2276184/no-1-position-in-google-gets-33-of-search-traffic-study>

Lockwood, M. (2013) How to Optimize Landing Pages for Conversions – A Guide to Building and Promoting Landing Pages that Generate More Leads. [www document] [Retrieved 27.1.2016] Available: <http://offers.hubspot.com/how-to-optimize-landing-pages-for-conversion>

Malaga, R. A. (2007) The Value of Search Engine Optimization: An Action Research Project at a New E-Commerce Site. *Journal of Electronic Commerce in Organizations*, Vol. 5, No. 3, Pages 68-82.

Malaga, R. A. (2008) Worst Practices in Search Engine Optimization. *Communications of the ACM*, Vol. 51, No. 12, pages 147-151.

Mazaheri, E., Richard, M-O. and Laroche, M. (2012) The Role of Emotions in Online Consumer Behavior: A Comparison of Search, Experience and Credence Services. *Journal of Services Marketing*, 26, 7, 535-550.

Mazaheri, E., Richard, M-O., Laroche, M. and Ueltschy, L.C. (2014) The Influence of Culture, Emotions, Intangibility and Atmospheric Cues on Online Behaviour. *Journal of Business Research* 67, 253-259.

- McFarland, R. G., Challagalla, G. N., Shervani, T. A. (2006) Influence tactics for effective adaptive selling, *Journal of marketing*, Vol. 70, pp. 103-117
- Merisavo, M., Vesanen, J., Raulas, M., Virtanen V. (2006) *Digitaalinen markkinointi*. Jyväskylä, Finland: Talentum.
- Miller, M. (2012) *B2B Digital Marketing - Using the Web to Market Directly to Businesses*. US: Pearson.
- Monesson, E. P. (2008) Search Engine Optimization (SEO): A Clear Perspective on a Complicated Process. CPA Practice Management Forum, August 2008.
- Mooradian, T., Matzler, K., Ring, L. (2014) *Strategic Marketing*. 1<sup>st</sup> Ed. UK: Pearson Education.
- Moore, G. (2006) *Crossing the Chasm*. 3<sup>rd</sup> Ed. US: Collins Business Essentials.
- Moriarty, R. T. (1983) *Industrial buying behavior – Concepts, Issues and Applications*. MA, US: Lexington Books.
- Nabout, N. A., Skiera, B., Stepanchuk, T., Gerstmeier, E. (2012) An analysis of the profitability of fee-based compensation plans for search engine marketing. *International Journal of Research in Marketing*, Vol. 29, Issue 1, pages 68-80.
- Palmer, J. W. (2002) Website Usability, Design, and Performance Metrics. *Information Systems Research*, Vol. 13, No. 2, pp. 151-167.
- Panda, T. K. (2013) Search Engine Marketing: Does the Knowledge Discovery Process Help Online Retailers? *The IUP Journal of Knowledge Management*, Vol. XI, No. 3, pages 56-66.
- Park, C-H. and Kim, Y-G. (2003) Identifying key Factors Affecting Consumer Purchase Behaviour in an Online Shopping Context. *International Journal or Retail and Distribution Management* 31, 1, 16-29.
- Porter, M.E. (2001) Strategy and the Internet. *Harvard Business Review*. March 2001.
- Richard, M-O. (2005) Modeling the Impact of Internet Atmospheric on Surfer Behavior. *Journal of Business Research*, 58, 1632-1642.

Robinson, P. J., Faris, C. W., Wind, Y. (1967) *Industrial Buying and Creative Marketing*. MA, US: Allyn & Bacon.

Robinson, T. N., Patrick, K., Eng, T. R., Gustafson, D. (1998) An evidence-based approach to interactive health communication: A challenge to medicine in the information age. *Journal of American Medical Association*, Vol. 280, pages 1264-1269.

Rowley, J. (1998) Promotion and marketing communications in the information marketplace. *Library Review*, Vol. 47, No. 8, pages 383-387.

Schultz, D. E. (1993) We simply can't afford to go back to mass marketing. *Marketing News*, Vol. 27, Issue 4, page 20.

