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Conversion rate optimization with UI & UX design

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Abstract <p>The thesis was assigned by Naava/Naturvention Oy. The thesis acts as a continuation of the assignor's website upgrade, as the need to evaluate the performance of the updated site turned into a centric theme for the thesis. The primary goal of the thesis was to advance the assignor's efforts of conversion rate optimization. As a secondary goal, the thesis was meant to serve as sort of a guide to potential new employees of Naava working in the field in the future.</p> <p>In preparation for the thesis, large amounts of mostly digital material related to the fields of digital marketing, marketing automation, and UI & UX design were studied in order to gain a sufficient understanding of data and systems handled. The research was fulfilled without notable problems.</p> <p>The execution of the thesis centered around studying data gathered from the assignor's website. Through finding trends within the data and comparing them to actual changes made to the site's UI and UX, practices and design choices that furthered the goal of increasing conversion could be outlined. The results of the analysis concluded that the amount and correct placement of conversion points were key in increasing conversion, in addition to visibility and ease of navigation.</p> <p>Despite some problems regarding scheduling and some of the data being rendered inaccessible for the analysis, the overall for the result was successful in fulfilling its goals: outlining practices beneficial for website conversion optimization and serving as an introductory document to potential new employees.</p>		
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Description

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<p>Tiivistelmä</p> <p>Opinnäytetyö toteutettiin Naava/Naturvention Oy:lle. Opinnäytetyö toimii toimeksiantajan nettisivuston uudistuksen jatkumona, keskeisenä teemanaan uudistetun sivuston suorituskyvyn arviointi. Opinnäytetyön tavoitteena oli edistää Naavan konversio-optimointihankkeita, ja osoittaa tapoja ja käytänteitä, jotka vaikuttavat konversioprosessiin positiivisesti. Toissijaisena tavoitteena oli toimia eräänlaisena oppaana Naavan mahdollisille uusille työntekijöille, jotka työskentelevät aihepiirin parissa tulevaisuudessa.</p> <p>Opinnäytetyötä varten tutkittiin paljon pääasiassa digitaalista materiaalia liittyen digitaalisen markkinoinnin, markkinointiautomaation, sekä UI- & UX-suunnittelun aloihin. Materiaalin tutkiminen oli tärkeää keskeisen datan ja sitä ympäröivien järjestelmien ymmärtämiseksi. Tutkimusvaihe toteutettiin ilman huomattavia ongelmia.</p> <p>Opinnäytetyön toteutus keskittyi data-analyysin ympärille. Etsimällä datasta muutoksia suuntauksia, ja vertailemalla niitä konkreettisiin sivustolla tehtyihin UI & UX muutoksiin pystyttiin osoittamaan designvalintoja sekä käytäntöjä, jotka edistivät tavoitetta kasvattaa sivuston konversioprosenttia. Data-analyysin tulokset osoittivat, että konversioon eniten positiivisesti vaikuttavia tekijöitä olivat konversiopisteiden korkeampi määrä, niiden oikea sijoittelu, sekä sivujen ja sivuston näkyvyys ja niiden helppokäyttöisyys.</p> <p>Opinnäytetyö saavutti sille asetetut tavoitteet, huolimatta toteutuksen aikana ilmenneistä ongelmista. Opinnäytetyön aikataulutuksessa ilmeni ongelmia etenkin sen myöhemmissä vaiheissa. Osaan datasta, joka oli alun perin tarkoitettu osaksi tutkimusaineistoa, oli mahdotonta päästä käsiksi.</p>		
<p>Avainsanat (asiasanat) käyttäjäkokemus, käyttöliittymä, digitaalinen markkinointi, konversio-optimointi markkinointiautomaatio</p>		
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Contents

TERMINOLOGY.....	5
1 Introduction	8
1.1 Background.....	8
1.2 Naava.....	8
1.3 Objectives	9
2 Digital marketing	9
2.1 In general.....	9
2.2 History & Present	10
2.3 Inbound & Outbound marketing.....	15
2.4 Marketing automation	17
2.4.1 Conversion, lead nurturing and scoring	18
2.4.2 Email marketing.....	20
2.4.3 Social media marketing	21
2.4.4 Analytics.....	22
3 UI & UX	23
3.1 Differentiation	23
3.2 UI Design.....	24
3.2.1 Definition	24
3.2.2 Processes	24
3.2.3 Nielsen's Heuristics.....	26
3.3 UX Design.....	28
3.3.1 Definition	28
3.3.2 Sectors	28

4	Mobile First Approach	30
4.1	Definition	30
4.2	Case Relevance	32
5	Tools	33
5.1	HubSpot	33
5.2	Hotjar	42
5.3	Google Analytics	44
6	Case: Naava	48
6.1	Website upgrade	48
6.2	Data Analysis	49
6.3	Case: Landing page	58
7	Conclusion & Discussion	62
	References	64
	Appendices	69
	Appendix 1. Naava Website Metrics Measurements	69
	Appendix 2. Usability inspection AdWords landing page	70

Figures

Figure 1. Various features of Web 2.0	11
Figure 2. Most important digital marketing techniques in 2017	13
Figure 3. The 3Vs of Big Data	14
Figure 4. Typical methods of inbound marketing vs. outbound marketing	15
Figure 5. Eyeball heatmap illustrating "banner blindness"	16
Figure 6. The steps of the inbound process	17
Figure 7. Buyer's journey and customer lifecycle stages	19
Figure 8. Automated email workflow	21
Figure 9. The missing piece in data sources of marketing automation	22

Figure 10. Nielsen's 10 usability heuristics	26
Figure 11. Centric facets of UX design	29
Figure 12. The layers of progressive enhancement	31
Figure 13. Sessions by device on Naava's site through May 2017 to April 2018.....	32
Figure 14. Creating template based on a mockup with HubSpot's template builder .	34
Figure 15. An example of an on-page SEO checklist	36
Figure 16. A basic workflow with branching logic created in HubSpot	37
Figure 17. Examples of enrollment triggers in HubSpot	38
Figure 18. A view of HubSpot's email content editor	40
Figure 19. A view of the email review pane	40
Figure 20. A view of the optimize pane, displaying an optimization checklist	41
Figure 21. Sending options for an email about to be sent through HubSpot.....	42
Figure 22. Visual differences between clickmap (left), movemap (middle), and scrollmap (right)	43
Figure 23. Example of an e-commerce conversion funnel	44
Figure 24. Dimensions and metrics in a Google Analytics repor	45
Figure 25. Example of Behavior flow, displaying how visitors navigate through the website	46
Figure 26. An example of a Funnel Visualization on Google Analytics	47
Figure 27. Sessions by source, through May 2017 to April 2018.....	50
Figure 28. Scrollmap comparison of the updated (left) and original (right) version of the Architects and Designers page.....	51
Figure 29. Contact conversion rate by source, from May 2017 to April 2018.....	52
Figure 30. Scrollmap of the updated Products page generated by Hotjar	54
Figure 31. Bounce rates by source, through May 2017 to April 2018	56
Figure 32. Page views per session by source, through May 2017 to April 2018	57
Figure 33. Average session length in minutes by source, through May 2017 to April 2018.....	57
Figure 34. Comparison between the original (left) and updated (right) version of the landing page form	59
Figure 35. Comparison between the original (left) and updated (right) introductory text	60

TERMINOLOGY

CRO

Conversion rate optimization, a digital marketing technique aiming to increase the amount of website visitors that convert into leads.

Lead

Term used to describe a potential customer.

Lead nurturing

The process of developing relationships with potential customers throughout their buyer's journey.

Lead scoring

The method of ranking potential customers based on their interactions with a marketer's content.

Buyer's journey

A three-step process of a potential customer becoming a customer through the stages of awareness, consideration, and decision.

A/B testing

Method used for testing the effectiveness of two variants of the same product.

Inbound marketing

A marketing method that relies on attracting customers by offering them value and/or meaningful content.

Outbound marketing

A marketing method in which the marketer takes their message directly to the potential customer.

Landing page

A standalone web page created as a part of a marketing or advertising campaign, serving as an entry point for visitors.

UI

User interface, the display used for interaction and transfer of information between the system and user.

UX

User experience, refers to the emotions and attitudes of a user about the usage or a particular product, service, or system.

CRM

Customer relationship management, a system allowing a business to manage relationships with their customers.

CMS

Content management system, a system used to create and manage digital content.

SEO

Search engine optimization, the process of increasing the quantity and quality of traffic directed to a website through search engines.

ROI

Return on investment, a performance measure that indicates the effectiveness of an investment.

KPI

Key performance indicator, a measurable value that indicates how effectively a company is achieving their business objectives.

CTA

Call-to-action, a prompt presented to a website visitor to take action.

Big Data

Extremely large sets of data used to reveal patterns and trends through computational analysis.

Retargeting

A form of online advertising that allows companies to present ads to website visitors after they have left the site without converting.

Lookalike Audience

A method of reaching a larger audience through Facebook, by serving ads to users with similar qualities as the defined audience.

Bounce rate

Percentage of website visitors leaving the site after viewing only one page.

Exit rate

Percentage of website visitors leaving the site after visiting a certain page. Exit rate is measured individually for each page.

1 Introduction

1.1 Background

The thesis studies the changes and trends in marketing statistics on the assignor's website (and one of its landing pages). In today's digital marketing world, clearly defining and understanding one's audience and their interaction with certain type of content is a key to success. To aid with this, software providing marketing automation features and analytics are rapidly increasing in popularity and usage in the digital marketing field. In order to get the most use out of this type of software, it is vital to understand how to interpret and utilize the information they provide.

1.2 Naava

The thesis was assigned by Naava (Naturvention Oy): a Finnish cleantech company founded in 2011. In addition to Finland, Naava has operations in Sweden and the United States. Naava's mission is to be reconnect humanity with nature. To achieve this, they aim to make work spaces and office environments healthier and more productive by bringing nature inside, by making the office air clean and forest-fresh. *(Story of Naava 2018)*

Their namesake product is a smart green wall, i.e. its functions are directed by artificial intelligence. Naava is equipped with sensors to measure its surroundings and its own variables, to better adjust its functions, and even receives information from weather satellites. *(Naava green walls 2018)* The plants in Naava are carefully selected after through a long testing process, to ensure their longevity in the green wall environment, ease of care, and that they are free from allergens *(Naava and biofiltration – natural indoor air for everyone 2018)*.

According to Naava's growth marketing manager, the company holds digital marketing in a very high regard, and as such invests a great deal of resources in their own marketing strategies, quality digital content, and ideal user experience both with their digital services and physical products. Naava widely utilizes inbound marketing,

and understanding their audience plays a key part in successfully attracting new visitors and converting those visitors into leads and later into customers. (*Laaksonen 2017*)

1.3 Objectives

To maximize the conversion of visitors into leads, Naava wants to ensure the visitors of their site a high-quality user experience and meaningful content. The goal of the thesis was to find out and outline what kind of choices and changes in UI and UX on the website have been the most beneficial toward the goal of optimizing the rate of converting visitors into leads, so that the assignor can keep implementing these choices in their future endeavors. In addition, the thesis aims to explain trends in the measured metrics and assign meaning to them.

This is achieved through studying the data gathered throughout the lifespan of the assignor's updated website and comparing the trends in this data to changes between versions of the site in the environment of a single long-standing landing page. The development in the site's UI design is also evaluated through the means of usability inspection, and UX design through comparing its adherence to the central facets of UX design.

The results of this study are collated into an easily-readable table for the assignor, which can be used as a reference point whenever implementing changes or additions to the site or its landing pages. In addition, the thesis in its entirety can be used as a document to aid in training new employees in the field of digital marketing and UI and UX design. Ascertaining the factors that most significantly contribute to the increase in conversion will help the assignor gain new customers more efficiently and as a result, generate monetary benefit.

2 Digital marketing

2.1 In general

Digital marketing is widely discussed in the present, however outlining its actual meaning is slightly more obscure (*Lincoln 2017*). Digital marketing can be defined as

an umbrella term for the promotion of brands, products, and services via electronic devices and media. Platforms for digital marketing include for example the internet, social media, and mobile devices. (*Business dictionary*)

Digital marketing boasts a number of advantages over traditional methods of marketing. Digital marketing campaign tends to be more affordable than a campaign served on a more traditional platform, such as TV or radio. Digital marketing also enables a marketer to reach a larger audience in a shorter amount of time, and with the help of analytics, ads can be targeted more accurately towards a specific demographic.

(*Monnappa 2017*) As of 2017, there were 2.46 billion social media users in the world, and this number is predicted to only keep increasing in the future (*Number of social network users worldwide from 2010 to 2021 (in billions)*). Due to the ever-increasing usage of the platforms of digital marketing, it is slated to overthrow traditional marketing completely (*Monnappa 2017*).

