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FACULTY OF ECONOMICS

MASTER'S THESIS

WEB ANALYTICS USAGE IN E-COMMERCE

Ljubljana, September 2017 PATRICIA BEVC

AUTHORSHIP STATEMENT

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INTRODUCTION

We live in times when it is not always easy to keep up with rapidly changing technology. Many marketers nowadays do understand the potential unleashed by digital shifts, but not all are prepared for it. The reason for success and rapid development of digital marketing lies in its affordability, effectiveness, and the possibility for measurement (Beasley, 2013, p. 2). Using analytics in marketing can significantly increase marketing productivity, but only if a company develops and applies right metrics system. It has to be tailored to company's specific needs and aligned with their business and marketing objectives. Only then it contributes to business benefits (Järvinen & Karjaluoto, 2015, pp. 117–118). Defining a clear process for evaluating marketing campaigns still represents a problem for many companies. Many do not assign clear goals to their campaigns and evaluate them. The major challenges for marketers today are the ability to gain deep insights on customer data and assessing digital marketing effectiveness trough selection of right online metrics (Leeflang, Verhoef, Dahlström, & Freundt, 2014, p. 2).

Digital marketing effectiveness is measured with web analytics, which offers companies a wide metrics system to choose from (Järvinen & Karjaluoto, 2015, p. 177). The main purpose of this thesis is to find out and present how web analytics look like in theory and practice. Goals are to research how Slovenian e-commerce companies use web analytics and to present an example of successful implementation and use of web analytics in practice. Web Analytics are especially important for e-commerce companies, as they generate a large or whole part of their revenue online.

This master thesis will consist of the theoretical and empirical part. Theoretical part presents literature overview on topics of digital marketing and web analytics. The main goal of this part is to present why is the use of web analytics in digital marketing important and what are the prerequisites for successful implementation of web analytics. It explains key terms and the overall web analytics process that consist of the planning process, setting objectives and choosing metrics. Secondary data is collected from the literature that includes books, scientific and technical articles and case studies. This part forms a foundation for creating research questions and hypothesis.

The empirical part consists of quantitative and qualitative research. The purpose of quantitative research is to find out how e-commerce companies in Slovenia use web analytics for marketing purposes. I research what are the metrics that most influence their decisions, how has usage of web analytics helped them to improve marketing and business results and what are the main challenges they face when using web analytics. Data collection method applied is survey. The questionnaire is developed based on literature review. It is sent to e-commerce companies such as online stores and other e-commerce marketplaces. Using data from questionnaire, I tested the hypotheses.

Qualitative research is presented with a case study. The main purpose of the case study is to give an example of implementation and use of web analytics in practice. It presents how web analytics are used for digital marketing purposes in the biggest Slovenian online food-ordering platform. Data collection method for the case study is a combination of observation; semi-structured interview and data collected with web analytics tool Google Analytics.

1 DIGITAL MARKETING

1.1 Introduction of digital marketing

There is a breathtaking revolution happening in the transformation of traditional marketing into digital marketing. The interaction between audience and marketers is becoming faster and richer, with new tools and techniques appearing almost daily (Jayaram, Manrai, & Manrai, 2015, p. 119). Traditionally, marketing was about delivering messages trough paid media channels such as television, radio, and print. Today, paid media also consists of search advertising, display advertising and affiliate marketing that are all happening online. Companies and brands no longer earn media only with investment in public relation but also get word-of-mouth that is further encouraged through social media marketing, participating in social networks and blogs. They also own their online media, such as email lists, website, blogs and social media profiles (Chaffey & Ellis-Chadwick, 2012, p.11).

Nielsen's latest Global Trust in Advertising report has shown that 92% of consumers find earned media (social media, word of mouth and recommendations from friends) trust worthier than any other form of advertising. 82% of consumers would trust a company more if they were present and active on social media. Digital media enable marketers to build relationships online, show care and express an opinion on topics their customer care about. They can humanize the company by developing a personality online (Friedman, 2014, p. 48).

For more than a decade, the Internet has been the world's fastest growing shopping channel (Dawson & Kim, 2010, p. 231). Marketing priorities nowadays are measurement and branding, data and online conversion rates. Last two of these terms were not even part of traditional marketing a few years ago. Digital marketing has gained importance and is now in the center of attention not only for marketers but also for Chief Executive Officers, who as well know the importance of measuring in marketing (Zahay, 2015, p.4).

Florès (2014, p. 3) defines digital marketing as "promotion of products and brands among consumers, through the use of all digital media and contact points." Digital marketing includes all techniques and methods from traditional marketing. One example of that is direct marketing, where marketer communicates directly with the potential customer, but digitally (Florès, 2014, p.4).

Increased use of Internet and digital media in marketing activities has created new terminology and jargon used by professionals and academics. The terms that are often used today are digital marketing and Internet marketing. Digital marketing is different from Internet marketing in the aspect that the Internet is no longer a single contact point. Digital marketing is more than just Internet communication channels. For example, it also uses mobile telephony (mobile applications and mobile text messages) and interactive television. Digital marketing means using interactive digital tools for promotional purposes. The use of this tools is also aimed at developing more direct and personal relationship with consumers (Florès, 2014, p. 4).

Chaffey and Ellis-Chadwick (2012, p. 10) define digital marketing as: "achieving marketing objectives through applying digital technologies." The objectives are to acquire new customers and maintain a relationship with existing ones. With digital marketing, the whole buying process, from pre-purchase to post-purchase is supported through managing different online channels (Chaffey & Ellis-Chadwick, 2012, p. 10).

Technology is an important part of digital marketing, but the most important are still the people. It is about marketers (people) connecting consumers (people) to transmit the message and reach the objectives. For this reason, understanding the people and how they use technology is even more important than understanding the technology itself (Ryan, 2014, p. 12). The reasons why the use of digital marketing is growing are its low costs, greater efficiency compared to traditional marketing and ease of implementation. However, there are many challenges that yet need to be addressed (Ryan, 2014, p. 7).

Being in marketing today is exciting but at the same time frustrating experience. Internet has altered the way brands are built, and businesses are promoted. It is not easy to keep up with rapidly changing technology. Many marketers do understand the potential that digitalization is bringing, but few are prepared for it. Most marketers understand why is it necessary to deploy digital marketing practice in the company, but lack knowledge in how – how to achieve desired outcomes and results, with limited resources (Westergaard, 2016, p. 1).

A survey from Online Marketing Institute that was executed in 2013 revealed that only 8% of brands think that their team is up to speed in digital marketing and strong across all channels. The majority of brands from small firms to global enterprise think that digital marketing is very important but still lack workforce with right digital marketing skills (Leap, 2013). Also, when interviewing the marketers themselves, 40% of them have revealed that they would like to learn more about digital marketing. However, only 14% of them know how to pursue it (Zahay, 2015, p. 3).

Based on the study (Leeflang et al., 2014), there are some common challenges that digital marketers are facing nowadays. The study reveals that among the most important ones are

the ability to gain deep insights into customer data and manage brand reputation in the always-connected world of social media. The third challenge is the assessment of the effectiveness of digital marketing in the company. After identifying the challenges, the study also suggests the improvements. The biggest room for improvement lies in increasing the supply of marketers with well-developed analytical skills. Development and identification of actionable digital metrics and clear decision-making process regarding digital marketing are also suggested to improve (Leeflang et al., 2014, p. 2).

Many challenges that digital marketers are facing today are interrelated to each other. For example, if there were enough analytically skilled marketers, then developing actionable digital metrics would be less of a challenge. With the development of actionable digital metrics, it would be easier to assess the contribution of digital marketing in the company. Additional challenges mentioned in the study include how to migrate users from offline to online while keeping customer satisfaction high, and how to target older people that are not that familiar with the usage of Internet (Leeflang et al., 2014, pp. 7–8).