Scott, D. M. (2009) *The New Rules of Marketing and PR – How to use social media, blogs, news releases, online videos and viral marketing to reach buyers directly*. NJ, US: John Wiley & Sons, Inc.

Search Engine Marketing Professional Organization (SEMPO) (2007) *The State of Search Engine Marketing 2007*. [www document]. [Published March 2008]. [Retrieved 13.7.2015]. Document downloadable: [http://www.sempo.org/?page=sem\\_research](http://www.sempo.org/?page=sem_research)

Sen, R. (2005) Optimal Search Engine Marketing Strategy. *International Journal of Electronic Commerce*, Vol. 10, No. 1, pages 9-25.

Sheehan, K. B. & Doherty, C. (2001) Re-weaving the Web: Integrating print and online communications. *Journal of Interactive marketing*, Vol. 5, No. 2, pp. 47-59.

Sheth, J. N. (1976) Buyer-Seller Interaction: A Conceptual Framework, *Advances in Consumer Research*, Vol. 3, Issue 1, pp. 382-386

Steenburg T., Avery J., Dahod N. (2011) Hubspot: Inbound Marketing and Web 2.0. *Harvard Business School*. Rev: January 24, 2011.

Sullivan, D. (2002) The Mixed Message of Paid Inclusion. [web pages]. [Published 5.6.2002]. [Retrieved 13.7.2015]. Available: <http://www.clickz.com/clickz/column/1693987/the-mixed-message-paid-inclusion>

- Van Winter, J. (2014) A Qualitative Study of International Organizational Buyer Behavior. *Review of Business and Finance Studies*, Vol. 5, No. 2, pages 75-83.
- Venkatesh, R., Kohli, A. K., Zaltman, G. (1995) Influence strategies in buying centers, *Journal of Marketing*, Vol. 59, October, pp. 71-82.
- Webster, F. E & Wind, Y. (1972) A General Model for Understanding Organizational Buying Behavior. *Journal of Marketing*, Vol. 36, pages 12-19.
- Weideman, M. (2009) *Website Visibility - The theory and practice of improving rankings*. UK, Chandos Publishing.
- Williams, K. C. & Spiro, R. L. (1985) Communication Style in the Salesperson-Customer Dyad, *Journal of Marketing Research*, Vol. 22, No 4, pp. 434-442
- Wind, J., Mahajan, V. (2001) *Digital Marketing – Global Strategies from the World’s Leading Experts*. US: John Wiley & Sons
- Xiang, Z., Pan, B., Law, R., Fesenmaier, D. R. (2010) Assessing the Visibility of Destination Marketing Organizations in Google: A Case Study of Convention and Visitor Bureau Websites in the United States. *Journal of Travel and Tourism Marketing*, Vol. 27, pages 694-707.
- Yan, X. and Dai, S. (2009) Consumers’ Online Shopping Influence Factors and Decision-Making Model. *Value Creation in E-Business Management, Lecture Notes in Business Information*, 36, 89-102.
- Yin R. K. (2014) *Case Study Research: Design and Methods*. 5<sup>th</sup> ed. US: SAGE.
- Yle (2013) Menestyvä yritys välittää asiakkaistaan myös netissä. [web page]. [Published 18.7.2013]. [Retrieved 10.2.2016]. Available: [http://yle.fi/uutiset/menestyva\\_yritys\\_valittaa\\_asiakkaistaan\\_myos\\_netissa/6736809](http://yle.fi/uutiset/menestyva_yritys_valittaa_asiakkaistaan_myos_netissa/6736809)
- Yukl, G. & Tracey, J. B. (1992) Consequences of Influence Tactics Used with Subordinates, Peers, and the Boss, *Journal of Applied Psychology*, Vol. 77, No. 4, pp. 525-535.

## APPENDICES

### Appendix 1. Meta descriptions

---

1. <http://tekosavo.com/solutions.html>

#### previous meta description

With Teknosavo's real time wood measurement devices, the wood debarking process can be monitored and controlled precisely to produce the highest quality end-product.