2.2 History & Present

The term digital marketing was first used in the 1990, when the first search engine, Archie, was created. Online advertising began in 1993, with the creation and publishing of the first clickable banner ad, which led to the company HotWired purchasing more banner ads. (*Lincoln 2017*) The following year, Yahoo! was launched, and received almost a million hits during its first year. Its success prompted other companies to invest into their SEO. In 1996, more search engines were launched. These included HotBot, LookSmart, and Alexa. In 1998, Google was born, Microsoft's MSN search engine was launched, and Yahoo! created their own web search. (*Monnappa 2017*) 2000 brought about the bursting of the dot-com bubble, causing many internet startups to fail. This also caused many of the smaller search engines to disappear. This time also marked the beginning of Web 2.0, with sites including dynamic and user-generated content, as well as enabling the sharing of content, essentially laying the groundwork for social media. Figure 1 illustrates the new features Web 2.0 brought to the table. (*Lincoln 2017*)



Figure 1. Various features of Web 2.0 (Lincoln 2017)

In 2003, WordPress was launched, bringing content marketing to a larger segment of companies developing their digital marketing strategies. Google also released AdSense, a program that allows publishers to serve automatic advertisements in text, image, and video format, if they belong to the Google Display Network, referred to Google Network of content at the time. (Lincoln 2017) During the same year, MySpace went live as the first social media platform, followed by Facebook the following year. The two heralded the beginning of social media marketing, with various companies adopting the platforms. (Monnappa 2017) The year 2005 brought about two important additions to the digital space: YouTube and Google Analytics, which popularized the concept of web marketing analytics as a concept and a tool to be widely used in the field of digital marketing. (Lincoln 2017)

In 2006, Twitter was launched, and Amazon's \$10 billion in sales. The following year, the first-generation iPhone was released, marking the beginning for mobile technology. 2011 saw the release of Google+, although the platform did not quite reach the same popularity as its predecessors, such as Facebook and Twitter. The term "native advertising" was also coined in 2011 by Fred Wilson. It was used to describe paid ad-

vertisement that was made to look like any other piece of content on a site. A significant milestone was reached in 2014, when mobile web usage first overtook desktop web usage. (*Lincoln 2017*)

Digital marketing has significantly changed from its early days in various aspects. SEO was substantially easier and more straightforward in the 1990s, in the way that a preferred keyword would only need to be repeated on the site as much as possible and found on the page title to receive a high keyword ranking. This was exploited by adding preferred search terms to the bottom of the site's HTML document, below the content and out of the view of an end user. This could potentially enable the site to rank well in multiple keywords. These practices were addressed by search engine developers, who changed search algorithms to prevent this type of manipulation. (*Lincoln 2017*)

Google's AdSense had some trouble in its early days, as some of its users complained about how AdSense served ads based on related content and not based on demand of the consumers. This changed in 2010, as Google started utilizing individuals' search histories to serve more relevant ads. (*ibid.*)

Online advertising began in the form of banners in a site's sidebar and on top of it, which were thought to be effective at the time. However, it was quickly noticed that these types of ads were easily ignored by the users of any site serving them. As an answer to this, web advertisement turned to "interruption marketing", much in the same manner as TV ads are served. In the case of digital marketing, this was implemented as pop-up ads that the site users could not miss. Some of these pop-ups ran videos with audio turned on. In the end, interruption marketing served to break up the user experience in the digital space, and as a response, native advertising was developed for a much less intrusive approach. Social media marketing has been utilized for as long as social media platforms have existed. It took several years to evolve into the state it is in today, however, because of the gradual improvement, it is now able to target very specific groups of people and reach them effectively through social media platforms. (*ibid.*)

In the present, many of the aforementioned strategies and techniques are still utilized, while more have appeared in the recent years. Smart Insights conducts a yearly

survey to map out the most important digital marketing techniques. The Results of said survey for year 2017 are illustrated in Figure 2. (Chaffey 2017)



Figure 2. Most important digital marketing techniques in 2017 (Chaffey 2017)

On the survey conducted by Smart Insights, content marketing has been among the top three from 2015 to 2017, underlining its relevance in the present climate of digital marketing. An increasing number of businesses are utilizing content marketing as a part of their overall marketing strategy. Interactive content marketing apps, such as landing pages, e-books, and quizzes are increasing in quantity and becoming more relevant. (Chaffey 2017)

Big Data is becoming more important in the field of digital marketing thanks to the "3Vs of Big Data": continuously increasing volume and variety of data, that could be viewed in real time, as illustrated in Figure 3. Big Data marketing applications are utilized by businesses to conduct predictive analysis, and with the knowledge gained, they provide their customers a personalized experience through their websites and email marketing to increase sales. (Chaffey 2017) Like content marketing, marketing automation has been a staple within the digital marketing space for some time, as indicated by the Smart Insights survey, where it has ranked within the top three most important digital marketing techniques for the last five years. However, marketing automation still has room to grow. This is indicated in the study by Smart Insights,

which shows that 28% of the companies partaking in the study use very few marketing automation features, and 18% do not use marketing automation at all. (Chaffey 2017)



Figure 3. The 3Vs of Big Data (Soubra 2012)

The growth of mobile platforms has led mobile marketing to become more standardized, and due to this, companies generally feel less need to heavily focus on or invest in it (Chaffey 2017). Despite the lowered perception of the importance of mobile marketing, conversion rates on mobile devices are significantly lower on mobile than on desktop. A study conducted by Smart Insights indicates that on a global scale, within the first quarter of 2017, retail conversion rate on desktop was 3.63%, in comparison to the 1.25% conversion rate on smartphone. (Chaffey 2018) The difference between the two indicates that there is still room to further optimization of the user experience on mobile platforms (Chaffey 2017).

Social media marketing currently commands interest in the digital marketing space. The continuous growth of overall social media usage contributes to this, even if plat-

forms such as Twitter and Facebook are declining or plateauing in the western market. The monetization of social media platforms directs the trends around social media marketing. (Chaffey 2017)

2.3 Inbound & Outbound marketing

Inbound and outbound marketing are terms used to describe two different styles of marketing. The two are generally seen as opposites. Outbound marketing is referred to as such because the company initiates the exchange between them and the customer, i.e. sending the message "out" to be seen by the audience. Examples of forms of outbound marketing include TV advertisement, print advertisement, outbound sales calls, and email spam. (FERENCE 2017) Figure 4 illustrates some of the practices associated with inbound and outbound marketing.

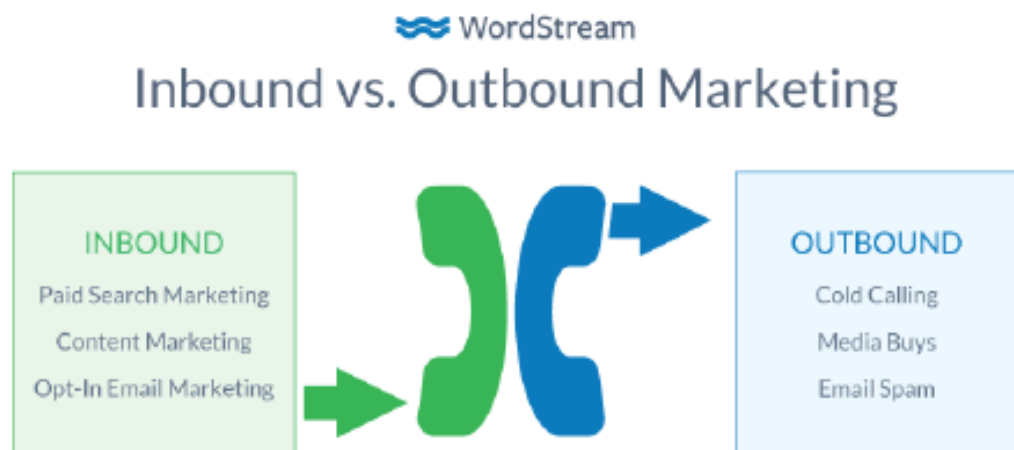


Figure 4. Typical methods of inbound marketing vs. outbound marketing (What is Outbound Marketing? N.d.)

At the present, outbound marketing is seen as outdated, and its invasiveness typically garners negative reactions from the audience to which it is attempting to advertise to. In the digital space, the abundance of outbound marketing has caused internet users to reactively ignore display advertising, such as sidebar banners, as displayed in Figure 5. (FERENCE 2017)



Figure 5. Eyeball heatmap illustrating "banner blindness" (Daehn 2010, 46)

In addition to falling out of favor in the recent years, outbound marketing has a set of problems of its own. These include the difficulty of tracking ROI outbound marketing yields, the increase in techniques allowing an end user to completely block out outbound marketing approaches, and the high cost in implementation that yields little in the end. (*What is Outbound Marketing?* N.d.)

Inbound marketing is a relatively young concept, as the term itself was coined in 2005 by Brian Halligan, however, it was not truly popularized until 2012 (*History of Inbound Marketing: Then and Now*). The concept is based on attracting potential customers to come to the content provided by the marketer – being very indirect – instead of forcefully bringing the content to the customer. The key is providing meaningful content that interests the potential customers and encourages them to interact and share. Inbound marketing utilizes materials such as blog content, social media posts, white papers, infographics, and newsletters via email to attract and con-

vert customers. SEO plays a large part in the process, as it helps the potential customer find the marketer's content, and through it a product or service that they need. The positive experience in turn encourages the customer to share the content, and as such help in promoting the product or service. The inbound process is illustrated in Figure 6. (FERENCE 2017)



Figure 6. The steps of the inbound process (Biedrzycki 2016)

In comparing inbound and outbound marketing in the present, inbound comes out on top as the clear winner. According to HubSpot's survey report, 71% of companies globally utilize inbound marketing as their primary marketing approach. (An 2017) In addition, inbound marketing provides superior ROI, as leads cost 62% less than via outbound marketing (Vaughan 2011). Despite this, the actual effectiveness of inbound marketing strategies may be difficult to quantify, since the entire concept relies on aspects such as raising brand awareness, providing value to potential customers, and being very out-of-the-way. However, some modern adaptations of outbound marketing can be effectively used in conjunction with inbound strategies: for example, displaying targeted ads directly to a specific audience, by using techniques such as retargeting pixels and lookalike audiences. (FERENCE 2017)

2.4 Marketing automation

Marketing automation as a term is used to describe software used to automate digital marketing processes. Despite the implications of automation, marketing automation software does not render digital marketing experts irrelevant, but simply makes

their efforts more effective. In essence, the objective of marketing is to generate revenue for a company in the digital space. This is achieved through driving traffic to the company's website, converting visitors into leads, and closing leads into customers. The stages of conversion and closure are where marketing automation affects the process the most. (*Rimmer 2013*)

Marketing automation allows companies to offer their customers and potential customers personalized content, making interaction between the two easier, helping build customer trust and loyalty. As a company utilizing marketing automation software saves time with automated workflows, choosing to spend more time monitoring analytics to identify trends and changes in customer behavior and responding to it accordingly becomes a possibility. (*Alford N.d.*)

Marketing automation boasts a number of benefits, in addition to saving a valuable resource – the time of digital marketing experts. Utilizing automation can help a company expand their reach and active customer base without simultaneously increasing their marketing staff. Automation allows companies to create, plan, and manage their marketing campaigns with increased speed and fluidity, in the process increasing the amount of campaigns that can be created in comparison to when not utilizing automation. Due to the modular approach of marketing automation, previous campaigns can be modified for reuse. The integration of analytics allows companies to accurately personalize the content served to their potential customers, in turn increasing response rates. (*ibid.*)

In the present, more than 142 000 companies utilize marketing automation software as a part of their digital marketing strategy, and it has resulted in 451% increase in qualified leads, in addition to 14.5% increase in the productivity of sales, and 12.2% reduction in marketing overhead (costs caused by marketing). (*Sukhraj 2017*)

2.4.1 Conversion, lead nurturing and scoring

Conversion is the term used to describe the process of "converting" a visitor of a website into a lead – a potential customer. A visitor is converted whenever they complete a goal set up by the site's owner. What a conversion goal is varies in accordance to the site owner's business goals, and what type of interaction is desired from

a potential customer. A conversion goal can be e.g. a completed purchase, newsletter signup, or a form submission. (Lillis 2013)

Lead nurturing is a term used to describe the process of developing a relationship between a business and a customer through their buyer's journey. This is achieved by continuously offering the customer relevant content depending on what stage of the journey they are in; i.e. a regular customer does not receive the same introductory emails as a new contact that has only recently signed up for the company's newsletter. (*Lead Nurturing*) In the awareness stage, the content can be general information on the product or service to introduce the customer, or other, lighter related material, such as blog articles and tutorials. Consideration stage's material can be more direct, such as pricing information on the product or service, or a buyer's guide. Material for the decision stage can include customer case studies to reassure the new customer, or material that continues educating the customer on the product or service. Buyer's journey and customer lifecycle stages are illustrated in Figure 7. (Claflin 2014)



Figure 7. Buyer's journey and customer lifecycle stages (Claflin 2014)

Lead scoring is the practice of assigning numerical values to contacts as they perform certain interactions on a company's website. Lead scoring defines at what lifecycle stage the customer is, and as such directs the kind of content served to them through lead nurturing automation. Leads can be scored by two parameters, these being demographics and interactions. (Schleicher 2017)

Demographic lead scoring essentially means scoring leads according to their contact information, although these factors mainly apply to business-to-business marketing situations. Relevant factors are industry, experience/position, and company size. If the contact's industry matches the target demographic of the marketer's product or service is intended for, it should receive higher score. As for the experience/position, a contact that is in a managerial position should receive higher score, as they are more likely to be able to decide on or affect a purchase. A contact with a large associated company size should receive higher scoring, as the larger company is more likely to lead in a larger sale. Interaction lead scoring is more straight forward, as a contact's score is increased by interacting with content offered by the marketer, e.g. opening email, clicking a link in an email, downloading an e-book or whitepaper, form submission, and referrals through clicking a link on another site. (*ibid.*)

2.4.2 Email marketing

Emails are an important aspect of the lead nurturing process, and one of the best ways for a company to communicate with their audience, as it is favourably viewed by consumers, as 74% prefer to receive commercial promotions and communications via email. (*Lead Nurturing*) Email marketing also has a median ROI of 122%, making it a very cost-effective method of digital marketing (*Email Continues to Deliver Strong ROI and Value for Marketers 2016*).

With marketing automation, emails can be sent to contacts as part of a workflow, to deliver them highly targeted and personalized content that adheres to the needs of the lifecycle stage they are currently in. A basic automated workflow entailing email might include the following: First sending a contact an invitation to download the company's latest e-book. Sending a thank you-email to the contact if they chose to download the ebook. After waiting a few days, another offer is sent in a related topic to the contact that chose to download the e-book. If the contact decides to take up on the second offer, a notification is sent to the company's sales team to get follow up with the contact, as they are further down their buyer's journey. A similar email workflow is illustrated in Figure 8. (*Rimmer 2013*)



Figure 8. Automated email workflow (Lead Nurturing N.d.)