Challenge for digital marketers today is also the fact that they have to adopt their roles on a constant basis. This also stands for a company as a whole. The more the company can adapt, less difficult it will be to reach success in the modern digital world (Dawn, 2015, p. 22).

1.2 Digital marketing strategy

Even though marketing has been changing a lot in the past years, the principle behind it remains the same. The channels, tools, and tactics may have changed, but there is still a strategy that remains. It means it is as important as always to build a strong brand with a meaningful message to share. Companies always used marketing as a tool to share their message, hoping that this would lead to profitable exchanges (Westergaard, 2016, p. 16).

Digital marketing strategy helps to make informed decisions and to stay focused on what is really important. It has to be coherent, clear and aligned with business goals. It provides consistent direction for company's digital marketing activities. Those activities should support business objectives as well as other marketing activities (Ryan, 2014, pp. 22–37).

What forms the foundation of company's digital marketing strategy, is having adequate knowledge and information about company's business process, about its suitability for digital marketing, difference in online and offline business competitors, possibilities for differentiation and willingness to learn from competition (Ryan, 2014, p. 25). Developing strategy is a process that traditionally requires time and detailed analysis about consumers, markets, competitors, and industry and business models. It gets harder in the digital world, where everything moves fast, new technology can come unaware, competitors are not always obvious, and there is too much information everywhere. Therefore, in digital times, companies need to perform faster, cheaper and better (Outram, 2016, pp. 6–7).

Major steps for creating digital marketing plan are situation analysis, defining and setting objectives and strategy formulation (Chaffey, 2006, p. 152). As two additional steps in creating a digital marketing plan, Chaffey and Smith (2012, p. 538) add choosing tactics, actions, and measurement of success. Digital marketing strategy is primarily a channel communication strategy. It includes elements of different channels and their specific objectives. It maps out different tactics that are used to achieve goals (Hudson, 2016).

1.2.1 Situation analysis for strategy planning

The first step to planning digital marketing strategy is the review of the current effectiveness of marketing activities. It involves a review of existing practices with digital channels and the contributions they are currently delivering. It reviews internal processes as well as external factors. Reviewing current performance unlocks insights on how digital marketing is supporting overall business objectives, how it impacts sales, leads, and value of the customers (Chaffey & Ellis-Chadwick, 2012, pp. 202–203).

Situation analysis is "the gathering and evaluation of information to identify the target group and strategic direction of an advertising campaign" (Situation analysis, n.d.).

A term that often appears in the literature about situation analysis is key performance indicators. In a digital marketing context, they are measurable values that demonstrate how effectively a marketing team is achieving key marketing objectives. At a higher level, key performance indicators measure how effectively the company is achieving key business objectives (Burby & Brown, 2007, p. 6).

Internal situation analysis assesses digital activities using key performance indicators. Most commonly, key performance indicators refer to sales, return on investments, visitors to the website and online conversions (Chaffey & Smith, 2012, pp. 541–542).

The external analysis is an observation of marketplace, customers, and competitors. Widely used models are SWOT (Strengths, Weaknesses, Opportunities, Threats) and PEST (Political, Economical, Social, Technological). SWOT model is essential to develop any strategic plan and connects internal strengths and weaknesses of the company to external threats and opportunities. SWOT analysis is followed by PEST, which takes into account political, economic, social and technologic environment (Davies, John, & Thomas, 2014, p. 620–621). The analysis is important to get a clear understanding of customers, targeted segments and their use of technology. It helps to develop an online value proposition that differentiates the company from its competitors (Swan, 2014). Companies need to pay attention to how people use technology, which channels do they use, what is the new

technology on the rise and also, use explosion in the availability of data to their benefits (Outram, 2016, p. 7).

1.2.2 Defining and setting objectives

Marketing has changed a lot during the past decades. However, the fundamentals of marketing strategy remain the same. Objectives are developed in a time frame that is short enough to be realistic and achievable and long enough to take into account impacts of new technology, and behavior patterns change. Objectives are classified as quantitative and non-quantitative. Quantitative includes expectations about performance, for example, sales growth or return on investment. Non-quantitative objections include decisions on expanding into other markets, developing new products or improving marketing intelligence system (Paley, 2005, p.213).

Asking what are the benefits that marketing can bring helps to develop goals. Some of those benefits are increasing sales and cross-selling to existing customers, selling to new customers or new markets and costs reductions from better customer support or better-optimized communications (Chaffey & Ellis-Chadwick, 2012, pp. 209–210).

Goals for digital marketing campaigns can be building awareness, acquiring new customers and developing customer's loyalty (Florès, 2014, p.40). Goals have to be connected to fundamental goals of a company. An example of such goal is online revenue increase of 20% or for example, generate 50% more leads trough website than last year. Regardless what the goal is, it has to be measurable. Metrics that will measure objectives will also help to adjust the strategy over time (Hudson, 2016).

A framework for setting objectives within the area of efficiency and effectiveness is the balanced scorecards. Efficiency refers to doing activities right whereas effectiveness means doing the right activities. Table 1 shows the example scorecards for setting objectives for a transactional e-commerce website. Objectives are set in financial context, customer, and operational context. For every context, there are objectives in efficiency and effectiveness area. We can see that in efficiency area, the objectives are channel oriented, and more concentrated on what is happening on the website In effectiveness area, objectives are wider and include overall activities' profit contribution, market share, customer satisfaction, operational processes response time and similar (Chaffey & Ellis-Chadwick, 2012, pp. 215–216).

Table 1. Example allocation of Internet marketing objectives within the balanced scorecard framework

Balanced scorecard sector	Efficiency	Effectiveness
Financial results	• Channel costs • Channel profitability	• Profit contributes
Customer value	• Online reach • Cost of acquisition or cost per sale • Customer propensity	• Sales and sales per customer • New customers • Online market share • Customer satisfaction ratings • Customer loyalty index
Operational processes	• Conversion rates • Average order value • List size and quality • Email active percentage	• Fulfillment times • Support response times

Source: D. Chaffey & F. Ellis-Chadwick, *Digital Marketing: Strategy, Implementation and Practice*, 2012, p. 216.

1.2.3 Defining digital marketing strategy

When goals and objectives are carefully planned, the strategy will define how to achieve desired objectives using the available resources. The strategy also defines the choice and use of tactics and the sequence of applying them. Tactics focus on choosing the best combination of tools, online communication mix, and promotion techniques. Each tactic is a small project that requires some dedicated process and action (Chaffey & Smith, 2012, pp. 551–565).

Ryan (2014, p. 33) explains that the main difference between strategy for traditional and digital marketing is in the promotion of the product. He describes 4Ps concept that is relevant in digital marketing today. The place is the first P. In this context, the place is online – on the Internet and therefore represents 2.4 billion people that are connected to the Internet. The second P is the price. In the online environment, the price is transparent which means it is accessible to customers at any time. Price is especially important, as it can be compared with competitors' prices anytime. The product is the third P and the first condition for successful marketing. It proposes a unique value to customers. It is a foundation for sustainable online business and should give the customer a genuine perception of value. The fourth P is a promotion. It is the one that has brought many new options to digital marketers as technology

is constantly advancing. Promotion means marketing communication and includes all activities, offline and online, that aim at acquiring new customers and retaining the existing ones. Ryan (2014, pp. 33–37) lists and describes the main techniques of online promotion as following:

- Website: the website is the place where all the traffic generated trough other elements of promotion eventually end up. It has the power to influence the visitors whether to make a purchase or not. That makes it extremely important if not the most important thing in the digital marketing strategy.
- Search Engine Optimization (SEO): SEO's job is to make sure that the content on the website is accessible to people and to search engines at the same time. The better the SEO, the better the ranking of a website for search terms.
- Pay per click search advertising (PPC): if SEO does not bring the website desired ranking in the search engine, better positions can be achieved trough PPC. PPC roughly means bidding for chosen keywords, where price will depend on the popularity of a website.
- Affiliate and performance marketing is a way of partnering with other websites to promote each other and gain mutual benefits.
- Online public relations: collaborating with press or bloggers for sharing news or content that can help to improve the perception of the brand.
- Social media: an entire branch of digital marketing that includes social channels such as Facebook, LinkedIn, Instagram and Twitter. Targeting trough those channels is incredibly precise as people input all kind of personal information to their accounts.
- Email marketing: used for maintaining a relationship with existing customers and people who shared their email and therefore opted into a relationship with the brand.
- Mobile marketing: lately increasing in popularity with the rise of smartphone use and data connection.
- Customer relationship management: used for developing a long lasting positive relationship with the customers. It is aimed at retaining customers and increasing their purchases in number and value.
- Content marketing: creating content that attracts, acquires and engages the target audience.
- Display media: online videos, banners and responsive ads that enable to target a well-segmented group of existing or potential customers.