#### updated meta description

*With Teknosavo's real time log and chip quality measurement devices, the wood debarking process can be monitored and controlled precisely to produce the highest quality end-product with minimized costs.*

2. <http://tekosavo.com/volume-measurement.html>

#### previous meta description

Teknosavo offers solutions for the precise measurement of wood length, size, volume and quality before the debarking process. Whether the amount is a sample measured from the production line or a larger quantity measured directly from the truck, Teknosavo can provide a solution.

#### updated meta description

*Teknosavo offers optimization for wood handling automation solutions with the precise measurement of wood length, size, volume and quality before the debarking process. Whether the amount is a sample measured from the production line or a larger quantity measured directly from the truck, Teknosavo can provide solution.*

3. <http://tekno savo.com/online-measurement-system.html>

previous meta description

With Teknosavo's real time wood measurement devices, the wood debarking process can be monitored and controlled precisely to produce the highest quality end -product.

updated meta description

*With Teknosavo's real time wood measurement devices, the wood debarking process can be monitored and controlled precisely to produce the highest quality end -product with minimized costs. Teknosavo provides exceptional optimization solutions of wood handling automation, debarking control and log measurement for productivity improvement.*

4. <http://tekno savo.com/chip-quality-surveillance.html>

previous meta description

Teknosavo has comprehensive experience of delivering systems for monitoring wood chip quality to optimize.

updated meta description

*Teknosavo has comprehensive experience of delivering systems for monitoring wood chip quality in order to provide a tool for chipping and post processing management.*

5. <http://tekno savo.com/debarking-optimization.html>

previous meta description

WoodSmart has been developed to control the entire wood debarking process in order to stabilize wood production process and optimize the degree of cleaning and yield.

updated meta description

WoodSmart has been developed to *optimize* the entire wood *debarking control* in order to stabilize wood production process and optimize the degree of cleaning and yield. *Teknosavo provides exceptional solutions for wood handling optimization and wood room automatic control.*

6. <http://teknoSavo.com/id-24-7-data-collection-and-reporting.html>

previous meta description

Teknosavo's ReportSmart is a Windows-based application that is used for reporting purposes in the WoodSmart woodroom optimization system at pulp and paper mills. This application consists of data collection and calculation of desired measured parameters. Measured values can be followed via chart displays in real time.

updated meta description

*Teknosavo's ReportSmart is a Windows-based application used for reporting purposes in the WoodSmart woodroom optimization system at pulp and paper mills. This application consists of data collection and *visualization* of desired measured *debarking* parameters. ~~Measured values can be followed via chart displays in real time.~~*

7. <http://teknoSavo.com/benefits.html>

previous meta description

The need for efficiency in wood processing industry is more pronounced than ever due to the competitive market space. With Teknosavo's highly developed automation, electrical, software and mechanical engineering, we are able to take our customers' wood processing business to the next level.

updated meta description

The need for efficiency in wood processing industry is more pronounced than ever due to the competitive market space. *Teknosavo provides exceptional optimization solutions of wood handling automation, debarking control and log measurement for productivity improvement.* ~~With Teknosavo's highly developed automation, electrical, software and mechanical engineering, we are able to take our customers' wood processing business to the next level.~~



1. <http://tekosavo.com/solutions.html>

## **HIGH TECHNOLOGY SOLUTIONS FROM GATE TO DIGESTER**

**The need for efficiency in wood processing industry is more pronounced than ever due to the competitive market space.**

*The need for efficiency and **productivity** in wood processing industry is more pronounced than ever due to the competitive **global** market space. Teknosavo provides exceptional **optimization** solutions of wood handling automation, debarking control and log measurement for productivity improvement. Contact us and we can together assess, which Teknosavo's **optimization** solutions for wood handling automation would provide your business the most improvement in productivity and savings.*

Our optimizing systems with the latest technologies create significant savings in energy and raw material loss. In addition, Teknosavo's systems, which embody Finnish technology know-how, accelerate and make production process easier. In this scale, as the yearly levels of wood processed in pulp industry are multiple million cubic metres per debarking plant, even one percent decrease in raw material loss is a significant saving.