2.4.3 Social media marketing

Social media is an important part of digital marketing, in addition to offering marketing automation data not available from other sources. This siloed data helps in both lead scoring and nurturing. This "missing piece" of data used in marketing automation is illustrated in Figure 9. The importance of this data is underlined by the fact that 84% of CEOs and VPs use social media to make or aid in purchasing decisions, and up to 55% of B2B customers looking to make a purchase seek information on social media. (Forer 2017)



Figure 9. The missing piece in data sources of marketing automation (Forer 2017, edited)

In addition to providing important data to marketing automation systems, marketing automation itself can be used to uphold a company's social media presence. The main method to automate social media is to schedule a company's posts in advance. This takes place to the greatest effect when the posts are scheduled to be published at regular intervals, and at times when potential customers view and interact with the content the most. Additionally, the time of publication should also be such that the company's social media manager is able to readily respond to the interaction the post garners. Diversifying the type of content that is being published on different social media platforms is important, since some contacts may follow more than one of these channels and seeing the same content repeatedly may be detrimental to their impression of the company. In diversifying the content, a platform's strengths should be taken into account. (Wainwright 2011)

2.4.4 Analytics

Marketing analytics refers to the practice of the management and study of metrics data gathered by observing the behaviours of website visitors and interactions that contacts have with the content served to them. Analytics offer companies concrete

measurements to guide marketing decisions, aiming to eliminate uninformed decisions based on "gut feeling". (*Marketing Analytics 2016*) Analytics can be considered to be the cornerstone for marketing automation, as the information it provides helps companies to pinpoint the attributes, needs, preferences and behaviours of their audience. Analytics integration in marketing automation allows a company an easy access to relevant data. The quality of the gathered data can be increased through processes such as deduplication, standardization, and appending. These processes ensure that the gathered data is reliable. (*Alford N.d.*)

Analytics are important for gaining an overall understanding of marketing trends, and to monitor the changes and evolution of these trends over time. They also aid in the task of determining which campaigns have worked in the past, and why they have achieved this success, and even help map out the ROI of each campaign. Additionally, analytics can be used to predict the results of future campaigns, and even forecast upcoming trends. (*Marketing Analytics 2016*)

3 UI & UX

3.1 Differentiation

UX design and UI design are two very closely related and often confused fields of design crucial to the usability of machinery and software alike. Although there is some overlapping and very similar ideologies between the two, their roles are markedly different, and understanding these differences is key to truly understanding the terms themselves. (*Lamprecht, 2017.*)

The role of user experience design is essential in order to build the framework for usability and accessibility, on which the user interface can build upon. Its goal is to improve customer satisfaction and ease of use. As such, it encompasses all interaction between the user and the system. (*UX Design Defined 2010*)

The user interface acts as the medium between the user and the system, and it is responsible for the seamlessness of the interactions between the two. The goal of user interface design is to make these interactions as easy and efficient as possible. Although aesthetics and graphical elements are essential in UI design, an optimal user

interface should focus on usability and accessibility instead of needlessly drawing attention to itself. (*Interaction Design Foundation, 2017.*)

Good UI & UX design are both equally necessary for a good product, and the lack of either is readily apparent, as Moreno (2014) states in her article: “Something that looks great but is difficult to use is exemplary of great UI and poor UX. While something very usable that looks terrible is exemplary of great UX and poor UI.”

3.2 UI Design

3.2.1 Definition

The user interface of any software or device is usually the only part of the system visible to the user, and as such, it is used for interaction between the two. The user must be able to communicate their desired action to the system via the interface, and the system must be able to display its processes to the user through it.

UI design focuses on factors such as ease of use and pleasurable to the user. It attempts to make the interaction with the system simple and efficient, without drawing attention to the interface itself; in optimal cases, the interface becomes effectively invisible, i.e. the user interacts directly with the reality the interface is portraying. Most of the time, the term UI design refers to the design of graphic user interfaces (GUI). (*Interaction Design Foundation 2017*)

3.2.2 Processes

In order to design a successful user interface, a good understanding of the user’s needs is required. Several different procedures and phases are employed in the overall design process. These processes include, but are not limited to the following;

Functionality requirements gathering - Compiling a list of all the functionality the system requires, possibly including the needs of a potential user (*Gaponov 2017*).

User and task analysis - Analyzing the system’s potential users and how they perform tasks using the system. This process typically includes interviewing the users, in order to clarify the goals of the designers. The interviews typically include themes and questions such as what the user wants the system to do; where the system fits in

the user's workflow, how much experience does the user have with similar systems and what other systems they use, and what kind of look and feel of the interface would appeal to the user. *(Sergeev 2010)*

Information architecture - Developing the process or information flow of the system. This could be presented as an option tree flowchart or a hierarchical site flowchart, depending on the system platform. *(Gaponov 2017)*

Prototyping - Developing wireframes - very minimalistic visual guides essentially representing the skeleton of the system - these might be paper prototypes or very simple interactive screens. These prototypes are characterized by their lack of look and feel elements, which are intentionally left out so that more attention can be placed on the interface itself. *(Gaponov 2017)*

Usability inspection - An evaluator inspects the interface using methods such as heuristic evaluation (identifying potential problems in the system's usability using a set of heuristics as a basis), cognitive walkthrough (focusing on how simple it is for a new user to accomplish tasks), or pluralistic walkthrough (a group go through a set task. Potential issues regarding usability are discussed based on their experience). The implementation of usability inspection is often cheaper and potentially easier than that of usability testing. Additionally, it is possible to be implemented quite early in the design process, as the evaluations can be performed on prototypes - stages of the system usually too rudimentary to be tested on actual users. *(Sergeev 2010)*

Usability testing - An actual user tests a prototype of the system interface. This provides the designer valuable insight into the system directly from a user's standpoint. Often applied in such testing is a technique called think aloud protocol, where the user is asked questions regarding the system during their experience with it. *(Sergeev 2010)*

GUI design - Standing for graphical user interface design, it encompasses designing and implementing the look and feel elements of the interface. The final version developed through this process has fixed any issues found through evaluation and testing. *(Gaponov 2017)*

3.2.3 Nielsen's Heuristics

To identify potential problems in the usability of a user interface, a usability inspection referred to as a heuristic evaluation is performed, involving evaluators examining the interface's adherence to usability principles called heuristics. They are referred to as such since they are more "rules of thumb" than strict or specific guidelines. Using heuristics as a basis, the evaluator inspects the system, categorizing potential issues they find often on a numeric scale, where the numbers stand for the severity of the issue, and impact on the user performance and/or acceptance.

The following 10 heuristics were developed by Nielsen and Molich (*Nielsen 1995*); and are depicted in Figure 10.

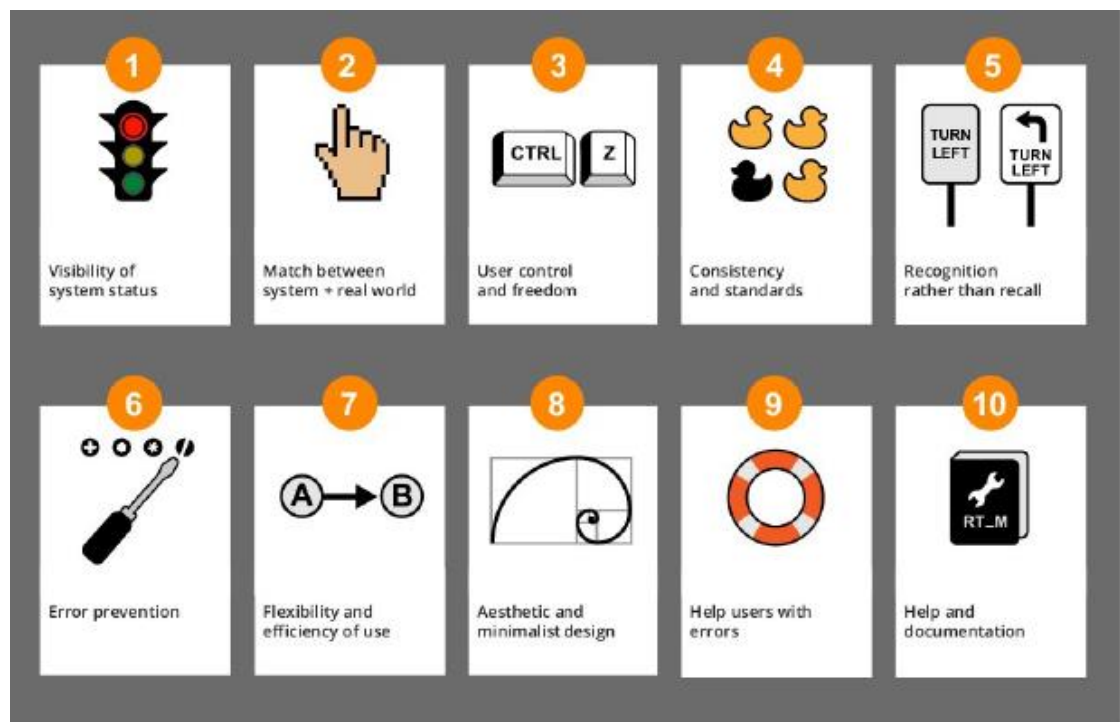


Figure 10. Nielsen's 10 usability heuristics (Scott 2016)

Visibility of system status - The system should provide the user appropriate feedback to keep them always on track of what is going on with the system.

Match between the system and the real world - The system should speak to the user in terms, expressions, and concepts they can understand, instead of system-oriented terminology. In order to make the information appear in a logical and natural order to the user, the system should employ real-world conventions.

User control and freedom - If a user were to perform an unwanted action, they should be offered a clear and quick exit, as well as a possibility to undo and redo their actions.

Consistency and standards - In order not to make the user wonder whether different words, situations, or actions mean the same thing, the system should follow platform standards.

Error prevention - The system should be designed in a manner that eliminates error-prone situations, or checks for them beforehand, and presents the user with a confirmation option before committing.

Recognition rather than recall - The user should not have to memorize information when moving from one dialogue to the next. Have instructions available and easily retrievable in order to minimize the amount of memorization the user will have to do.

Flexibility and efficiency of use - Allowing the system to cater for both novice and experienced users, allowing efficiency through shortcuts and tailoring of actions frequently performed.

Aesthetic and minimalist design - Minimize the amount of or eliminate irrelevant or rarely needed information, as it competes with the relevant information, and may diminish the visibility they have.

Help users recognize, diagnose, recover from errors - Present error messages in plain language, accurately point out the problem to the user, and suggest a method to fix it.

Help and documentation - If necessary, provide help and documentation, and present it in a manner that is easy to find, and concisely lists the concrete steps regarding the user's task. (*Nielsen 1995*)

3.3 UX Design

3.3.1 Definition

In order to effectively utilize user experience design, understanding the very definition of user experience is necessary, as it opens up the possibilities of understanding the elements of UX design.

International Organization for Standardization (ISO) defines user experience as follows: “person's perceptions and responses resulting from the use and/or anticipated use of a product, system or service”. (*ISO 9241-210:2010, 2010, 2.15*) Practically every sentiment and reaction coming out of an action performed on a website or in a program is a part of the user experience.

The term itself was coined by Don Norman during his time as the Vice President of the Advanced Technology Group at Apple. In its original form, the term was to be rather broad; encompassing all aspects of a user's experience with a system: including industrial design, graphical aspects, interface, physical interaction, and even the help and documentation, as Norman thought the terms of human interface and usability too narrow. (*UX Design Defined 2010*)

3.3.2 Sectors

Although usability and UX design are still often confused, the terms are not interchangeable, as usability could be seen as a part of the collection of terms and concepts that makes up the whole of UX design. Morville depicts the seven centric facets of UX design as a honeycomb graph, clarifying the broadness of the term, as depicted in Figure 11. (*Morville 2004*)



Figure 11. Centric facets of UX design (Morville 2004)

Useful - For the system to be useful, it must serve a concrete purpose to the user, and offer a solution to a problem, or satisfy a need (*ibid.*).

Usable - Efficiency and ease of use are very centric and important qualities for any system. Smooth and seamless use of the system heavily affects the user's overall opinion of it, and as such is directly reflected on their opinion on the entire brand behind the system. However, it needs to be supported by other elements, and according to Morville, it is "necessary, but not sufficient". (*ibid.*)

Desirable - Desirability is heavily tied to the power of identity and brand. The system must appeal to the user emotionally or aesthetically, reinforcing their positive image of it. Desirability is often overshadowed by the effort to achieve maximum performance and efficiency, but its value to UX design should not be underestimated. (*ibid.*)

Findable - In the case of a website or service, findability is often tied to the SEO (search engine optimization). Being very important in the eyes of marketing especially, appearing as early as possible in a related search is key to new users finding and beginning the use of the service. Findability can also encompass certain features or pieces of information being easy and simple to find within the system or service. *(ibid.)*

Accessible - Accessibility stands for taking into account users with special needs and providing them with the same ease of use as all other users. For example, to retain the look and feel elements of a system clear and easy to perceive even to a color-blind user, proper care needs to be put into the contrast between visual elements. *(ibid.)*

Credible - Credibility is needed to retain the trust of a potential user. This aspect is especially important if the system provides the user with information or asks to receive the personal information of the user to perform a task. *(ibid.)*

Valuable - Whether the system is non-profit or for-profit (either meant to generate revenue for the owner, or a resource other than money), it must generate value to its owner in order to remain worthwhile. *(ibid.)*

4 Mobile First Approach

4.1 Definition

Mobile first approach simply refers to the strategy of approaching the design of a website or app by designing it from the smallest screen to the largest *(Gremillion 2015)*.