When choosing online communication mix, the company has to find the right balance of different communication techniques and use them efficiently to attract, convert and retain customers (Chaffey & Ellis-Chadwick, 2012, p. 241).

Planning strategy also includes decisions on differentiation and segmentation. Differentiation explains how company differs from all the rest of companies in competing and selling a similar product to same customers. Segmentation defines the exact targeted group of potential customers, knowing their preferences and needs. Good marketing plan

constantly communicates unique added value to customers and always emphasizes unique selling proposition (Tracy, 2014).

The growth of digital marketing has been largely supported by web analytics. Web analytics enable marketers to measure their success. Some metrics such as visitors to a website who made a purchase, compared to costs that marketers had to acquire those visitors can provide a clear idea about the effectiveness of marketing (Beasley, 2013, p. 2).

A study that was conducted in the USA in 2010, with 252 companies has shown that 61% of companies do not have a defined process that would allow them to select, evaluate and prioritize their marketing campaigns. Even more companies, 69% do not use a test and monitoring approach to evaluate an impact of their campaigns. 73% of companies do not assign a clear marketing or business objectives for their campaigns before financing them (Jeffery, 2011).

The following chapter presents web analytics, the underlying metrics system and its way to measure the effectiveness of digital marketing.

2 WEB ANALYTICS IN DIGITAL MARKETING

2.1 Key terms and overview

Ever since World Wide Web emerged, digital marketing practices and web analytics development has been growing. In 1993 the first widely used browser Mosaic was launched. Log files have been used to track web requests from the browser. This was the beginning of web analytics, which later got used for different purposes such as e-commerce optimization, marketing optimization, web development, information architecture, improvement of website performance and overall business optimization. Since the beginning, web analytics was used for data collection and analysis of website usage. Today, web analytics is used in many different industries (Zheng & Peltsverger, 2015, p.1).

Burby and Brown (2007, p. 3) describe web analytics as technology and method for collection, measurement, analysis and reporting of websites and applications usage data. Kaushik (2007, p. 5) defines web analytics as the analysis from both, qualitative and quantitative data. This is from company's website as well as from competitor's websites. It is aimed at continually improving the online experience of the customers. Use of web analytics later translates into desired outcomes (such as a purchase) that can happen online or offline.

Web analytics is a way of learning how users interact with mobile apps and websites. It means automatically recording user's behavior, which is later combined and transformed into data. It tells a story of how each user moves through a website. Apart from measuring

campaign outcomes and efficiency of digital marketing, web analytics can also give insights about the efficiency of user interface design and user experience with the website (Beasley, 2013, p. 2). The overall goal of monitoring web analytics is to improve both, digital marketing promotional efforts and website's design (Sostre & LeClaire, 2007, p. 10). Using analytics in marketing to make better marketing decisions can increase marketing productivity by between 15% and 20%. Companies that are already employing advanced analytics see significant improvement in click-through rates and conversions (Edelman, Ungerman, & van Bommel, 2014).

Use of web analytics for optimizing e-commerce is aimed to improve customer acquisition, retention, and orientation on the website. The purpose of analyzing website usage data is to understand customers' needs and to increase traffic which would ultimately lead to higher revenue. Web analytics are crucial for measuring the success of marketing campaigns. For this purpose, web analytics must differentiate between different traffic sources, marketing channels, and visitor types. They enable traffic sources, users and conversions to be correlated with marketing campaigns, channels, and costs spent on each channel. This allows the calculation of returns and evaluation of each channel's efficiency (Zheng & Peltsverger, 2015, p. 2).

In web analytics, there are many series of terms that are used for setting goals and measuring the effectiveness of websites and digital marketing campaigns. Analytics work in term of metrics and dimensions, where not every dimension has metric associated (Zahay, 2015, p. 129). Burby and Brown (2007, p. 3) divide web analytics metrics into three types: counts, ratios, and dimensions. The count represents the most basic unit of a measure, which is a single number (for example number of visits=12,300). The ratio is typically a ratio or count divided by a ratio or count (for example, page views per visit is a count divided by a count). When metrics describe concepts instead of numbers, they are called dimensions. Dimension is a source of data used to represent a fundamental dimension of site dynamics and visitor's characteristics, for example, the name of visitor's country, city or browser. Many metrics can be interpreted as counts, but to be more meaningful, they have to be further segmented. For example, a number of visitors is more meaningful, when it is further segmented by country.

There is often some confusion regarding metrics and dimensions. Metric is a number that simply explains for example, how many visitors come to the website. Technically this number can be expressed as count (total number) or ratio (a division of one number by another). A good example of ratio would be conversion rate. Key performance indicators (KPI) are metrics as well. They are metrics chosen to understand how the company (or marketing campaign) is performing against its objectives. They tend to be unique for each company. Dimension is explained as the attribute of the visitor of the website. Everything that describes visitors, for example where do they come from, their gender, which device they use and similar (Kaushik, 2010b).

Metric alone has little meaning when being analyzed and reported. It is a dimension that provides context for metrics. For example, a number of session on the website can provide more meaning when it is reported as sessions per country, traffic source or similar (Sharma, 2015).

Key performance indicators or key success indicators help to measure and evaluate the effectiveness of company's functions and processes. They provide information on company's progress towards achieving goals (Reh, 2016). They are often ratios; even though they could be counts as well. They are aligned with business strategy, so they are unique to company's website and their processes (Burby & Brown, 2007, p. 3).

There are three different universes of metrics. Aggregate metrics measure total website traffic in selected timeframe. Segmented metrics are aggregated metrics that are filtered in some way, to provide additional insights. For example, total visitors on the website in selected timeframe can be filtered by referrer or visitor type. The third universe are individual metrics, which measure the behavior of a single visitor to the website in selected timeframe (Burby & Brown, 2007, p. 4).

2.2 Web analytics process

Web analytics can bring success only if it is correctly applied. If the results and insights from the process are not used, then using analytics is of little value. The way marketers think, decide and act should be influenced by analytics. In this case, analytics can bring success to the whole organization, not only the marketing department (Rackley, 2015, p. 31).

Use of web analytics is mostly limited to digital environment, but it also has some implications for offline marketing, such as using QR code in print and offline media. The evidence regarding the benefit of web analytics usage in digital marketing can be contradictory. Many case studies have revealed that use of web analytics is beneficial and can increase revenues whereas some studies claim the opposite. Heuristics studies, for example, show that less information can result in more accurate decision making than extensive information. The reason for this is that uncertainty can be easier managed using heuristic rules than rules based on the wider use of data. This tells that use of web analytics itself does not improve results of digital marketing campaigns. Rather, what company gains from using web analytics depends on how it uses the metrics system and if it uses it according to their specific and unique needs. For web analytics to have a positive impact on digital marketing performance, the company has to design and apply their marketing metrics system that will contribute to business benefits (Järvinen & Karjaluoto, 2015, pp. 117–118).