*Our optimizing systems with the latest technologies create significant savings in energy and raw material loss. In addition, Teknosavo's systems, which embody Finnish technology know-how, accelerate and make production process easier **and leaner**. In this scale, as the yearly levels of wood processed in pulp industry are multiple million cubic metres per debarking plant, even one percent decrease in raw material loss is a significant saving.*

2. <http://teknosavo.com/volume-measurement.html>

## TRUCK MEASUREMENT STATION

Teknosavo's Truck Measurement Station enables the measurement of volume, quality and total amount of wood in a stack directly from the truck. Stationed near the gate, the Truck Measurement Station contains a camera and laser system, connected to analysis software. The station measures 100% of the incoming raw material.

With the quality, size and and volume information, the debarking process can be optimized to ensure high quality and wood cleanness of wood.

## *TRUCK MEASUREMENT STATION*

*Teknosavo's Truck Measurement Station enables the measurement of volume, quality and total amount of wood in a stack directly from the truck. Stationed near the gate, the Truck Measurement Station contains **laser scanners**, connected to analysis software. The station measures 100 % of the incoming raw material.*

*With the quality, size and volume information **of the logs**, the debarking process can be optimized to ensure high quality and **wood cleanliness**.*

## QS MEASUREMENT

QS Measurement system measures a small sample (1-2%) of wood fed to the debarking feed table with laser measuring devices and camera units. Integrated into the production line, QS Measurement creates savings as the need for manual work is significantly reduced. Without slowing the speed of the conveyor, the system measures the wood and sends the data and images to the measurement station.

QS Measurement device sends the measurer the amount of items that are below the size limit or that have technical or quality defects, for example rot. In unclear assessments, the measurer can manually make a quality decision that the QS Measurement then saves for future reference. With homogenous raw material and high quality fibres, costs are reduced as less material and energy are needed in the process.

## *QS MEASUREMENT*

*QS Measurement system measures a small **selected** sample (1-2 %) of wood fed to the debarking feed table with laser measuring devices and camera units. Integrated into the production line, QS Measurement creates savings as the need for manual work is significantly reduced. Without slowing the speed of the conveyor, the system measures the wood and sends the data and images to the measurement station **for log analysis**.*

*QS Measurement informs operator from logs that do not fulfil the size limit or that have technical or quality defects, for example rot. In unclear assessments, the operator can manually make a quality decision that the QS Measurement then saves for future reference. With homogenous raw material and high quality fibres, costs are reduced by minimizing material and energy consumption in the process.*

## *FEEDSMART™*

The laser measuring device for logs was developed to measure wood flow on the drum infeed conveyor. The device measures the diameter, length, volume and wood level before debarking.

With correct measurements, the debarking process can be optimized to the highest precision.

## *FEEDSMART™*

*The laser measuring device for **log measurement** was developed to measure wood flow on the drum infeed conveyor. The device measures the diameter, length, volume and wood level before debarking **process**. **With precise wood material flow information, the debarking process can be optimized to the highest performance.***

3. <http://teknosavo.com/online-measurement-system.html>

## **ON-LINE MEASUREMENT SYSTEMS**

**With Teknosavo's real time measurement devices, the wood debarking process can be monitored and controlled precisely to produce the highest quality end-product.**

*We suggest you to obtain Teknosavo real time debarking and quality measurement devices, so your wood debarking process can be monitored and controlled precisely to produce the highest quality end-product with minimized costs.*

*Contact us and we can together assess, which Teknosavo's optimization solutions for wood handling automation would provide your business the most improvement in productivity and savings.*

### **BARKSMART™**

BarkSmart™ is an optical measurement device which continuously measures the percentage of bark in relation to the wood surface on logs after the debarking drum. The system provides real-time analyses of the measurement data and sends the cleanliness degree data to the control room for operators. The data can be used in debarking control so that the logs will be debarked to the desired optimum standard of cleanliness. Correct log cleanliness reduces chemical costs during pulp processing as well as wood loss in debarking. In addition, more accurate cleanliness data enables more accurate control of debarking for different seasons - significant savings can be acquired even with small reductions in use of chemicals and wood loss.