The mobile first strategy largely utilizes and often relies on responsive and adaptive web design. Responsive web design refers to a method of design, when utilized, provides an optimal viewing experience to the user regardless of the resolution of their viewing device. In essence, the single layout of the site responds to the resolution it is viewed on. The difference between adaptive and responsive design is that where responsive design has just one layout that is rendered differently depending on the

size of the viewport, adaptive design has multiple different layouts, each designed for a specific resolution. While both of these practices have some downsides, responsive design is usually considered the safer option. Responsive solutions are more difficult to execute in practice, as they require more intricacy in coding and organization of the site in comparison to an adaptive solution. However, the load time of a responsive site is significantly lower than that of a site with a similar scope made with adaptive design methods, as the responsive site only has to load one layout, while the adaptive site has to load all of its possible layouts. (Harris 2015.)

Mobile first approach is a tenet of the ideology called progressive enhancement. Progressive enhancement focuses on prioritizing the content of any given site. It presents this idea as layers; with content at the core, surrounding it is presentation, and client-side scripting as the outermost layer. An analogous depiction of this is illustrated in Figure 12. According to progressive enhancement, mobile web design should be the starting point, being the platform of most limitations. (Gustafson 2008)

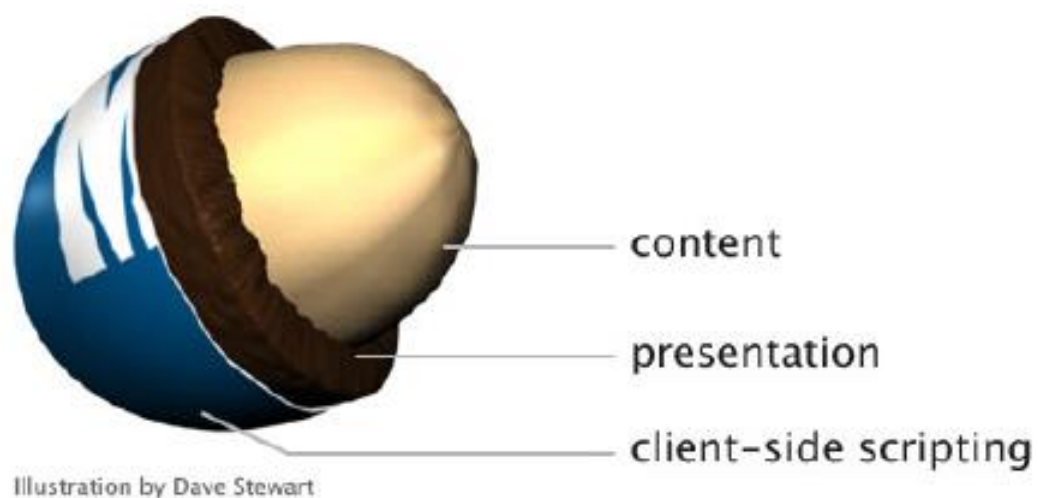


Figure 12. The layers of progressive enhancement (Gustafson 2008)

The opposite of progressive enhancement is called graceful degradation. A design process following its ideology would start from using the platform allowing the most complexity and utilizing the features of most recent browsers, essentially making use of everything of the tools at hand can provide. This comes with a set of problems

however, as relying on the latest features of a browser may cause the site to be crippled or just not supported by an older version or a less relevant browser, reducing the accessibility of the site. (Sukale 2015)

UI & UX for other devices such as mobile may come as more an afterthought and be of lower quality overall, as desktop being the richest in features is considered the primary platform and prioritized accordingly (Gremillion 2015).

4.2 Case Relevance

In 2018, mobile web usage is certainly not a niche, but rather the dominant platform on a global scale. Mobile web usage accounted as much as 52.64% of all global web traffic is via mobile, as of August 2017. (Mobile internet usage worldwide – Statistics & Facts, 2017) The global population of unique mobile web users was 3.7 billion as of January 2018. These numbers show no sign of slowing down in growth, as the global mobile data usage is predicted to increase up to sevenfold within the timeframe of 2016-2021. (Global digital population as of April 2018 (in millions), 2018) This serves as to underline the importance of developing sites and services for mobile devices (Mobile internet traffic as percentage of total web traffic in August 2017, by region 2017).

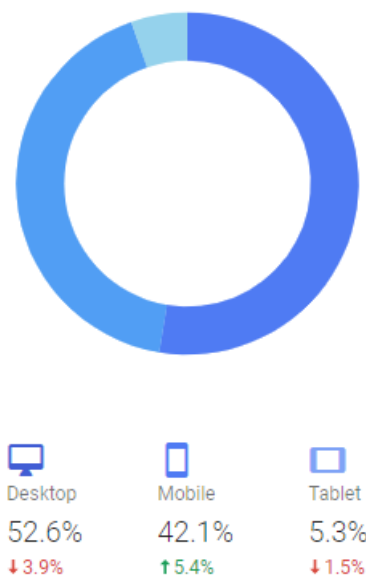


Figure 13. Sessions by device on Naava's site through May 2017 to April 2018

The aforementioned trend is well reflected on the case at hand as well, since according to the statistics found on Google Analytics for Naava's site, more than 45% of the traffic on their site during the last 12 months is through devices other than the desktop, of which the vast majority is smartphones. This is illustrated in Figure 13. It is also important to note that within the same timeframe, the share of desktop within the overall traffic on their site has declined by about 4%. In light of both of these facts, focusing Naava's web development efforts on mobile first strategies is a safe choice.

5 Tools

5.1 HubSpot

HubSpot is a versatile, all-inclusive marketing automation tool, an "inbound marketing and sales software that helps companies attract visitors, convert leads, and close customers" according to the service's own introduction. In addition to providing a content management system (CMS), it offers features such as social media management, customer relationship management (CRM), a blogging platform and functionality, and email marketing capabilities. (*What is HubSpot?, 2018.*)

At its core, HubSpot provides the functionality of a CMS, meaning it can be used to create and manage content. In HubSpot's case, this content entails web content in the form of website pages, landing pages, blog, and file management. All of the aforementioned can be found under the Content drop down menu as shown in the Figure below. (*A quick tour of the Design Manager 2017*)

HubSpot supports creating web page templates from scratch and offers a template builder tool in addition. This allows the user to create custom page templates using modules, which they can drag and drop onto the template freely. The conversion of a mockup to a template created this way is illustrated in Figure 14. These standard content modules include features such as rich text, image, form, custom HTML, and blog content. (*HubSpot standard modules explained 2018*) The template builder allows the user to create templates for pages, blogs posts and blog listings, email, and

systems messages, such as errors, subscription notifications, and password protected pages. *(How to create page, email, and blog templates in the layout editor 2018)*

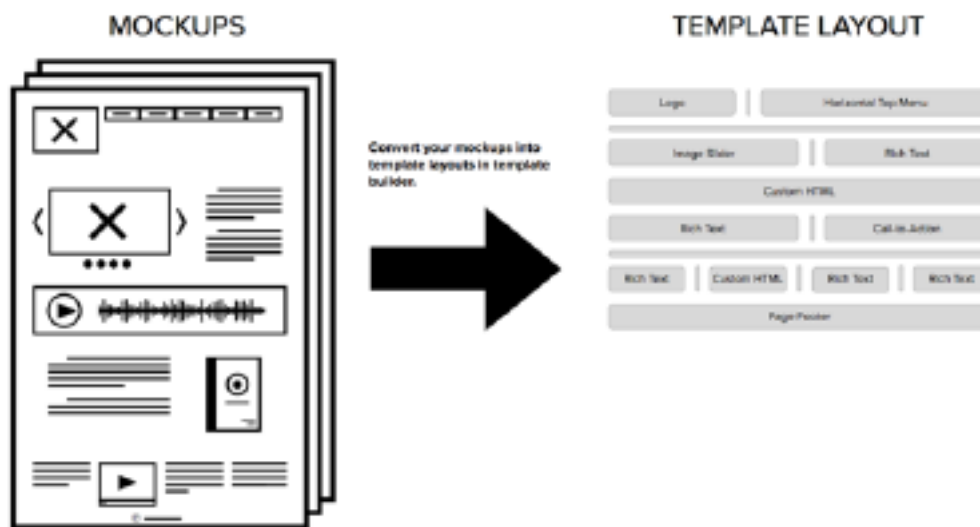


Figure 14. Creating a template based on a mockup with HubSpot's template builder *(How to create page, email, and blog templates in the layout editor 2018)*

The very first view seen when using HubSpot is the dashboard. The dashboard presents a compilation of analytics important to marketing, web development, and sales – these three have their own default dashboards. All of these dashboards can be customized by rearranging and resizing the reports displayed. The users can also create their own dashboard to suit the needs of a specific team or department within their organization. *(A quick tour of the marketing dashboard 2018)* For example, the web analytics dashboard contains these reports my default:

Sessions - Display the number of sessions over selected period. Show both new and returning visitors separately.

Traffic Metrics - Display the number of total sessions, percentage of new sessions, and percentage of mobile sessions, by comparing two selected periods of time to each other.

Engagement Metrics - Display bounce rate, page views per session, and average session length by comparing two selected periods of time to each other.

Session Sources - Display the sources which visitors end up on the site through. Examples of these sources include organic search, email marketing, and social media.

New Visitors by Source - Display the traffic from new visitors, different sources separated.

Views per Session by Source - Display how many pages a visitor views per session on average, different sources separated.

Bounce Rate by Source - Display the bounce rate, different sources separated.

Device Type - Display the number of sessions, different device types separated.

Device Breakdown - Display the relative percentage of sessions for different devices the site visitors used.

Session Country - Display the top five countries from which the site is getting visitors from. (*How to use the web analytics dashboard 2017*)

On-page SEO is available through HubSpot. The process includes user selecting keywords for a single page, and going through an optimization checklist, which includes guidelines for page load, page title, meta description, H1 tags, images, CTAs, internal links, and linking the current page to a pillar page. (*How can I optimize my pages for SEO? 2017*) A SEO checklist is illustrated in Figure 15. Keywords assigned to the page will receive a ranking, monthly search volume, and difficulty. Keyword ranking illustrates how much organic traffic a site is able to attract through searches of the particular keyword, while the difficulty relates to how hard it is to attain a high ranking with the particular keyword. (*How to use the keywords dashboard 2018*)

On Page SEO

95%

ELEMENT	STATUS	DETAILS
Meta Description	Incomplete	View
Page Title	Done	View
H1 Tags	Done	View
Images	Done	View
Calls-to-Action	Done	View
Internal Links	Done	View
Page Load	Done	View
Link to Pillar Page	Done	View

Figure 15. An example of an on-page SEO checklist

A/B testing can be performed via HubSpot by creating an A/B variant of an existing landing page in the landing pages dashboard. After editing the variant and publishing it, the results of the test can be viewed from the original landing page's variations tab. The variations tab displays a comparison between the pages on submissions, new contacts, and customers, and allows the user to select a variation as the "winner" of the testing. Selecting a winner stops the testing and the variation not chosen will no longer be displayed to end users. (*How to A/B test landing pages 2018.*)

The workflows feature in HubSpot is designed to help with automating the lead nurturing process. In practice, this means automating and scaling what kind of content is offered to an end-user at a certain step of their buyer's journey. A workflow can be created under the contacts drop down menu in the workflows section. A new workflow can be created from scratch, to be centered on a date (actions centered around

a certain date, such as a date of an event), or to be centered on a date property (actions centered around a certain contact date property, such as the contact's birthday or the date of becoming a customer). Setting up the automation of a workflow begins by setting up enrollment triggers. An example of a workflow is illustrated in Figure 16. (*How to set up a workflow in HubSpot 2018*)



Figure 16. A basic workflow with branching logic created in HubSpot (*How should I use branching logic in workflows? 2017*)

These triggers can be manual or automatic. Triggering the workflow manually allows the user to set it up to perform their desired actions, and then manually enroll the contacts into it. Triggering the workflow automatically causes the contacts to become enrolled dynamically as they meet the conditions set within the workflow. Selecting automatic trigger requires the user to select which triggers their contacts have to meet to be included in the workflow. Enrollment triggers can be contact property (enrolls when the contact has a certain property, for example are a subscriber), company property (enrolls when the contact's associated company property

matches the set criteria), deal property (enrolls when the contact is associated with a deal with a set property, for example a specific close date), list membership (enrolls when the contact joins a set smart list), form submission (enrolls when contact fills out a specific form, or a form on a specific page, or a combination of the two), email (enrolls the contact for a specific email, for example when the contact has clicked a specified link), page view (enrolls when the contact has viewed a specified page), event (enrolls when the contact signs up for an event), workflow status (enrolls when the contact is for example active in the workflow, completed it, or met a goal), CTA (enrolls when the contact clicks, sees, has not clicked or seen a particular call-to-action). Examples of these are illustrated in Figure 17. *(How to choose the workflow type and enrollment triggers best suited for your goal 2018)*

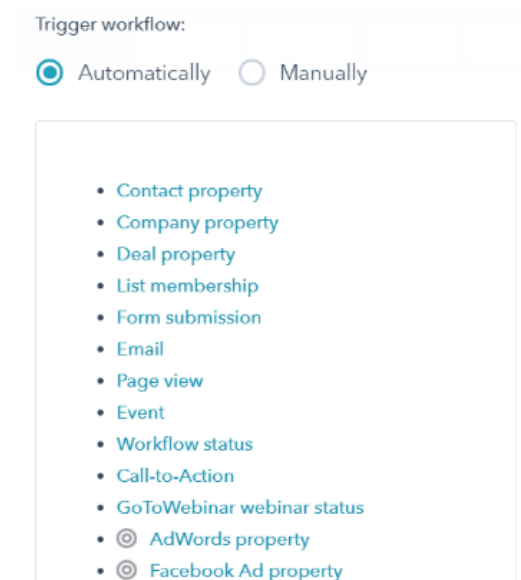


Figure 17. Examples of enrollment triggers in HubSpot (How to set up a workflow in HubSpot 2018)