The process should serve as the performance interface to all other marketing processes. For everything that is done in digital marketing (for example email, display ads, search ads) there

is ideally analytics associated with the process. It helps to identify minimum performance metrics for all marketing processes, tracking those metrics, analyzing them and later take improvement actions based on the results of the analysis (Rackley, 2015, p. 46).

Chaffey and Ellis-Chadwick (2012, p. 556) explain that to improve digital marketing and channel contribution, both, quality of web analytics processes, and quality of management processes are important. The quality of web analytics processes highly depends on the right selection of metrics, tools, and possibility to visualize and explain metrics. On the other side, quality of management processes depends on on-time analysis and actions that are taken upon results of the analysis. For the purpose of this thesis, I will focus on web analytics process.

The performance measurement system has to be built in a way that allows improvement of the process. It should define groups of metrics that will be used and provide an assessment of the suitability of tools and techniques for collecting and analyzing data as well as actioning results (Chaffey & Ellis-Chadwick, 2012, p. 559). The struggle to gain value from data is more strategic than it is technical. Tools are of course important too, but it is even more important to have a clear process and well-defined framework. There is no one fit all web analytics framework, so each company has to create a process that best fits their needs. However, there are some frameworks that can help planning web analytics process (Iyengar, 2016).

2.2.1 Planning web analytics

Web analytics process starts with defining a clear objective that is also quantifiable. This can be tied to digital marketing campaign objective, brand objective or broader objective connected to company's long-term strategy. To identify what the company wants to achieve, clear, measurable objectives should be defined regarding gain, increase and keep. For example, that could be gaining new customers, increasing current orders and keeping existing loyal customers. Some general objectives that are used when creating digital marketing campaigns are also building awareness, influencing consideration, improving the sales process, repositioning the brand and growing loyalty. From customer analytics point of view, possible objectives could be reducing customer acquisition costs, selling more per time unit or retaining the customer for a longer time (Laursen, 2011, p. 22). Only when objectives are well defined, the results can be measured. Measuring enables further decisions to be made more objectively and enables management to understand, evaluate and justify its investments (Florès, 2014, pp. 6–8, p. 16).

Waisberg (2011) sums up the process of web analytics in six steps. The first step is defining a clear definition of the business goal. I have written about defining goals and objectives already in the first part of this thesis. The second step is building the relevant key performance indicators. The third step is data collection, followed by a fourth step of data

analysis. The fifth step is testing the alternatives. The sixth step is a presentation of insights, which forms a foundation for decision-making.

Nick Iyengar (2016) presented a measurement framework that helps to accomplish that metrics are collected and reported in the context of business objectives. The measurement framework consists of four steps: Defining business objectives, categorizing business objectives using a framework, developing specific key performance indicators and focusing on segmentation. In this framework, the objectives are put into categories and grouped together according to what goal they fit. They can be grouped, for example, according to goals such as profitability or according to the stage in the customer journey. In that case, each stage in the journey has its objectives. Key performance indicators that are identified should indicate performance. Then, segmentation options are considered and chosen. This means breaking down key performance indicators by geography, landing page, time, device or any other segment that is relevant. Especially important are customer behavior segments. I explain segmentation into further details in subchapter 2.3.5. With such framework, it is easy to see where the company is underperforming. According to that, actions for improvement are suggested (Iyengar, 2016).

Wheeler (2016, p. 51) presents examples of developing key performance indicators according to business objectives. For example, when the business objective is to increase new customer acquisition, the indicators can be a number of new visitors to the website, the number of purchases from new visitors, conversion rate of new visitors and number of new application downloads. A common objective for e-commerce companies is to increase basket size value. This means, trying to incentive people to add more items to the shopping basket or add more valuable items to the basket. The result of this is a higher value of the purchase and therefore higher revenue for the company.

2.2.2 Data collection

When a user visits a website, his or her browser sends a request to the server that is hosting that website. The request is received and processed by the server so code and content are returned to the browser, ready for display. The content contains HTML, CSS and JavaScript code. JavaScript itself has had an important role in web analytics transformation over time (Wheeler, 2016, pp. 73–74). Before JavaScript, web analytics data was mostly collected using web server logging. This is a traditional method where browser creates a text file called logfile, which records server activities and hypertext transfer protocol (HTTP) headers. After JavaScript was developed, a more widely used method for collecting data developed, called page tagging. A small piece of code is added to every page of the website to track user activity and store information in a cookie. It is a preferred method for small and medium websites. Third data collection method that is currently on the rise is application level logging. Application level logging is a functional feature of the application itself. Each

application has its usage data that is collected beyond generic web request (Zheng & Peltsverger, 2015, p. 7).

Using page-tagging method, when the browser loads a page, it hits JavaScript code. When this happens, information about which page just loaded, when it loaded, where the user came from and user's IP is sent to the database. It also places a cookie on user's computer. Cookie lets web analytics tool know if it has already recorded the data from that visitor. Log files data collection method can provide rich data sets, but they are harder to use and implement. On the other hand, page-tagging method is less accurate, but it is easier to get started and use (Beasley, 2013, pp. 25–26). Tracking actions that do not generate a new page view, but they do tell about visitor's behavior on the website, such as item added to basket, requires additional set up. This method is called event tracking. Its prerequisite is a well-structured data model and the knowledge of what exactly needs to get tracked (Kaushik, 2010a, p. 123).

Burby and Atchison (2007, p. 110) organize data into primary and secondary data types. Primary data types are behavioral data, attitudinal data, and competitive data. Secondary data types are customer interaction data, third-party research, usability benchmarking, and community-sourced data. Behavioral data explain how visitors behave during a website visit. It has a great power to explain what is happening on the website but it is not able to explain why are certain things happening. Behavioral data is collected as described above, using different web analytics tools and software. The standard web analytics process normally starts with using behavioral data and then use it to leverage other data types. Attitudinal data explains the reason for different behaviors on the website. Attitudinal studies normally use focus groups and surveys for data collection. Both, behavioral and attitudinal data are great tools and work best when used together. Once the problem is isolated using behavioral data, the reason for it can be explained with attitudinal analysis (Burby & Atchison, 2007, p. 110). Competitive data provides insights about the performance of competitor's website. Third party networks that collect large amounts of data about Internet usage provide competitive data. However, this data can never be as precise as the data that company collects from its website (Burby & Atchison, 2007, p. 114).

Secondary data types are customer interaction data, third-party research, usability benchmarking, and community-sourced data. Customer interaction data is collected through interaction with customers such as call-center data. It provides information on customer's experience with the company. Third-party research is useful when the company needs to get quick information on some topic. Companies that produce affordable reports covering different industries provide it. Usability benchmarking looks at how people interact with different websites. This is valuable because it can explain how one company is doing compared to other companies that are doing the same thing. Community sourced data is collected by following different online communities where people discuss on relevant topics. Those are websites where people are honestly and openly speaking, which makes them good for measuring brand perception (Burby & Atchison, 2007, pp. 116–119). For the purpose of

this master thesis, only behavior data that is collected with web analytics tools will be covered.

2.2.3 Tools selection

Web analytics tools are used for click-stream data collection, user navigation paths tracking and data presentation. There are many different tools available, differing in price and level of sophistication. One major concern for companies is the reliability of tool. Choosing the right tool is important because it has strategic implications in the longer term and is a foundation for effective decision-making. Most companies decide on the tool with feature comparison, which is common for comparing IT products. However, feature comparison does not take into account unique organizational needs that company might have (Nakatani & Chuang, 2011, p. 172).

Each web analytics tool is complex and has some unique functionality. Some of them are offered for free while others are open source, licensed or high-end enterprise software (Bettag, 2012). Tools that are not free, often use a subscription model in which companies pay monthly or yearly subscription fee. There is also the cost of time and people that are involved in tool implementation and maintenance. When evaluating different tools, it is recommended to compare them in tracking methods, data storage options, ability to track mobile devices and the time lag between data collection and reporting (Farney, McHale, & Library and Information Technology Association (U.S.), 2013, p. 34).