### ***BARKSMART™***

*BarkSmart™ is an optical bark-measurement device which continuously measures the percentage of bark in relation to the wood surface on logs after the debarking drum. The system provides real-time analyses of the log measurement data and sends the cleanliness degree*

*data to the control room for operators. The data can be used in debarking control so that the logs will be debarked to the desired optimum standard of cleanliness. Correct log cleanliness reduces chemical costs during pulp processing as well as wood loss in debarking. In addition, more accurate cleanliness data enables more accurate control of debarking for different seasons - significant savings can be acquired even with small reductions in use of energy, chemicals and raw material.*

## **PROFISMART™**

ProfiSmart™ is an optical measurement device that continuously measures the share of wood in relation to bark on the bark conveyor. The system provides real-time analyses of the measurement data for operators. The data can be used to control debarking so that unnecessary wood loss can be minimized - more accurate data enables more accurate wood quality control. ProfiSmart™ system consists of a camera unit and a PC unit including analysis software. The camera takes a picture of the bark flow and sends the data to the PC unit for a color analysis. The result shows the percentage of wood in the bark flow. The measurement data can be connected to the WoodSmart™ process optimization system, to the woodroom main control system or shown in the control room on a separate display. The system provides automatic calibration and cleaning.

## **PROFISMART™**

*ProfiSmart™ is an optical measurement device that continuously measures the share of wood in relation to bark on the bark conveyor. The system provides real-time analyses of the bark measurement data for operators. The data can be used to control debarking so that unnecessary wood loss can be minimized - more accurate data enables more accurate wood quality control. ProfiSmart™ system consists of a camera unit and a PC unit including analysis software. The camera acquires image data from the bark flow and sends the data to the PC unit for a color analysis. The result shows the percentage of wood content in the bark flow. The bark and wood measurement data can be connected to the WoodSmart™ process optimization system, to the woodroom automatic main control system or shown in the control room on a separate display. The system provides automatic calibration and cleaning.*

## FILLSMART™

FillSmart™ is an optical camera- based drum filling degree measurement system. The system provided real-time analysis of the image data and sends the drum filling degree information to the control room for operators. The data can be used in controlling the correct drum filling degree in order to minimize fiber loss in debarking. The biggest benefit of the optical measurement is that changes in wood quality do not affect the realistic filling degree value. Fresh large-sized birch and dry softwood is typically very challenging for the traditional fill degree measurement based on weight scale or hydrostatic pressure gradient measurement.

With FillSmart™, measurements can be calibrated according to wood species and quality.

## *FILLSMART™*

*FillSmart™ is an optical camera- or laser-based drum filling degree measurement system. The system provides real-time analysis of the image data and sends the drum filling degree information to the control room for operators. The data can be used in controlling the correct drum filling degree in order to minimize fiber loss in debarking process. The biggest benefit of the optical drum fill measurement is that changes in wood quality do not affect the realistic filling degree value. Fresh large-sized birch and dry softwood are typically very challenging for the traditional filling degree measurement based on weighing or hydrostatic pressure gradient measurement. With FillSmart™, measurements can be calibrated according to wood species and quality.*

## STONESMART™

StoneSmart™ equipment consists of a sonic sensor installed in the rotating spike roll end on the drum chipper line and a control box, which contains the power supply and the StoneSmart™ electronic cards. The contact data on the card can be used directly to stop the line or the data can be connected to a higher system. The basic application consists of two sensors installed with two spike rolls, but if needed, several sensors can be installed in the same drum chipper line. The StoneSmart™ system is adjusted parametrically via the card's

RS-232 bus. The same bus can be used for monitoring and log writing. With the PC program, managing the properties of the card and monitoring the operation is simple.