Once the enrollment triggers are set, actions can be added to a workflow. These actions can consist of sending an email to the contact, adding the contact to a list, etc. Each workflow has settings specific to it, which include on what days the set actions will be executed, what time of day those actions will be executed, which personas are targeted, and if the workflow is associated with a campaign. Once the construction of a workflow is finished, it can be tested to see if the set actions are executed correctly. *(How to set up a workflow in HubSpot 2018)*

Workflows in HubSpot can be used for scaling of the lead qualification process in the way of enabling a workflow to be triggered once a contact surpasses a set lead score. HubSpot offers the following properties to aid with the qualification process: HubSpot Score, Predictive Lead Score, Predictive Close Probability, and Predictive Close Tier. These properties help in gauging how engaged the contacts are in any marketing or sales efforts. In order to utilize these properties to define contacts as marketing qualified leads, a workflow must be created. The workflow will enroll contacts with HubSpot score between 10 and 30, and whose lifecycle stage is not set as customer. This workflow has the action to set the enrolled contacts as marketing qualified leads. These steps are repeated to create a similar workflow to define sales qualified leads, with the difference of requiring a higher HubSpot score than 30. *(How to use workflows and lead scoring to automate your lead qualification 2018)*

HubSpot's integrated email tool supports its other tools in lead generation. For example, it can be used for qualifying the contacts that open or click the links in emails sent to them, reminding contacts of upcoming events or offers, or delivering newsletter to contacts. Email templates can be created the same way as templates for pages and blogs are in the design manager. New emails can be created under the content drop down menu in the email section. Having a template ready is required to create an email. In the edit tab, the content of the modules placed in the used template can be edited, as well as the details of the email, such as who the email is from, subject line, and preview text. A view from the edit tab is illustrated on Figure 18. *(How to create and send emails 2018)*

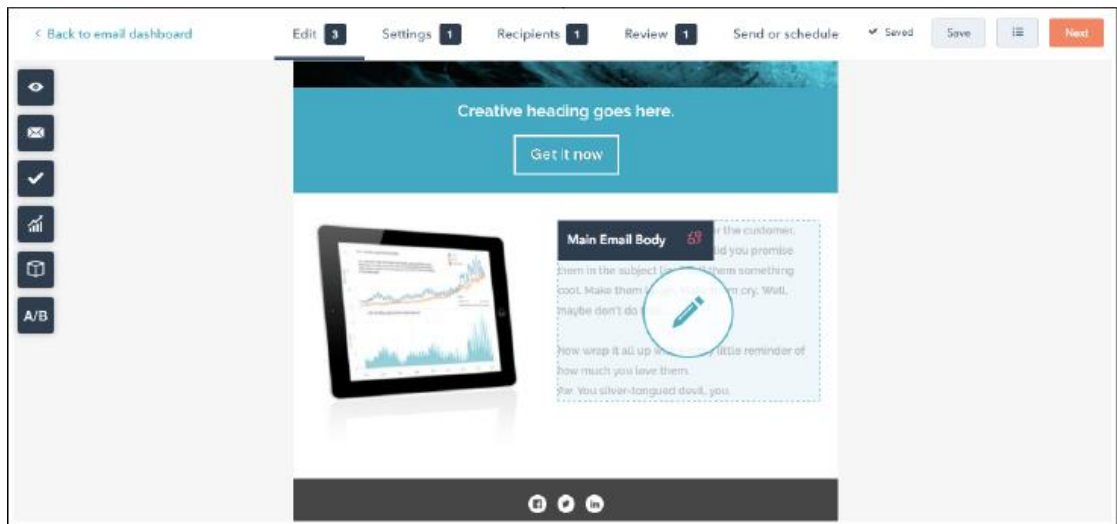


Figure 18. A view of HubSpot's email content editor (How to create and send emails 2018)

In the settings tab the selected email's internal name can be changed, a type needs to be selected, and it can be defined if the email is part of a campaign. Web version of the email can also be customized. Template settings and the email footer can be changed under the advanced settings. In the preview pane, the created email can be previewed to see how it will appear on different devices. (*How to create and send emails 2018*) Preview pane illustrated on Figure 19.

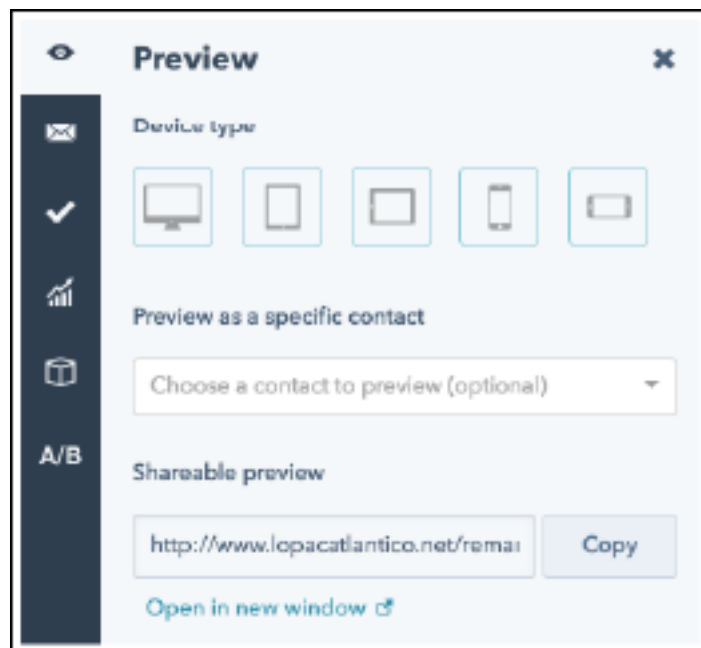


Figure 19. A view of the email review pane (How to create and send emails 2018)

A test email can be sent in the test email pane to chosen recipients, and it can be selected if the recipients see the email as a specific type of contact. This can be done to make sure any personalized content is working as intended. The optimize pane offers recommendations for improving the email through changing its content and settings, as well as showing which aspects of the email are well set up already. (*ibid.*) Figure 20 illustrates a checklist on the optimize pane.

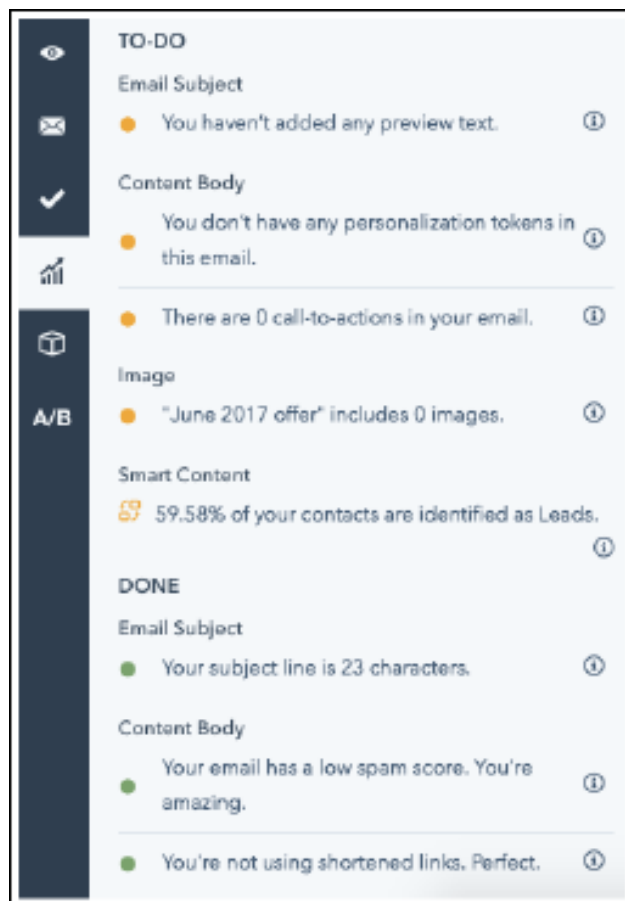


Figure 20. A view of the optimize pane, displaying an optimization checklist (How to create and send emails 2018)

Modules in the email template used can be edited in the modules pane. An A/B test variation of the email can be created in the A/B test pane. The recipients tab is used to determine who will receive the email. Lists or individual contacts can be added, or the email can be saved to be used in workflows. In addition, lists and individual contacts can also be chosen to be excluded. The review tab presents a checklist of suggested steps to take before sending the email. Once the steps shown are completed, the date on which the email will be sent can be chosen in the send or schedule tab. The email can be sent right away, scheduled for later (allowing the sending date and

time to be chosen), or scheduled based on time zones (allowing the sending date and time to be chosen in accordance to the recipient's local time zone). (*ibid.*) Figure 21 illustrates the scheduling options for email that is about to be sent.

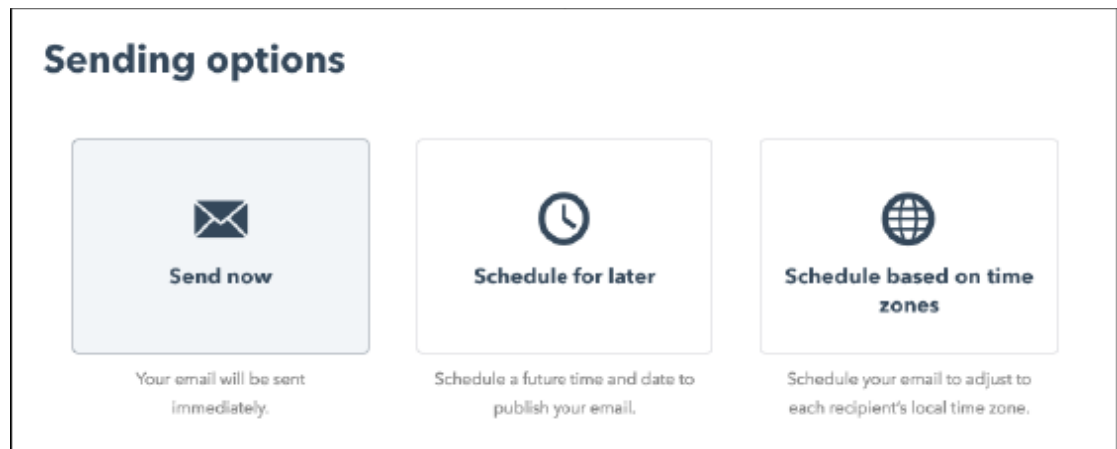


Figure 21. Sending options for an email about to be sent through HubSpot (How to create and send emails 2018)

HubSpot's blog tool offers a platform equipped with the necessities to produce and manage blog-type content. Blog posts support can be made on a template created in the template builder tool. Posts can be displayed under different listings, such as sorting by publish date, author, topic, etc. Performance of the blog can be monitored in the analyze tab under the content drop down menu in the blog section. This provides information on blog views and subscribers. The blog tool has a dashboard for tags to easily identify the most commonly occurring topics, as well as to edit them. Content creators on the blog can be managed on the authors screen, where the amount of blog posts they have published can be viewed. Comments can be reviewed and moderated through the blog comments dashboard. In the subscriptions tab the frequency of emails sent to blog subscribers can be managed. For example, they can be set to be sent after every new post, daily, weekly, or monthly. (*Blog User Guide 2018*)

5.2 Hotjar

Hotjar is an analytics and feedback tool with a variety of unique features, such as visitor recordings, heatmaps, form analytics, and conversion funnels. The tools provided aim to help the user gain an overall understanding on what they should do in order

to improve the user experience and conversion rate on their site. (*What is Hotjar?*
N.d.)

Heatmaps is a tool that helps Hotjar's users visualize and detect where their site visitors either click, move their mouse, or scroll. The visual differences between the three are illustrated in Figure 22. Heatmaps track their designated activity, recording it as a visualization, where the most red-toned areas represent the heaviest activity. Each heatmap shows a point labelled as average fold, indicating the point in the page up until which every visitor will scroll to. (*ibid.*)



Figure 22. Visual differences between clickmap (left), movemap (middle), and scrollman (right)

Visitor recordings are exactly what the name implies and allows Hotjar users to view the exact actions a user takes throughout their session on the site by recording their clicks and mouse movements. (*ibid.*)

Conversion funnels makes it easier to identify at which page and part of the conversion visitors drop out of the process. Figure 23 illustrates an example of an e-commerce conversion funnel, where the necessary steps to conversion are home page, product page, adding a product to shopping cart, checking out, and finally thank you page. (*ibid.*)

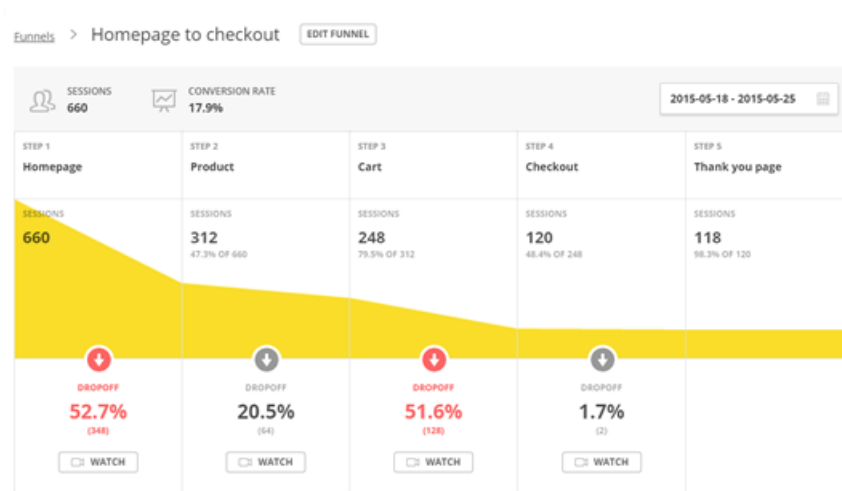


Figure 23. Example of an e-commerce conversion funnel (What is Hotjar? N.d.)