The most used tools for clickstream analysis are Omniture, Google Analytics, Xiti, Webtrends, Coremetrics, and Clicktracks (Kaushik, 2010a, p. 12). Most of the tools such as Google Analytics, Adobe Analytics, and KissMetrics work in the same way. They use page-tagging method for data collection. The difference between tools is how they store data in the database and the way that data is available for queries and analyst's reports (Wilson, 2010). Tools are also distinguished regarding how they access to web analytics functions. They can be provided as software as service or software that is installed in house (Nakatani & Chuang, 2011, p. 174).

Most favorable web analytics tool nowadays is Google Analytics. It uses page tagging data collection method, which makes it simple to deploy and use (Wang, Shen, Chen, & Wedman, 2011, p. 22). It is estimated that Google Analytics is installed on 30 to 50 million websites worldwide (McGee, 2015).

2.3 Metrics and key performance indicators

Kaushik (2010a, p. 37) explains the difference between metric and key performance indicator. He defines metric as a quantitative measurement that explains events and trends

that are happening on the website. Key performance indicator itself is metric as well, but it is different because its main aim is to explain how successful is a website or a company in achieving its goals and objectives.

Deciding how marketing effectiveness is measured means choosing the right metrics and defining key performance indicators for online presence such as unique visitors, repeat visits, subscription rate, conversion rate, churn rate, click-trough rate and similar. Key performance indicators are used for current situation review; planning desired outcomes of future campaign and evaluation of those outcomes (Chaffey & Ellis-Chadwick, 2012, p. 203).

The effective metrics system is likely to differ for each company. Therefore, building a metrics system has no clear standards that would fit the needs of every company. Every company has to build metrics system according to its specific and unique circumstances (Järvinen & Karjaluoto, 2015, p. 119). Even though metrics and key performance indicators are unique to each company, there are four attributes that all great metrics have in common. They are easily measured, directly correlated to business performance, predictive of future business performance and comparable to competitor's metrics (Trammell, 2016).

Key performance indicators are divided into leading and lagging performance indicators. Leading performance indicators give insights of what might happen in the future and can, therefore, predict future performance to some extent. For example, if repeat sales are falling over time, this might be an indicator of a decline in sales in future. Another warning sign could be when online sales are increasing at a lower rate as the online audience. Lagging performance indicators, on the other hand, indicate past performance. They suggest corrective action for better future performance (Chaffey & Ellis-Chadwick, 2012, p. 218).

Web analysis is split into macro and micro analysis. Macro analysis tells about visitors on the website, their referrals, what are the most visited pages and landing pages, and where visitors abandon the website. It includes keywords and other websites that bring traffic to the site. For visitors and visits, the longer-term focus is very important as it can unlock trend data. Macro analysis is important to get a wider picture of the matter and is done before microanalysis (Kaushik, 2010a, pp. 70–73).

Microanalysis, on the other hand, consists of small parts that form a bigger picture. It is focusing on smaller details of visitor's behavior, such as adding an item to the cart. It is the analysis of the behavior that starts the relationship and could end with macro goal completion such as a purchase (Webster, 2014).

Macro level effectiveness metrics assess to what extent strategic goals are reached and how digital marketing contributes to company's revenue and return on investment. Microanalysis metrics further assess the efficiency of digital marketing tactics and implementation (Chaffey & Ellis-Chadwick, 2012, pp. 561–562).

Metrics and key performance indicators are best understood when they are put in the context. It is not possible to make sense of data without comparing it – either time-to-time, different segments or average performance. Focusing on proportions, rather than absolute numbers provides more meaning and context (Beasley, 2013, pp. 19–20). Study (Leeflang et al., 2014, p. 8) revealed most common problems that companies face with the creation of actionable digital metrics. Those include disability to quantify the financial impact that metrics have on business and difficulty to understand what this metrics measure. The problem is also that metrics are not directly comparable with traditional metrics and do not help identify non-financial behavioral predictors. It is also difficult to choose the most important metrics in the flood of online metrics.

2.3.1 Clickstream analysis

Clickstream data is collected by tracking visitors mouse clicks on the website. It gives insight on how visitors move through, respond to different marketing offers and order trough the website. With clickstream data, marketers can evaluate how appropriate is website's content and how efficient is the overall website performance. It is used to improve the overall efficiency and effectiveness of their digital marketing activities. Clickstream data analysis provides marketers information on their website visitors, which pages they visit, how long they stay, what products and services interest them most and what they purchase (Dale Wilson, 2010, p.177).

Standard clickstream metrics are visits and unique visitors, time on page and time on site, bounce rate and exit rate, conversion rate and metrics that measure engagement (Kaushik, 2010a, pp. 37–56). The engagement is measured with metrics such as time on site, depth of visit, the frequency of visit, subscribing, commenting or downloading something from the website (Kaushik, 2010a, p. 57).

Synonym for a visit is **session** or **user session**. It represents time from the moment visitor logs on the website until the moment that he or she leaves the website. When visitors remain inactive for 30 minutes, most web analytics tools end session. Visits can provide useful insights, especially when they are measured in the longer term. In that case, trends over time are explored (Wang et al., 2011, p.23). Session is an interaction between website and individual that is made of one or more requests for a unit of content, such as a page. When an individual does not take another action such as another page view, visit session ends. Not all web analytics tools track visits and session in the same way (Burby & Atchison, 2007, p.240).

Metric similar to visits or sessions is **unique visitors.** The main difference between visitors and unique visitors is that unique visitor's metric count each visitor not more than once in a

longer period. This is done with the use of cookies. This kind of measuring will not always be perfect as users can delete their cookies or browser can reject cookies (Kaushik, 2010a, p.38).

Time on page and **time on site** are metrics that measure time spent on each page of the website separately, and total overall time spent on the website (Kaushik, 2010a, p.45).
Average overall time spent on the website can provide insight on visitor's stickiness and can suggest a degree of engagement (Wang et al., 2011, p. 23). However, Ogonowski (2015) argues, that long time spent on the website is not always an indicator of deep engagement. It could also mean that information is hard to find due to website's poor navigation. Therefore, these metrics need to be measured in the right context. Another drawback is that web analytics tools cannot accurately calculate time when only one page is visited on the website. In that case, time on page and time on site showed in the web analytics tool are 0, even if that is not the case.

Bounce rate measures user behavior and shows the percentage of visitors that leave a website after seeing only one page. Those are visitors that leave without further exploring (DeMers, 2014). This metric measures what percentage of visits was a single page visit. It is important because it can indicate which pages are irrelevant to visitors. If the overall bounce rate is high, the website needs further optimization. There is no need to optimize every single page, but rather focus on optimization for most profitable pages on the website (Sharma, 2016).

Exit rate measures the percentage of visitors that leave website on a certain page. It explains which is the last page that was visited on the website, before visitor left (Kohn, 2010).
The difference between exit rate and bounce rate is that latter measures percentage of visitors that have seen only one page. Exit rate, on the other hand, tells the percentage of visitors that left from a certain page, regardless of how many pages they have seen. The exit rate might not be the best one to explain the success of each page. For that, bounce rate is a better metric (Kaushik, 2010a, pp. 54–55).

Depth of visit or page depth measures the number of pages visited in a single session (Depth of visit, n.d.). Although it is similar to page view metric, it is different because it cannot be aggregated. Page depth explains how many sessions have, for example, one or two page views in selected period. In contrast, page view metric only tells how many page views there were all together in selected period (Sullivan, 2016).

Frequency of visit explains how many times on average visitors visited the website in a defined timeframe. It is especially insightful when it is further segmented according to different visitors. For example, e-commerce companies compare the frequency of visit of their customers versus non-customers (Peterson, 2005). Similar metric to the frequency of

visit is **days since last visit** metric. It explains how many days have passed between visitor's last visit and the visit before that (Lewis, 2013).