### *STONESMART™*

*StoneSmart™ equipment consists of an acoustic sensor installed in the rotating spike roll end on the drum chipper line and a control box. The measurement result can be used directly to stop the line, or the data can be connected to a higher system. The basic solution consists of two sensors, but for demanding conditions, several sensors can be installed in the same drum chipper line. The StoneSmart™ stone detector system is adjusted parametrically and monitored via convenient PC program.*

### *SOUNDSMART™*

SoundSmart™ equipment consists of a sensor plate installed in the material flow and a control box. The control box contains the power supply and the SoundSmart™ electronic cards. The contact data on the card can be used directly to control the actuator or the data can be connected to a higher system. In case the amount of material is large, several sensors can be installed in the same material flow. The SoundSmart™ system is adjusted parametrically via the card's RS-232 bus. The same bus can be used for monitoring and log writing. A PC program for the Windows operating system is delivered with the SoundSmart™ card.

### *SOUNDSMART™*

*SoundSmart™ equipment consists of a sensor plate installed in the material flow and a control box. The measurement result can be used directly to control the actuator or sent to a higher system. In case the amount of material flow is large, several sensors can be installed in the same production line. The SoundSmart™ system is adjusted parametrically and monitored via Windows-based custom PC software.*

### *LOGSMART™*

The laser measuring device for logs was developed to measure wood flow on the drum chipper line. The device measures the diameter, sweep and volume before chipping to eliminate chipper chute plugs. If a log is too big in diameter or too crooked, or two parallel logs or too much wood is simultaneously fed to the system, the system alarms and stops the line. The alarm and measured data is sent to the debarking control system, as well as to the WoodSmart™ process optimization system, to the woodroom control system, or shown in the control room on a separate display.

### *LOGSMART™*

*The laser measuring device for logs was developed to measure wood flow on the drum chipper line. The device measures the diameter, sweep and log volume before chipping to prevent chipper chute plugs. If too much wood is simultaneously fed to the system, for example a log is too big in diameter or too crooked, or two parallel logs, the system alarms and stops the line. The alarm and measured data is sent to the debarking control system, as well as to the WoodSmart™ process optimization system which visualizes them on the monitor of the control room.*



4. <http://teknosavo.com/chip-quality-surveillance.html>

## **CHIP QUALITY SURVEILLANCE**

**Teknosavo has comprehensive experience of delivering systems for monitoring chip quality.**

*Teknosavo has comprehensive experience of delivering systems for monitoring chip quality which is key parameter for chipping and post processing management.*

### **CHIPSMART™ 2D**

ChipSmart™ 2D was developed to measure chip quality in real time. The system consists of a camera and lighting unit installed on the chip conveyor and a PC unit including analysis software. The camera takes a picture of the chip flow and sends the data to the PC unit for a color analysis. The result shows chip quality data such as chip surface brightness, the extent of bark and other impurities in the chip flow, changes of chip surface moisture, changes of chip size classification and material volume flow on the chip conveyor.

The measurement data can be used for debarking control monitoring the condition of the chipper blades or purchased woodchip to avoid unnecessary disruptions later in the process. The data can be connected to the WoodSmart™ process optimization system, in the wood-room main control system, or shown in the control room on a separate display.

### **CHIPSMART™ 2D**

*ChipSmart™ 2D was developed to measure chip quality in real time. The system consists of a camera and lighting unit installed above the chip conveyor and a PC unit including analysis software. The camera acquires image data from the chip flow and sends the data to the PC unit for a color analysis. The result shows chip quality data such as chip surface brightness, the extent of bark and other impurities in the chip flow, changes of chip surface moisture, chip thickness, changes of chip size classification and material volume flow on the chip conveyor.*

*The measurement data can be used for debarking control monitoring the condition of the chipper blades or purchased woodchip to avoid unnecessary disruptions later in the **chip handling** process. The data can be connected to the WoodSmart™ process optimization system, in the woodroom **automatic** main control system, or shown in the control room on a separate display.*

### **CHIPSMART™ 3D**

ChipSmart™ 3D measures chip quality and dimensions in real time. The measuring device can be installed near the chip pocket located after the chipper in the paper/pulp mill's woodroom, in the chip screening system, at the purchased chips reception facility, near the chip bin's discharge conveyor at the chip refining plant, or near the pulp digester's loading conveyor. The device can also be used to analyze manual samples or the quality of by-product chips sold at the sawmill.