Form Analytics is similar to Conversion Funnels in that instead of conversion steps, it monitors which fields of any specified form users fill before dropping out. (*What is Hotjar? N.d.*)

Hotjar offers various feedback tools to complement the analytics tools. These include creating and embedding polls onto a website, creating user surveys which can be distributed through links on the website or email, collecting incoming feedback from site users in a visual format in a system that allows them to "comment" any specific element, as well as recruiting user testers directly through the Hotjar user's website.

5.3 Google Analytics

Google Analytics is a free website analytics tool offered by Google. It offers its users in-depth information on metrics such as how visitors find the website and how they interact with it. Google Analytics can integrate other Google products, such as AdWords and Search Console. (*Shivar 2016*)

The data Google Analytics records is tracked through tracking code that is inserted to every page of a website. This code works in conjunction with a JavaScript file on Google server. (*ibid.*)

The reports in Google Analytics are comprised of dimensions and metrics, where dimensions portray the attributes of data, for example a page or social media channel being measured, and metrics are measurements of the dimensions. Dimensions and metrics are portrayed in Figure 24. (Shivar 2016)

Primary Dimension: Region City Other ▾			
Secondary dimension ▾			
City ?	Acquisition		
	Sessions ? ↓	% New Sessions ?	New Users ?
	11 % of Total: 0.55% (1,999)	100.00% Avg for View: 88.39% (13.13%)	11 % of Total: 0.62% (1,767)
1. Paris	4 (36.36%)	100.00%	4 (36.36%)
2. Bordeaux	1 (9.09%)	100.00%	1 (9.09%)
3. Roubaix	1 (9.09%)	100.00%	1 (9.09%)
4. Angers	1 (9.09%)	100.00%	1 (9.09%)

Figure 24. Dimensions and metrics in a Google Analytics report (Shivar 2016)

The primary function of Google Analytics is providing its user information to make properly informed decisions when it comes to making changes on their site, marketing strategy, etc. The data offered by Google Analytics is categorized into Acquisition, Behavior, and Conversions. It can also display Audience and Real Time traffic. (*ibid.*)

Acquisition focuses on data that covers how visitors get to the website. An overview into the section provides the user with the number of sessions, bounce rate, and conversions of most effective channels. Acquisitions can get into details such as which search engine is most used by site visitors, and which outside sources are referring users onto the site. If an AdWords account is integrated with Analytics, AdWords campaign and keyword performance can be tracked in the Acquisitions section. Search Console integration allows the performance of landing pages to be tracked. (Shivar 2016)

Behavior reports are focused on monitoring the interactions of the site visitors and allows Analytics users to evaluate the performance of specific content on the website. Overview into this section provides the user with the amount of pageviews, unique pageviews, average time on page, bounce rate, and exit rate. Behavior can detail the specific path and the drop off point a visitor takes on throughout their session through Behavior Flow. An example of Behavior Flow can be observed in Figure 25. (*ibid.*)



Figure 25. Example of Behavior flow, displaying how visitors navigate through the website

Site Content offers reports on All Page, Content Drilldown, Landing Pages, and Exit Pages. All pages list the highest-performing pages on the website based on the amount of traffic, while Content Drilldown report features foldered areas of the website, e.g. blog and news, and displays the highest-performing pieces on content within them. Landing Pages report lists the landing pages of the website listed by performance in conversion goals set by the user. Site speed helps determine which areas of the website need further optimization, by showing load times of pages on the site. Site search allows the Analytics user to track how visitors are using the website's internal search function. Events are used to track specific types of interactions on the website, e.g. clicking external links, downloading resources, or playing videos. These interactions can also be viewed as a part of Event Flow, which is similar to Behavior Flow in that it displays the path a visitor is taking when interacting with the specific element. (*Shivar 2016*)

The Behaviour section also allows users to run experiments, such as A/B tests, for example, to define which landing page performs best in regard to the website's goals. (Shivar 2016)

Conversion reports are focused on informing the user on how site visitors convert. The overview to this section displays a summary of goal completions aka. The total number of conversions. Goal URLs displays the URLs of the site where conversions happen, and Reverse Goal Path works similarly, but displays three previous steps before the completion of the conversion goal. Funnel Visualizations is functional only if Destination Goal is set to track multiple steps throughout the conversion process, and displays the path to conversion, as well as the points where visitors drop off. This is illustrated in Figure 26.

Newsletter Signup

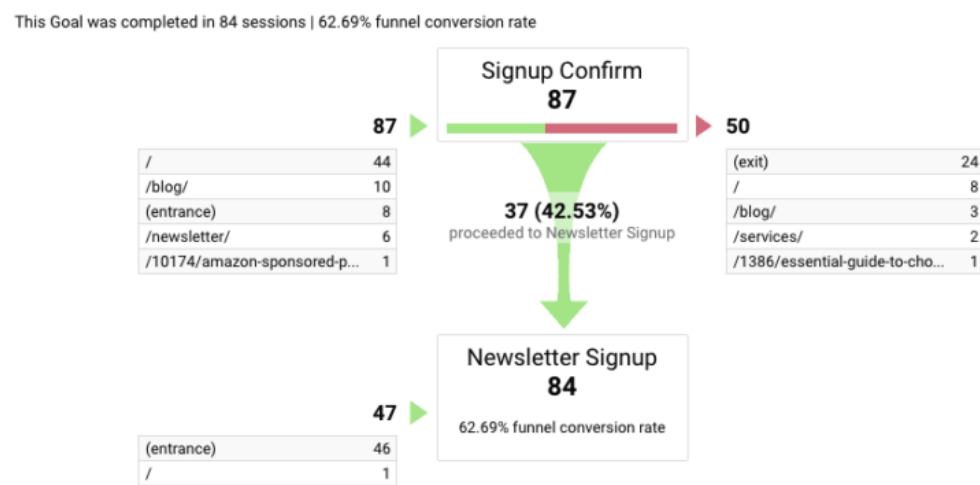


Figure 26. An example of a Funnel Visualization on Google Analytics (Shivar 2016, edited)

Ecommerce is relevant to users with businesses selling products through their website. Overview to this section displays ecommerce conversion rate, average order value, unique purchase, and overall quantity of products sold. The section also offers detailed reports on product performance, sales performance, transactions, and time to purchase. (Shivar 2016)

Multi Channel Funnels can be used to give Analytics users a thorough view over the visitor's journey on the website. Overview report displays summaries of all marketing channels contributing to driving conversions onto the website. Assisted Conversions

display the number of conversions a specific channel influenced indirectly. Top Conversion Paths displays the most common paths visitors take when converting. Time Lag displays the time it takes for a visitor to convert, and in a comparable manner, Page Length displays how many interactions a visitor makes on the website before converting. *(Shivar 2016)*

As for the two remaining sections in Analytics, Audience section is dedicated to displaying information on the site visitors, with emphasis on demographics and attributes tied to traffic on the site. Real-Time allows Analytics users to observe traffic on their site right at the time of viewing the reports in the section. *(Shivar 2016)*

6 Case: Naava

6.1 Website upgrade

Naava's company website was rebuilt from the ground up in May 2017 in an effort to make optimal use of modern design principles and technologies, as well as to provide site visitors the best possible user experience. The site was to promote and adhere to Naava's brand, which was exemplified in the aesthetic of the site: the colours, illustrations, imagery, as well as the shape language were all remade to be more in line with the brand and its visual guidelines. The site was to serve as a platform to provide information on the products and services to potential customers, as well as to offer them meaningful and valuable content related to the company's product and values: this was served to visitors in the form of a blog, containing editorials and occasional science articles.

The new website was constructed on HubSpot's CMS, utilizing its template builder tool. The templates were augmented with custom CSS for more personalized stylization and functions.

The website upgrade serves as a starting point of data measurement for the sake of the data analysis. The statistics referred to in the following chapter can be found in Appendix 1 in their entirety.

6.2 Data Analysis

The statistics presented are gathered over the time period of May 2017 to April 2018. The presented data is collected through HubSpot or Google Analytics, as is referred to when it comes to each individual piece of data.

The data examined entails website sessions, contact conversion rate, bounce rate, page views per session, and average session length. All of these metrics are broken down by source (i.e. through what means the users portrayed in the statistics have come to the site) and measured at one-month intervals. Sources illustrated throughout the analysis are organic search (users coming to the site through searching related keywords), referrals (users linked to this site through another site), social media (users coming to the site through links on social media platforms), email marketing (users coming to the site through links in emails sent by the company), paid search (users coming to the site through paid services such as Google AdWords), paid social (users coming to the site through paid social media marketing campaigns), direct traffic (users coming to the site by directly typing the URL into their browser), and other (users visiting the page from specific campaigns monitored with specific tracking URLs). In terms of the analysis, the following metrics are considered when determining the relative success of a page or a change on a page: with sessions, contact conversion rate, page views per session, and average session length, a larger number (or longer time/percentage) is considered better. With bounce rate, a lower percentage is considered better. The metrics were chosen as they best measure success in accordance to the objectives and viewpoint of the thesis. Figure 27 illustrates the evolution in the number of sessions over the time period of May 2017 through April 2018.

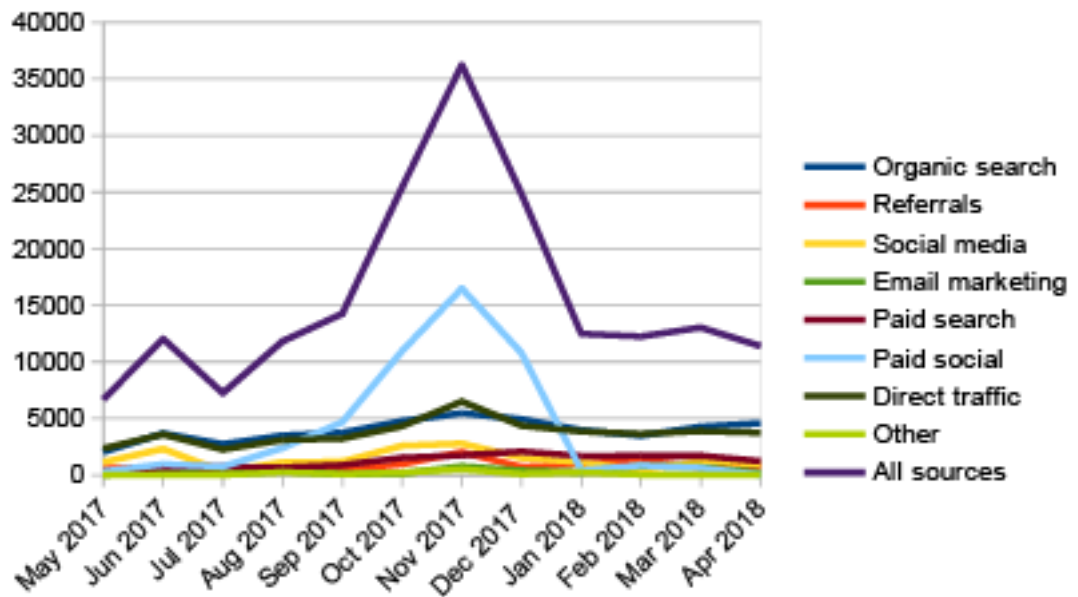


Figure 27. Sessions by source, through May 2017 to April 2018

The amount of sessions has stayed relatively stable apart from one notable upward spike between the time period of September 2017 to January 2018, reaching its peak in November 2017, with the average of 15 636 sessions per month, and a median of 12 356. Since 45,47% of the spike in the number of sessions in November 2017 consist of paid social, it is a fair assumption that the influx of visitors is caused by a successful social media campaigns before anything else. This is reflected on other metrics to an extent, as the bounce rate through paid social during the month of November 2017 was 5,78 percentage points lower than previous month, and the contact conversion was 5,23 percentage points higher than previous month.

During this time, the site got a notable addition with the addition of the Architects & Designers page, which was added to the navigation at the time of its publication. The page was meant to serve as a hub of technical information and material for its name-sake demographic. The original version of Architects & Designers was archived when the updated version of the page was published in February 2018. Both versions of the page are fairly long and packed with content. The key difference between the two versions is the number and placement of conversion points (i.e. the element through which the conversion goal is reached): the original version has conversion points at three different points, whereas the updated version only has one at the very bottom of the page. Some of the material offered on the original was tied to a

conversion point, i.e. a user could download the material after filling in their email and choose an option that best describes them from a drop-down menu. The same material is available through the click of a single button on the updated version of the page.

Examination of the scrollmaps for the two versions indicates that with the updated version, viewers scroll further down the page with the newer version, even when the version is notably longer than the original. This can be attributed towards better flow and prioritization of content on the updated version. The scrollmaps are illustrated on figure 28, with the updated version of the Architects & Designers page on the left, and the original on the right, with the colours getting cooler the less people scroll the page up to that point. Despite the improvement in the accessibility of the materials offered, the higher number of conversion points leads to a higher conversion rate, as indicated by the statistics gathered through HubSpot. Comparing the statistics, the two versions were roughly equal in all measured metrics but conversion, in which the original version is clearly the superior one, with conversion rate of 7,20%, as opposed to the conversion rate of 1,26% for the updated version. However, this might not be conclusive, as the updated version has been online for a relatively short amount of time.



Figure 28. Scrollmap comparison of the updated (left) and original (right) version of the Architects and Designers page

Some correlation with the upward spike in the amount of sessions through September 2017 to January 2018 can be seen in contact conversion rate through paid social: through the month of November 2017, contact conversion through paid social was 5,23 percentage points higher than in the previous month.

The most significant shifts in this metric are situated between January 2018 and February 2018. By January 2018, conversion rate from social media increased by 9,23 percentage points in comparison to the previous months, although the metric fell back to roughly the same level the next month for the source. Conversion through referrals started rising steeply in December 2017, with the metric increasing by 9,07 percentage points between December 2017 and January 2018, and peaking in February 2018, with the metric further increasing by 10,74 percentage points in comparison to the previous months. Conversion through paid social peaked twice in the months of February 2018 and April 2018, with a sharp drop of 16,51 percentage points in between. Due to the nature of these sources, it is a safe assumption to make that the sharp spikes in contact conversion are primarily caused by successful social media marketing and credible outside sources referring visitors to Naava’s site. Contact conversion rates from May 2017 to April 2018 illustrated in Figure 29.