Conversion rate is an especially important metric for e-commerce. It represents the percentage of visits or sessions that end with the transaction. However, the transaction is not the only possible conversion. For example, conversion for a lead generation website can be the percentage of visitors that leave their contact details. Similarly, conversion for support website can increase the percentage of visitors that successfully find contact information for support personnel (Gudigantala, Bicen, & Eom, 2016, pp.83–84).

The conversion rate is calculated as an outcome (conversion) divided by a number of unique visitors or a number of visitors. Which metric is chosen in denominator depends on the objectives and what exactly conversion is. Some conversions can be done several times per visitor and some cannot. Tools such as Google Analytics use sessions as denominator by default (Kaushik, 2010a, pp. 55–56).

2.3.2 Paid media campaigns

Paid media campaigns include all promotional placements that are paid. Examples of paid media in the digital world are display and search advertising. Paid media campaigns bring traffic to owned media and hopefully generate more earned media. In measuring paid media, traditional frequency and reach metrics are nowadays complemented by direct response data. These are metrics such as clicks, click-through rates, cost per clicks and cost per action (Cuthill, 2013). There is a wide selection of paid media techniques, used to leverage owned media and gain earned media. Social media platforms such as Twitter, Facebook, LinkedIn and Pinterest all include advertising option that helps to promote company's content and exposure (Meyer, 2015).

The main concern for every digital marketer is efficiency and effectiveness of paid media campaigns. Marketers have to know and understand spending within different channels. They have to optimize returns that are coming from that spending. Engagement lately became an important value to measure success, which raises the importance of video play, field input, and ultimately conversion against an outcome from engagement (Wheeler, 2016, p.151).

Paid media campaign analysis consists of campaign response analysis, website behavior analysis, and campaign's outcomes analysis. Each part has its specific metrics (Kaushik, 2010a, p.120). In this chapter, I am presenting campaign response metrics. Website behavior and outcomes analysis metrics are covered in other chapters.

Basic metrics for evaluating campaign response for display and search advertising are the cost per thousand impressions, click trough rate, view through rate and cost per click (Batra, 2014). After an explanation of those metrics, I will also briefly touch keywords analysis and explain basic metrics for evaluating social media and email campaign responses.

Cost per thousand impressions or CPM is defined as a method to compare costs between alternative media. It represents a cost that occurs to reach one thousand people to see an advertisement (cost per thousand impressions, n.d.). In digital marketing, CPM represents the cost that occurs when the ad is shown one thousand times. It is informative about costs, but it is not the metric to determine campaign success regarding its objectives. However, it is used to compare different ad placement's costs (Wheeler, 2016, p.156).

Click trough rate, or CTR is the ratio of impressions that led to click in total ad impressions. The higher the CTR, the more efficient the campaign regarding bringing traffic to the website. High CTR normally means that advertisement is relevant to people. It implies that ad is of high quality, which can lead to lower cost per click (Kim, n.d.).

Similar to click trough rate, **view-trough rate** or VTR is the ratio of view-trough impressions in total ad impression. View through means a response to an advertisement in some time after impression. The response can be website visit or conversion. Unlike click trough, view through does not respond immediately. Another difference between click trough rate and view through rate is that first one has a landing page determined. After people click on an advertisement, they come to the certain landing page. This does not happen with view through. View through rate is a percentage of visitors that have visited the website in some time after the advertisement was showed to them. Those visitors did not click immediately, but have seen the advertisement and later come to the website (view through conversion, n.d.).

Cost-Per-Click or CPC represents the cost of a single click on an advertisement in pay per click campaign (Noll & Brashier, 2010, p. 140). Click in cost per click and click trough rate refers to click trough to marketer's landing page or any other page that was targeted with the advertisement. Optimizing click trough rate can lead to higher or lower cost per click, depending on how expensive it is to reach an audience that is expected to be most interested.

None of the above metrics can measure the success of business outcomes. However, they measure the success of advertisement's content. They help with improving creative and texts to get more clicks (Wheeler, 2016, p. 158).

The analysis that is specific to search advertisement campaigns is **keywords analysis**. Keywords analysis includes information on clicks, costs and clicks trough rates for each keyword specifically. It explains what is keyword's contribution to traffic on website,

conversion, and revenue. Also, keyword position explains what is the position of each keyword that company is competing for (Kaushik, 2010, p. 111–112).

Social media advertising contribution is measured regarding financial and non-financial impacts. Financial metrics, such as return on investment provide only partial information on social media's contribution because they do not measure community reactions and interactions with the brand. Metrics that refer to interactions, awareness, engagement, relevance and word of mouth are non-financial metrics used for measuring social media advertising success. Examples of these are "likes" and "shares" on Facebook and "tweets" and "retweets" on Twitter (Agostino & Sidorova, 2016, p.41).

Campaign response metrics for email campaign performance measurement are the delivery rate, open rate, and click rate. Delivery rate tells how many emails are successfully delivered to the recipient without bounce back. Open rate is a percentage of people who open email out of all people that receive it. Click to open rate measures percentage of people who click email out of those who open it. Subscriber retention rate tells the percentage of people who are still opting in for emails, divided by all subscribers that company has had since the beginning (Kaushik, 2010, p. 120). Churn rate is another metric to keep track on what is happening with subscriber's list. It determines how email list is either growing or shrinking considering number of subscribers lost and gained (Gotter, 2016).

To get greater insight on the success of email and paid campaigns, marketers examine what happens on the website and how deep do visitors navigate, after seeing and clicking the advertisement. To do that, clickstream analysis metrics mentioned in the previous subchapter and channel evaluation metrics in the next subchapter are used (Plaza, 2009, p. 474).

Metric that tells about business outcomes generated from advertising campaign is the **cost per acquisition** or CPA. It determines budgets as well as anticipated profits. It measures the cost of actual sale that happened as a result of advertising (Noll & Brashier, 2010, p. 141). The focus of cost per acquisition metric is business result such as customer acquisition and conversion. Because results often happen after multiple interactions, cost per acquisition is not measured regarding paid media only. Instead, costs occurred by paid media are summed to other marketing costs. All marketing costs are divided by a number of acquisitions, which represents cost per acquisition. The metric is also used to calculate other outcomes-based metrics, such as return on investment. Increased cost per acquisition does not necessary mean a lower return on investment if the increase in spending causes greater corresponding returns. The target for cost per acquisition is set according to expected returns (Wheeler, 2016, pp. 158–159). Variations of cost per acquisition for different traffic sources and between different product categories are used as leading performance indicators (Chaffey & Ellis-Chadwick, 2012, p. 218).

Every paid campaign is evaluated according to goals that are set for that campaign. When the goal is a purchase, then two important metrics to evaluate it are conversion rate and campaign profitability (Vaughan, 2011). In email campaign context, conversion rate represents the percentage of people who have received email, visited the website and completed transaction in all people that have received email (Kolowich, 2016). Similarly, the conversion rate for search and display advertising is a percentage of people who clicked advertisement and completed the purchase on the website (Vaughan, 2011). Metrics to evaluate profitability of campaigns and channels are explained in the next subchapter.

2.3.3 Channel evaluation

Scott (2016) argues that web analytics tool Google Analytics have changed the way people use marketing terminology. Traditionally, advertising channel meant a channel that transmits the advertising message to the audience. The term referred to a place that enables transmission of content or message to the audience. Nowadays, in web analytics tools, a channel refers to sources that bring traffic to the website. For example, a channel in web analytics tool can be direct traffic, organic search, display network, search network, social media or email (Scott, 2016). For the purpose of this subchapter, I will refer to channel in the same way that web analytics tools do.