The automatic sampler enables the extraction of representative samples from the main chip flow. The type of the sampler and treatment of the sample chips after measurement can be configured individually for each industrial end user. The ChipSmart™ 3D system consists of a chip classification unit placed above the measurement device's own separate chip conveyor, a camera and optics unit, a display screen, and PC unit housing the analysis and maintenance software.

### **CHIPSMART™ 3D**

*ChipSmart™ 3D measures chip quality and dimensions in real time. The measuring device can be installed **in many locations, for example** near the chip pocket located after the chipper in the paper/pulp mill's woodroom, in the chip screening system, at the purchased chips reception facility, near the chip bin's discharge conveyor at the chip refining plant, or near the pulp digester's loading conveyor. The device can also be used to analyze manual samples or the quality of by-product chips sold at the sawmill.*

*The automatic sampler enables the extraction of representative samples from the main chip flow. The type of the sampler and treatment of the sample chips after measurement can be configured individually for each industrial end user. The ChipSmart™ 3D system consists*

*of a chip classification unit placed above the measurement device's own separate chip conveyor, a camera and optics unit, a touchscreen, and PC unit housing the analysis and maintenance software.*

5. <http://teknosavo.com/debarking-optimization.html>

## **DEBARKING OPTIMIZATION**

**WoodSmart™ has been developed to control the entire debarking process in order to stabilize production and optimize the degree of cleaning and yield.**

*WoodSmart™ has been developed to optimize the entire **log debarking control** in order to stabilize production and optimize the degree of **wood cleaning and yield.***

## **WOODSMART™**

The on-line measurement of several process parameters enables total optimization of the debarking process from the drum filling degree and the bark content of logs to measuring chip quality. The system calculates the best control variables for debarking and maintains the wood flow as stable as possible.

The on-line measurement of different process parameters has great advantages and enables total optimization of the debarking process. WoodSmart™ can be installed in any existing or new woodrooms.

## *WOODSMART™*

*The on-line measurement of several process parameters enables total optimization of the debarking control, from the drum filling degree and the bark content of logs, to chip quality. The system calculates the best control variables for **optimal debarking**, and maintains the wood flow as stable as possible. WoodSmart™ can be installed in any existing or new woodrooms.*

6. <http://tekosavo.com/id-24-7-data-collection-and-reporting.html>

## **24/7 DATA COLLECTION AND REPORTING**

**Continuous improvement in performance demands highly developed reporting applications.**

*Continuous improvement in performance demands highly developed reporting applications. Teknosavo's reporting applications enable real time monitoring and controlling of wood handling processes, which will increase total long-term mill productivity, efficiency and cost-effectiveness. End-products will be more sustainable and desirable. Contact us and we can together assess, which Teknosavo's optimization solutions for wood handling automation would provide your business the most improvement in productivity and savings.*

### **REPORTSMART™**

ReportSmart™ is a Windows-based application that is used for reporting purposes in the WoodSmart™ woodroom optimization system at pulp and paper mills. This application consists of data collection and calculation of desired measured parameters. Measured values can be followed via chart displays in real time. It is also possible to look through the stored data in the database. If needed, the information can be exported to spreadsheet programs, such as MS Excel.

Other properties of the ReportSmart™ application are for example disturbance data management and manual input of data, including post-correction, as well as making customized Web- and MS Excel-based reports. ReportSmart™ is in fact a part of the information system for operators and management (MIS). This software is independent of hardware manufacturers due to its OPC interface.

### **REPORTSMART™**

*ReportSmart<sup>TM</sup> is a Windows-based application that is used for reporting purposes in the WoodSmart<sup>TM</sup> woodroom optimization system at pulp and paper mills. This application consists of data collection and **visualization** of desired **process** parameters. Measured values can be followed via chart displays in real time. It is also possible to look through the stored data in the database. If needed, the information can be exported to spreadsheet programs, such as MS Excel.*

*Other properties of the ReportSmart<sup>TM</sup> application are for example disturbance data management and manual input of data, including post-correction, as well as making customized Web- and MS Excel-based reports. ReportSmart<sup>TM</sup> is in fact a part of the information system for operators and management (MIS). This software is independent of hardware manufacturers due to its OPC interface.*