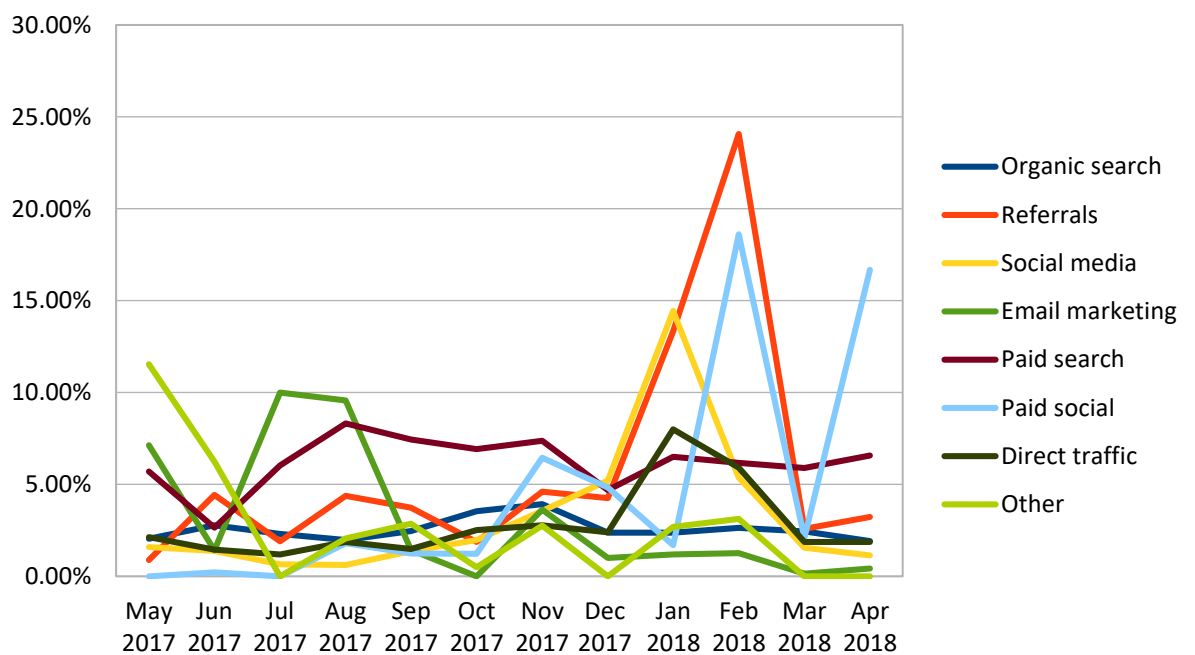


Figure 29. Contact conversion rate by source, from May 2017 to April 2018

There were significant changes to the site were made in February 2018, when the original Products page and Models page were archived. The original version of the Products page served the purpose of a redirection page rather than a typical page containing content and a conversion point. As a result, it generated no conversions, but holding a very low exit rate at 23,58%, but an understandably low average time on page at only a few seconds. These statistics were gathered through HubSpot.

The updated version, 2.0, was published in February of 2018. It serves a similar purpose to its predecessor, acting as a hub of general information on Naava's products and services, as well redirecting users to receive more in-depth information on a specific model or service. A notable change to its predecessor was that the newer version of the page featured a form, meaning the page could now convert visitors into leads. However, the form was placed to the very bottom of the page, which is further than 85% of the page visitors scroll on the page, according to the scrollmap of the page. The page has failed to take off in this regard as of yet, with only 0.5% of page views converting into form submissions, according to the page statistics on HubSpot. Products v2.0 also replaced the archived Models page, which served as a hub for all the different models of Naava's products. The contents of Models page were split into different pages for each individual model, which were listed directly under the Products category in the navigation.

As a part of this update, The Nature as a Service page that was previously its own entry under the navigation, was moved under the new Product page. Likely due to the page being harder to find on the site, as according to HubSpot statistics, it saw an 80% decrease in the number of sessions between the months of February and May of 2018. This is supported by the Hotjar scrollmap of the page, which indicates that only about 25% of the page visitors of the page ever scroll far enough to reach the Nature as a Service link. The scrollmap is illustrated in Figure 30.

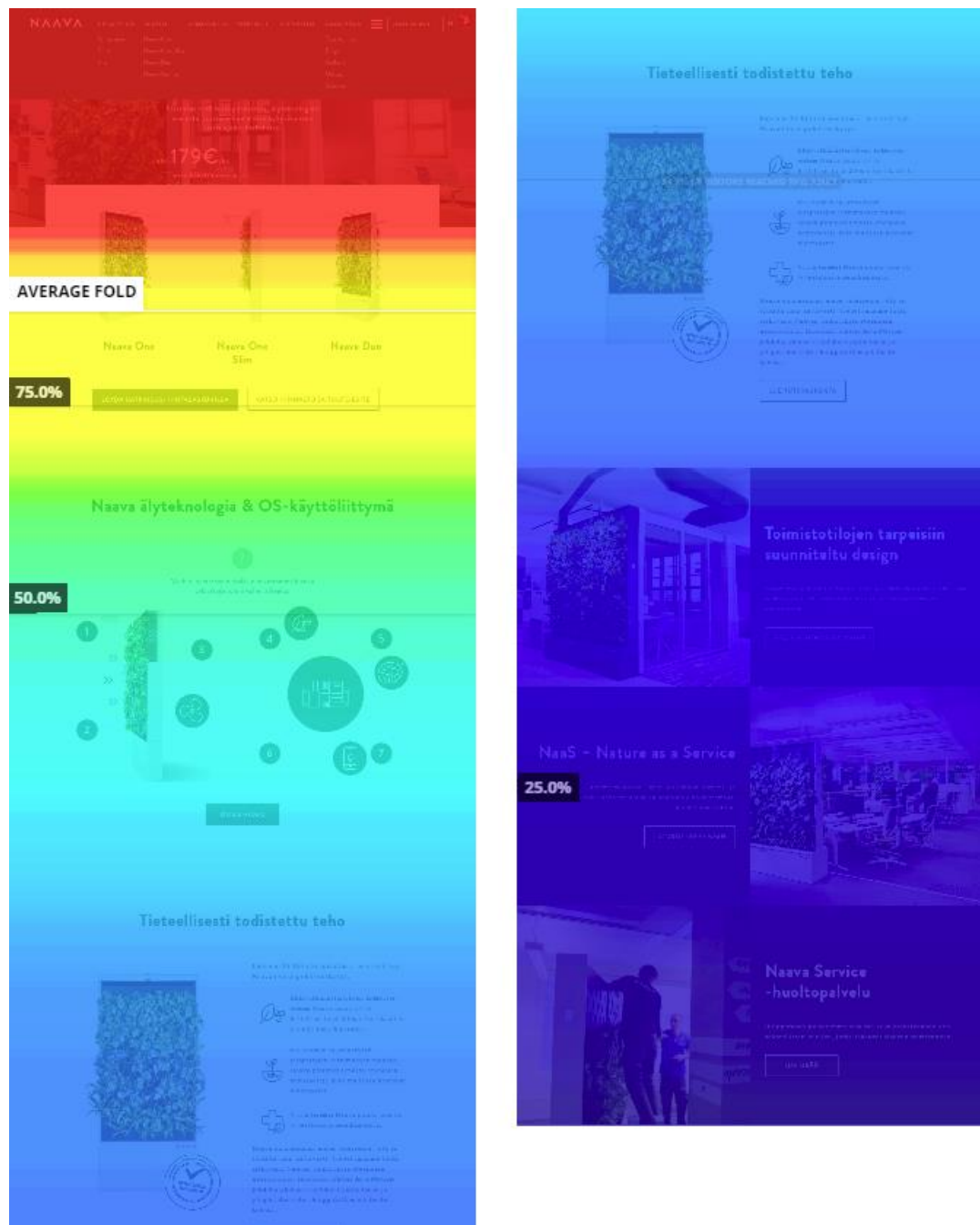


Figure 30. Scrollmap of the updated Products page generated by Hotjar

However, it is worthy of note that the traffic on the Nature as a Service page had been decreasing since the start of 2018.

March 2018 saw some changes in the website structure, with the archiving of the original Clients page originally meant to serve as a hub of case studies compiled of Naava's past and present clients. The original Clients page had the case studies on display all on the one page under drop downs. All of the content could be fit on the same page, but the amount of information each case contained had to be limited. As

a depart from this approach, the updated References page offers more information on each case, by opening them in a new window. Both versions of the page have an identical conversion point as a download link to an e-book placed at the bottom of the page, but on the newer version it is prefaced by title-sized text description of the offered content. As indicated by the statistics gathered through HubSpot, the two versions differ in many respects, with the original version overtaking the comparison in conversion rate (5,45% in comparison to 0,9%) and average time on page (about a minute in comparison to about a few seconds), and the new one garnering a bounce rate 8,05 percentage points lower, and an exit rate 9 percentage points lower. These differences in statistics between the versions can be explained by the updated version being online for too short of a time to accurately gauge its performance, but its superiority in the ability to keep users browsing the site is a sign of an improved user experience.

From all sources throughout the measured time period, the average bounce rate was 66,01% according to the data collected through HubSpot. This is somewhat higher than global average, but not necessarily alarming (*Peyton 2014*). Organic search held the lowest average bounce rate at 50.44%, which can be taken as a sign of good user experience, and ability to lead the visitor to content they are specifically interested in. Paid social has the average highest bounce rate at 85.80%. While the number seems very high, considering the method of directing users onto the site through this specific source can help explain it. The social media campaigns Naava runs most commonly have a landing page specifically associated with them. These landing pages are usually self-contained environments, and rarely have links to redirect visitors onto their main site. This can be a wasted opportunity in directing more traffic to the main page. This is supported by paid social's shortest average session length (illustrated in Figure 31), as the viewers directed to a closed off landing page scroll through the condensed content quickly and may be left without options to explore further. This also correlates with paid social's lowest average page views per session (illustrated in Figure #), hence the limited or completely absent redirection available on landing pages. However, the landing page offers visitors a concise experience and provides them information related only to the campaign and very little distractions outside of it, which can be an effective way to focus to driving traffic to the specific campaign.

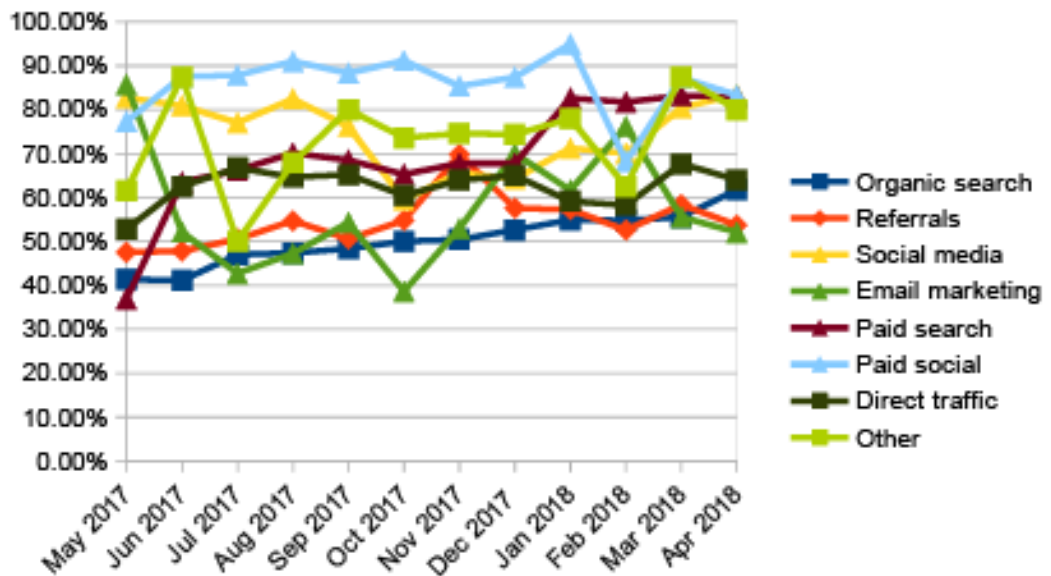


Figure 31. Bounce rates by source, through May 2017 to April 2018

Figure 32 illustrates how many pages a user views during their time on the site. Likewise, Figure 33 illustrates how much time they spend on the site on average. It should be noted that the time on page is displayed in averages, rounded up to the closest minute, and in the case of an average less than a minute, rounded to half a minute.

The two metrics display very clear correlation with the other campaigns source spiking upward in the months of July 2017 and February 2018. As the source itself is rather vaguely defined, outlining the apparent reasons for the sudden rise in the metrics is difficult.