It is often difficult to evaluate which channel contributes most to marketing success and how do channels influence each other. Accounting all value to final touch point would not present a realistic evaluation of marketing campaign. For this reason, different attribution models help to assign right value to the right channel (Anderl, Becker, von Wangenheim, & Schumann, 2016, p.457). The main purpose of attribution analysis is to decide on budget allocation for different channels (Kaushik 2010a, p. 365).

Traditionally, main models in attribution modeling are the last click, first click, even-click and split credit model such as time decay (Kaushik 2010a, pp. 362–363). A simple rule that was first adopted among marketers was last click model or last touch model. With that model, the last advertisement viewed by consumer gets all the credit for the conversion. The model is simple, but it ignores the importance of all advertisement impressions except the last one (Shao & Li, 2011, p. 259). First click model assigns all the credit to the first touch point. It favors customer acquisition, but it is likely that it is very inefficient (Levy, 2016). Even click model or linear model is the simplest model for multi-touch attribution modeling. It evenly applies the credit to channels in the customer journey. Its drawback is that it does not pay attention to varying impact of different channels (Con, 2016). Time decay model assigns credit to different channels, based on numbers of days that passed since last interaction before conversion. Last touchpoint channel before conversion gets most credit, second last touchpoint channel gets a bit less credit and so on. Among the models mentioned, time decay model is the most advanced one (S. Reh, 2015).

Each company can either use an established model or create its model to best assign value for conversion to different marketing channels. Model is built according to company's attitude towards business, customers, and conversions (Kaushik 2010, p. 364). Measuring attribution is very important in companies where visitors of websites do not convert immediately, meaning that metrics days to conversion is higher. It is useful to explore which campaigns bring visitors that need more days to convert versus fewer days to convert (Kaushik, 2010a, p. 359).

Regardless which model is used for assigning a value to different channels, every channel's success is evaluated with most common metrics. Analysis of the effectiveness of website's traffic sources or channels explains how visitor's behavior is different in sessions that come directly, from links, search engines or advertisements (Plaza, 2009, p. 474). It also identifies important affiliate websites and reveals characteristics of users (Wang et al., 2011, p. 22).

Channels are evaluated in terms of channel promotion, channel buyer behavior, channel outcomes and channel profitability. Channel promotion measures which channels have generated traffic to the website. It is evaluated regarding volume, quality, and value of a referral. The campaign is successful when the amount of traffic and its quality is as it was planned. Metrics measuring traffic volume are sessions and unique visitors. To measure the quality of each channel, bounce rate, cost per acquisition and contribution to goal (such as sale) are applied. Furthermore, marketers calculate the percentage of sales from the certain channel in total sales (Chaffey & Ellis-Chadwick, 2012, p. 563). Channel buyer behavior provides insights on visitor's behavior, such as which pages they visit, the number of pages they view per visit and time they spend on the website. Also, it identifies what percentage of visitors complete goal regarding website objectives. Important metrics for behavior evaluation are bounce rate, stickiness and repeat visitors (Chaffey & Ellis-Chadwick, 2012, p. 563). Bounce rate indicates which channel brings most interested people to the website (Plaza, 2009, p.477).

Stickiness is measured with different metrics such as page depth, percentage of new versus returning visitors and visitor loyalty. All together they provide information on website's quality and visitors interest in the website (Sasthi, 2010). **Repeat visitors** represent a number of unique visitors, whose activity consists of two or more visit of the website during selected period (repeat visitors, n.d.).

Key marketing objectives such as sales, leads, conversion rates, customer acquisition and retention can be compared across channels. Channel outcomes analysis explains which channel is most effective according to those objectives and how it contributes to overall success. Desired outcomes of the website include email subscriptions, registrations on site, information requests and sales on site. To measure them, conversion rate and attrition rate are applied. Conversion rate was already explained in the clickstream section of this master

thesis. It is the percentage of visitors on the website that complete an action such as purchase or registration, email sign up or similar. **Attrition rate** indicates the percentage of visitors that leave website at each stage of the conversion funnel. It helps to identify what might be reasons that visitors are not converting. There is normally high attrition rate between adding an item to basket and purchasing the item (Chaffey & Ellis-Chadwick, 2012, p. 564).

The most important objective in every e-commerce company is revenue generation and the overall business profitability. Channel profitability evaluation involves revenue and costs associated with website and channels (Chaffey & Ellis-Chadwick, 2012, p. 565). Two metrics for measuring channel profitability are a **return on investment** or ROI, and **return on advertising spend** or ROAS. Return on investment is a wider term and includes return on investment as a whole (Mayer, 2015). Traditionally, return on investment is measuring net gain or net loss, compared to the cost of starting an action. This provides data that determines the change in effectiveness. Marketers nowadays do not always use same formulas for calculating return on investments. For example, only to measure return on investment of social media, more than 14 formulas exist (Crumpton, 2014, p.98).

While return on investment is optimized for strategy, return on advertising spend is optimized for tactics. Return on advertising spend only measures gross revenue generated from investment in advertising. It measures the effectiveness of online campaigns, omitting the effectiveness of other business functions (Mayer, 2015). It describes profits that occur as a consequence of advertising campaign. With this metric, advertising campaigns are measured in terms of their effectiveness. To calculate it, revenue generated from advertising is divided by amount spent on advertising. Measuring return on advertising spend is critical because it reveals information on which campaigns and channels are more profitable and therefore worth spending on (Lake, 2016).

To conclude, evaluating the quality of traffic that comes from different channels is very informative in many ways. Not only it tells where visitors are coming from, but also which channel is the source of most desired visitors and brings the best outcomes (Pagano, 2009, p. 330).

2.3.4 Customer lifetime value

Assigning a specific value to different customers enable companies to allocate resources according to the needs of different customer's groups. One of the key concepts for evaluating customers is customer lifetime value (Safari, Safari, & Montazer, 2016, p. 447).

Measuring and calculating lifetime value focuses on real, longer-term success, instead of simply measuring short-term conversions rates. It enables marketers to find customers that create value for the company in the long term and explore which are the channels that bring

most valuable customers. Customer base can be segmented by conversions (purchases) over a longer period. This provides information on the behavior of most valuable customers as well as the costs to acquire them (Kaushik & Hughes, 2010).

Customer lifetime value is a total value that customer will provide during a relationship with the company. It includes expected revenue that one particular customer will generate in the future. Customer lifetime value is calculated for different customer segments, which helps to evaluate most valuable customers. Calculating and knowing this value is important for marketers to know how much to invest into acquiring new customers. Knowing customer's lifetime value helps to plan customer acquisition programs, compare critical target segments and measure effectiveness of customer retention. Segmenting customers according to their lifetime value helps to adopt message and budget for marketing campaigns for each customer group (Chaffey & Ellis-Chadwick, 2012, p. 342).

Calculating customer's lifetime value uses advanced statistical models. Two such models are historic and predictive calculation. The historic calculation gives a rough indication about customer's lifetime value and simply sums all gross profits from every historical purchase of one individual customer. Predictive customer's lifetime value forecasts the lifetime value of one individual customer using previous transaction history and different behavioral indicators (Gotham, 2016). In this chapter, I do not focus on advanced statistic calculation of historic or predictive customer's lifetime value. I present web analytics metrics, which are used to explore the value of customers and can be found in most web analytics tools. Web analytics metrics that can explain customer's value are recency, frequency, latency, hurdle rate and customer retention rate.