7. <http://tekno.savo.com/benefits.html>

## **MORE SPEED, MORE CAPACITY - BETTER PROFITABILITY**

**The need for efficiency in wood processing industry is more pronounced than ever due to the highly competitive market space. With Teknosavo's highly developed automation, electrical, software and mechanical engineering, we are able to take our customers' business to the next level.**

**1-4% Reduction in wood loss with optimized debarking process equals up to 1 million euros\* in annual savings. \*Capacity of 600 000 tons/year**

*The need for efficiency **and productivity** in wood processing industry is more pronounced than ever due to the competitive **global** market space. **Teknosavo provides exceptional optimization solutions of wood handling automation, debarking control and log measurement for productivity improvement.** With Teknosavo's highly developed automation, electrical, software and mechanical engineering **expertise**, we are able to take our customers' business to the next level.*

***Wood loss reduction by 1-4 % with optimized debarking process equals up to 1 million euros\* in annual savings. This you can achieve with our solutions.***

***\*Capacity of 600 000 tons/year***

*Contact us and we can together assess, which Teknosavo's solutions for wood handling automation would provide your business the most improvement in productivity and savings.*

**HIGH EFFICIENCY**

Our solutions optimize the productivity level regardless of work shifts. Shift changes can be made without stopping the production line. This ensures the steady production level at all times.

#### *HIGH EFFICIENCY*

*Our solutions optimize the mill productivity level regardless of work shifts. Shift changes can be made without stopping the production line. This ensures the steady and good quality production level at all times.*

#### **MODIFIED TO SUIT ALL NEEDS**

Teknosavo's technologies can be widely used in global markets as it can be modified to suit for different types of wood. Our products can be installed to new as well as existing wood processing lines.

#### *MODIFIED TO SUIT ALL NEEDS*

*Teknosavo's technologies can be widely used in global markets as the technologies can be modified to suit different types of wood. Our products can be installed to new as well as existing wood processing lines.*

#### **ECONOMIC BENEFITS**

Investing in optimization technology creates savings in steady, high-quality production with minimized idle time, maintenance costs and raw material loss.

#### *ECONOMIC BENEFITS*

*Investing in our debarking optimization technology will create savings for your business in steady, efficient and high-quality production with minimized idle time, energy consumption, maintenance costs and raw material loss.*



## EASY TO MONITOR

With Teknosavo's solutions, production line operators can focus on monitoring the system instead of continuous manual control.

## *EASY TO MONITOR*

*With Teknosavo's solutions, production line operators can focus on monitoring the system instead of continuous manual control.*

## HIGH QUALITY END-PRODUCT

Our measurement systems optimize the degree of cleaning and ensure the high quality of the end-product.

## *HIGH QUALITY END-PRODUCT*

*Our measurement systems optimize the degree of cleaning of the debarked logs, and ensure the high quality of the end-product.*

## CONTROL THE ENTIRE PROCESS

With Teknosavo's WoodSmart™ solutions, the entire production process can be optimized and stabilized to the optimum level.

## *CONTROL THE ENTIRE PROCESS*

*With Teknosavo's WoodSmart™ solutions, the entire production process can be optimized and stabilized to the optimum level.*

## TEKNOSAVO - OPTIMIZATION BY HEART

Our core competencies are automation, electrical, software and mechanical engineering as well as delivering turnkey solutions for our customers' wood process optimization needs. With our extensive know-how in providing full scale solutions, we also provide consultation

services. We audit wood and chip preparation, as well as assess operation and end-product quality at pulp and paper mills, independent from systems and main equipment suppliers.

*TEKNOSAVO - OPTIMIZATION BY HEART*

*Our core competencies are automation, electrical, software and mechanical engineering as well as delivering turnkey solutions for our customers' wood process optimization needs. With our extensive know-how in providing full scale solutions, we also provide consultation services. We audit wood and chip preparation, as well as assess operation and end-product quality at pulp and paper mills, independent from systems and main equipment suppliers.*