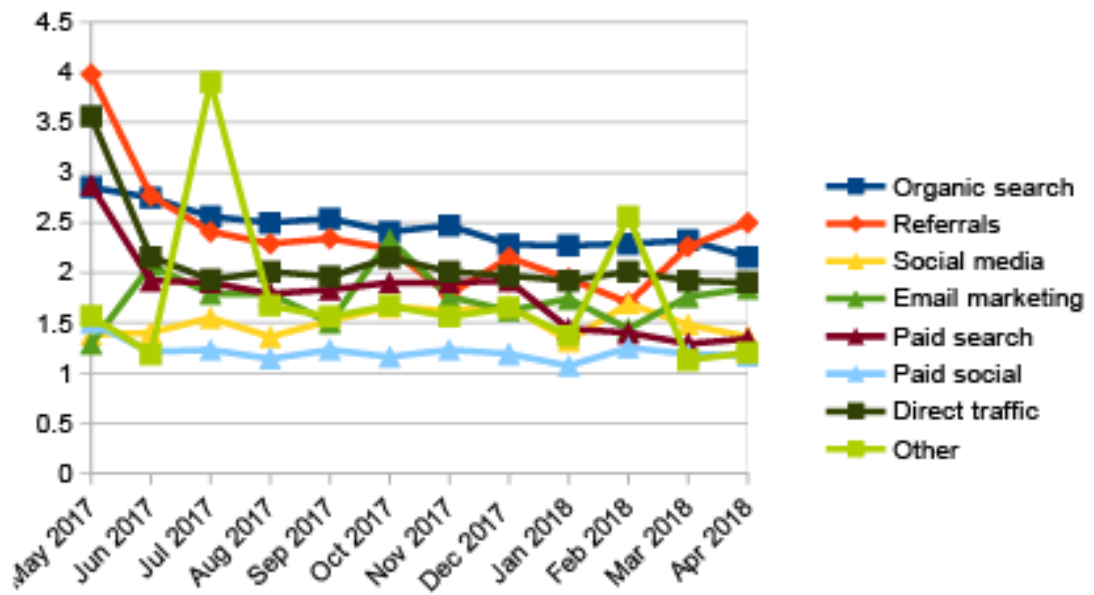


Figure 32. Page views per session by source, through May 2017 to April 2018

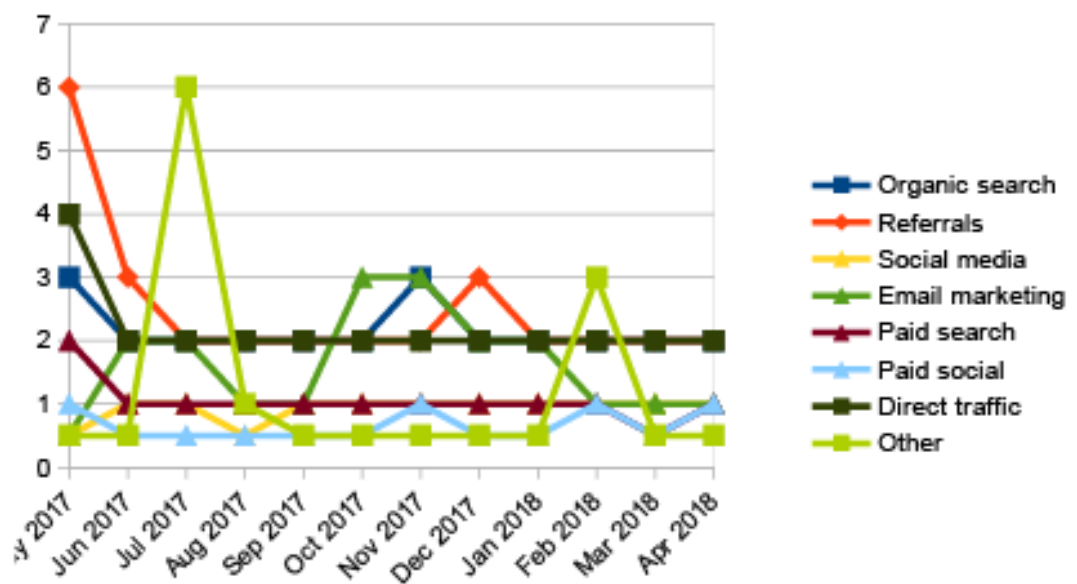


Figure 33. Average session length in minutes by source, through May 2017 to April 2018

In both session length and page views per session, the source organic search is the source of best quality. Organic search has the highest page views per session, at the average of 2,45. In average session length, organic search shares its average 2,2 minutes with direct traffic and is outclassed only by referrals with an average of 2,5 minutes.

According to the user statistics gathered through Google Analytics, 26,75% of all visitors to Naava's website were returning users. This indicates that the site is able to attract its existing users back to the site through continuously offering valuable content and a pleasant user experience. This is exemplified by various other metrics as well, since when compared to new users, returning users have an 82,35% higher number of pages per session, more than three times the average session duration, and 16,16 percentage points lower bounce rate. The highest volume of traffic was concentrated on weekdays and office hours, Monday through Friday, and between 11am to 3pm, as illustrated in figure 34.

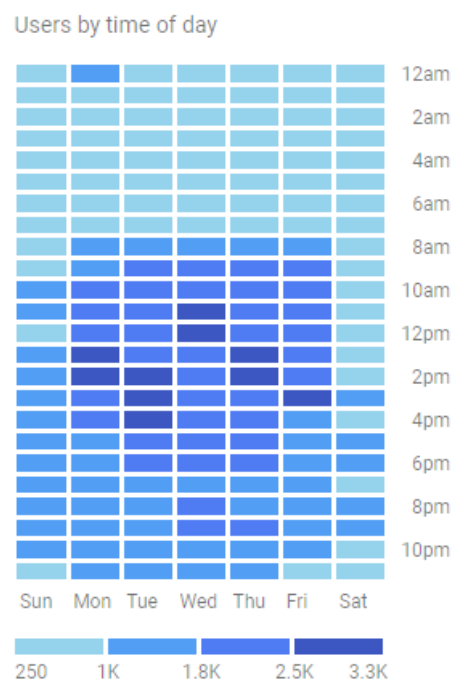


Figure 34. Site traffic volume illustrated in Google Analytics, with darker areas indicating more traffic

6.3 Case: Landing page

In addition to examining the changes to the site at large and measured metrics, a landing page was selected for closer examination in a smaller environment. The chosen landing page was the AdWords page for the AdWord green wall. The specific landing page was selected due to it being recent addition and successful in terms of the metrics used in the data analysis, as well as having a number of changes done to it.

Being an AdWords landing page causes it to be displayed for users searching for the keyword through google in their search results. As a result, nearly all the traffic coming to the page is through paid search.

The data examined is collected with HubSpot through December 2017 to April 2018, starting from the page was first published.

Starting from its first month, the landing page managed to convert well, garnering a conversion rate of 7%, despite the small number of visitors. The page saw minor changes during its first month, with a wording change to the heading on the form at the bottom of the page. Through January of 2018, the amount of views had more than quadrupled, while the conversion rate decreased by 1,4 percentage points.

In February 2018, the view count continued to increase, though not nearly as dramatically as in the previous month, constituting 8.32% increase in the number of page views. The conversion rate continued to decrease, and the overall rate for the month was 4,2%. The changes made to the page this month constituted of adding additional field to the form at the bottom of the page, as illustrated in Figure 35.

The figure shows two versions of a landing page form side-by-side. The left version is the original, and the right version is the updated one. Both forms have a dark green 'LATAA ESITE' button at the bottom. The original form has an 'Email *' field, a dropdown menu with the text 'Mikä seuraavista vaihtoehdoista kuvaa parhaiten kiinnostustasi |', and the button. The updated form has an 'Email *' field, a 'Yritys *' field, a dropdown menu with the text 'Valitse parhaiten kuvaava vaihtoehto *', and the button.

Figure 35. Comparison between the original (left) and updated (right) version of the landing page form

The form in question is the main conversion point on the landing page and offers users a product brochure when submitted. Making the primary downloadable material on the page less accessible, even in a minor way, seems to negatively affect the conversion.

In March 2018, the page view count kept increasing, constituting for a 28,35% increase in comparison to the previous month. Contact conversion also increased by 2,1 percentage points in comparison to the previous month. During this time, the page was again changed in some parts, now being updated into the version it has remained in since. The introduction text below the heading was cut from three lines to two as illustrated in Figure 36, and in the third section (Naava in a nutshell) most of the text was reformatted to more accurately describe the contents of the whitepaper offered on the page.

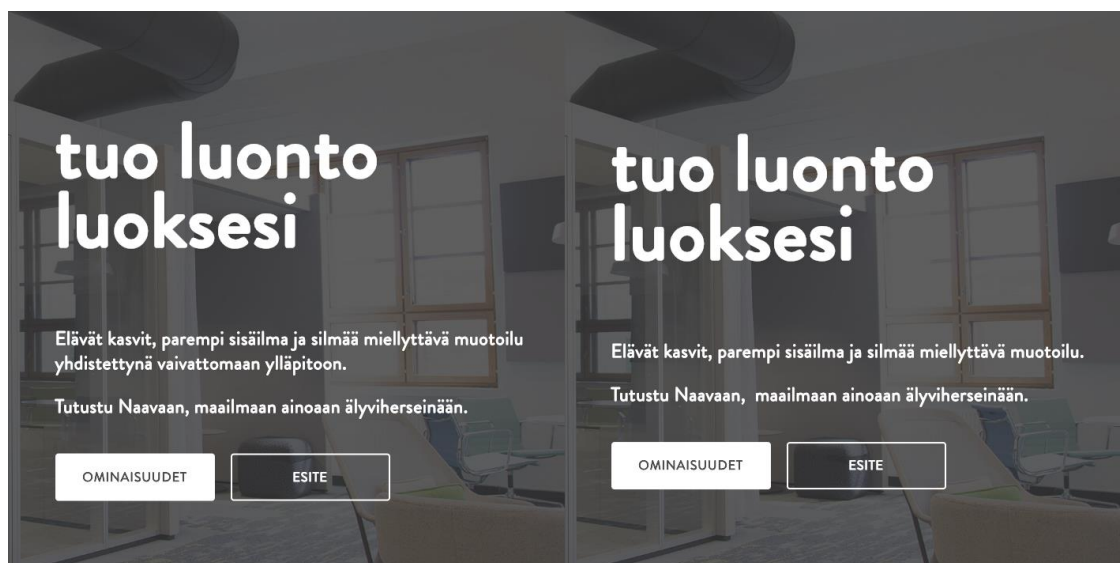


Figure 36. Comparison between the original (left) and updated (right) introductory text

The streamlined and rewritten text content proved a beneficial change, as the viewer count and contact conversion rate kept rising in April 2018. During the month, the conversion rate was 7,9%, the highest conversion rate the page has achieved throughout its lifespan, and the viewer count increased by 9,51% in comparison to the previous month.

The other measured metrics, bounce rate and average time on page have stayed stable through all of the aforementioned changes, with average bounce rate on the page being 82,71%, and average time on page being less than a minute. While these numbers seem less than impressive, they can be explained to an extent with the format of a landing page. As landing pages are almost completely separate pages from

the main site, there are often very few options to navigate to any other page on the main site, which explains the high bounce rate. The short average time on page is very likely a result of the page being very short, and all of the information within it being presented in a very concise manner.

As a part of analyzing the performance of the chosen landing page, a usability inspection was performed on it. Ten heuristics developed by Nielsen were used as a basis for the evaluation. The page was thoroughly inspected to identify any usability problems in accordance to the chosen heuristics. Found problems were given a severity rating on a scale of 0 to four. On the severity rating, 0 indicates that the found problem isn't a usability problem, 1 indicates a cosmetic problem which doesn't warrant immediate action, 2 indicates a slight usability problem in need of fixing, 3 indicates a larger usability problem which needs immediate fixing, and 4 indicates a problem of catastrophic scale, which may render the product unusable if not fixed. The full report on the inspection can be found in Appendix 2.

In summary, no severe usability problems were found on the inspected landing page. The few cosmetics problems found (1 on the severity rating) concerned the buttons on the page having inconsistent or hard to detect hover effects, and some segments of the page lacking a dominant visual element, creating some imbalance between different segments. The biggest usability problem found (2 on the severity rating) concerned the form on the page, as filling the fields incorrectly and attempting to submit the form did not provide the user with any kind of feedback, which may leave the user under the false assumption of the form being submitted successfully. Instead of an error message, an incorrectly filled field is indicated by an icon. The icon fails its duty in that the color of it blends so well into the palette used throughout the site that it may go unnoticed, as it doesn't draw immediate attention to itself. As all the problems found are rather minor and are easily fixed, the page is in a good state in terms of usability.

7 Conclusion & Discussion

The primary objective of the thesis was studying trends in statistics collected from Naava's website, and through contrasting these trends to concrete changes find the best practices in UI & UX design to increase conversion rate. The thesis was to be formatted in the way that it could be used as a training document for potential new employees working in the field of digital marketing or UI & UX design.

The execution of the thesis took roughly four months and it was just able to stay on planned schedule. Unfortunately, the thesis suffered some hardship due to poor scheduling and because of this, the quality of some chapters turned somewhat lower than originally hoped. Problems with schedule were most apparent during the early phases, but the pace picked up notably towards the end.

Overall, the thesis succeeded in reaching the scope and depth in topics as originally planned and achieved its primary and secondary goals. The results of the data analysis adhered to the practices explored in previous chapters. While not going notably deep into any one subject it covers, the thesis succeeds in introducing a sufficient amount of information in topics most relevant to its objectives and required for understanding them and keeps less relevant topics concise. Though multiple practices with correlation to positive changes in conversion were discovered, the findings could have been much more substantial and greater in scope had all originally planned data been available.

The data analysis suffered from a set of problems, the most significant of which was that many of the updated pages examined had been published for a relatively short time, which made the comparison of the updated and the original difficult, and the end results potentially inconclusive. Additionally, there was difficulty accessing the version history of some web pages due to insufficient rights within the software, which left the analysis narrower than originally planned. However, as the scope and depth of the thesis were set to be considerably vast from the very beginning, being able to adhere to it as closely as possible should be considered a success of its own.

Partially because of the problems experienced throughout execution, and partially due to the scope and relative difficulty of the topic and processes included, the thesis

demanded constant evaluation and evolution of personal working methods. As a result, it succeeded in being a thorough learning experience, in not only the topics addressed in the thesis, but also in self-improvement.

Despite the trouble the thesis experienced throughout its execution, it will undoubtedly prove a useful and valuable resource for the assignor, should they choose to invest in the field of digital marketing and UX and UI design in the near future. Some of its contents will likely be up to date for a long time, however, aspects like the evolution of marketing automation is currently evolving at a rapid pace and requires constant observation and continued study to ensure topicality on the subject.

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Appendices

Appendix 1. Naava Website Metrics Measurements

Appendix 2. Usability inspection AdWords landing page