Recency is a number of days gone by since customer completed an action such as log in, purchase, registration or similar. Recency is a powerful predictor of the likelihood that customer will be repeating an action (Chaffey & Ellis-Chadwick, 2012, p. 348). Applying various segments when exploring recency helps to find the type of most desirable customers, or identify groups of customers whose behavior can be improved (Lewis, 2013). After marketing campaign is finished, it is important to not only check results regarding conversions but also keep measuring newly acquired customer's behavior. This is done with recency. It gives information on how many newly acquired customers remain interested after time passes by (Kaushik, 2010a, p. 328). **Frequency** is a number of times action is completed in a period of time. For example, how many times do customer logs in the website per month or how many purchases he or she finishes over a year (Chaffey & Ellis-Chadwick, 2012, p. 348). Frequency metric is less known than page visits metric It measures number of times a specific user visits a website inside a certain period (Youn, 2014). The drawback of recency and frequency is that they do not explain how much profit one customer generates over time (Kumar et al., 2013, p. 339). However, they can show patterns in behavior. When visitors are segmented to customers and non-customers, those metrics can spot the differences in

their activity. This data is useful for identifying patterns in behavior, which helps decision-making on digital marketing campaigns (Lewis, 2013).

The **hurdle rate** is a percentage of customers that complete a particular activity or perform an action in a certain timeframe. For example, hurdle rate is a percentage of customers that complete second purchase in last few months. The metric is used in email marketing, customer engagement with social media or to analyze purchasing behavior on the website (Chaffey, 2015). The hurdle rate is connected to recency and frequency. When it refers to customers that have performed an action since the certain date it refers to recency. When it refers to customers that have performed an action certain amount of times since certain date, it refers to frequency. If the proportion of customers who have managed to come over a hurdle connected to recency or frequency is growing over time, marketing is effective, and business is healthy (Novo, 2000).

Latency is average time between customer events in the customer lifecycle. It includes the average time between website visits, the average time between second and third purchase and similar. It is beneficial for the company to put in place triggers that would alert when the customer is not behaving inside the norm, for example, increased or decreased interest. The not usual behavior can then be managed using e-communications such as emails (Chaffey & Ellis-Chadwick, 2012, p. 348). Using analytics across customer's lifecycle suggests value-generating behaviors. It enables better targeting, and provide information on when to cross-sell or upsell to customers. Digital marketing campaigns are organized accordingly (Sridharan & Purcell, 2015, p.4). When marketers know latency, they know when approximately customer would move from one activity event to another. This helps them to tailor marketing communication according to where in the lifecycle their customers are (Novo, 2001).

Customer retention rate tells how loyal customers are to a company. It explains what is the proportion of people that were customers certain time ago and are still active customers today. Retention rate includes time span between two purchases and looks at the loyalty of customer's trough longer term (Jenkins, 2016). Retention rate does not take new customers into account. It is reverse metric from customer churn rate. Because it is normally cheaper to retain a customer than acquire a new one, increased retention rate leads to cost saving. Retention rate provides useful information on how loyal customers are and how good customer service is (Carpenter, 2015). A low number of direct traffic to the website could suggest that there are some problems with customer retention (Kaushik, 2010a, p. 78). Customers that purchase frequently, have purchased recently or have spent more money on purchase are more likely to purchase again. This is why promotion to these customers can be more effective than acquiring new, which makes all of the above metrics important (Novo, 2000).

2.3.5 Metrics for E-commerce Company

The goal for e-commerce companies is not to get as many people to the website as possible, but rather attract right potential customers that will make a purchase and increase conversion rate (Kaushik, 2010, p. 109). For many years, revenue growth has been one of the most important metrics for e-commerce companies. However, competition got stronger, and revenue generated by e-commerce is growing slower than the competition. Nowadays, importance shifted from revenue growth to profitability metrics. This is because focusing on revenue growth means focusing on new customer acquisition that leads to high expenditure on marketing and advertising. On the other hand, focusing on profitability means focusing on customer retention and maximizing customer lifetime value. Acquiring new customers is expensive and often brings negative returns on advertising spend until purchases that occur after first purchase. Nowadays, e-commerce companies question how to maximize return on advertising spend, increase lifetime value and reduce costs (Hanlon, 2016). All of those metrics are covered in previous chapters.

The main prerequisite for every successful e-commerce website is the ability to generate business transactions. Websites that fail in creating positive user's experiences may cause people to rather shop in physical stores. Marketers of such websites need the right information on website performance if they want to improve effectiveness and usability (van der Merwe & Bekker, 2003, p.330). All metrics that were described by now in this master thesis can also be applied to e-commerce companies. However, in this chapter, I will highlight and explain some metrics that are applicable to e-commerce. These metrics are divided into two groups, purchasing process metrics, and financial performance metrics. Purchasing process metrics are cart and checkout completion or abandonment rate. Financial performance metrics are average order value, order conversion rate, days and visits to purchase and average items per cart (Hasan, Morris, & Probets, 2013, p. 236).

Cart abandonment rate explains what is a percentage of people that have put something to the shopping cart but did not proceed to checkout. It is calculated as a number of people that start checkout process divided by all people who have added an item to the cart (Kaushik, 2010a, p. 152). Statistics from Barilliance (2016) have revealed that average cart abandonment rate during Black Friday and Cyber Monday in 2016 was 68.8%. It was highest among mobile users and lowest among desktop users. Marketers have used that data to target people who have abandoned cart with email and others marketing campaigns. According to Statista (2016), three major reasons why people abandon carts are that unexpected costs occur, they did not intend to purchase at all, or they find a better price elsewhere. Same experience that user has during pre-checkout shopping stage should continue during the checkout process. If experience does not match, the website might fail in fulfilling customer’s expectations. This increases the risk of cart abandonment and loss of a customer (Rajamma, Paswan, & Hossain, 2009, p. 193–194).

Checkout abandonment rate is a percentage of people that leave checkout process in the last step before purchasing. This most commonly happens because of shipping costs, shipping times, too long checkout processes, sign-up problems or bad performance of the website (Baxmann, 2016). Both cart and checkout abandonment rate metrics give clear identification of problems in the checkout process. It is a warning signal if people are putting items to cart, but not moving to checkout or not completing checkout. When this happens, more metrics for customer behavior need to be evaluated to gain information on possible reasons for abandonments (Kaushik, 2010a, p. 152).

Average order value is a simple metrics that divides total revenue by a number of orders. Increasing average order value is one way to increase overall revenue. To increase it, marketers set free shipping threshold, offer discounts on a certain minimum amount of purchase or offer limited period promotions (Nagpal, 2013).

Order conversion rate is a very important metric for e-commerce companies, as company's revenue depends on it. It is a percentage of visits that finish with the purchase transaction. The websites that meet visitor's expectations face higher conversion rates. Conversion rate does not only depend on website satisfaction, but also on purchase intention. When website attracts more visitors with higher intention to buy, its order conversion rates are higher (Gudigantala et al., 2016, p. 82). However, not everyone's purpose of visiting an e-commerce website is buying. Therefore, if order conversion rate is 2%, it does not mean that there is an opportunity of converting the rest 98% of visitors. There might be a chance that many visitors come to the website only to, for example, read the blog and have no intention to purchase. The real purpose of visiting a website can be understood with checking behavior data or performing on-exit surveys (Kaushik, 2010a, p. 155).

The combination of order conversion rate, time spent on website, cart and checkout abandonment metrics can identify usability problems in purchasing processes. E-commerce websites that have problems in purchasing processes are normally facing low order conversion rates, the low value of the percentage of long visits and high cart and checkout abandonment rates (Hasan et al., 2013, p. 237). Often, people do not make a purchase right after visiting the website for the first time. They rather explore, leave, come back and read more, leave again and eventually come back and make a purchase. That is why it is useful to measure visits to purchase and days to purchase. It provides great insights about the behavior of the customers (Kaushik, 2010a, p. 84).

Days to purchase is an average number of days that passed by from first website interaction to purchase (Kaushik, 2006). Often, users visit website many times before they finally decide to purchase. For this reason, it is important that marketers do not unnecessarily push on visitors that are not yet ready to convert. At this point, visitors should not be scared away with unnecessary registrations. 90% of orders of more expensive purchases that resulted

from certain marketing campaign were received in 18 days after the campaign ended. For cheaper items, on the other hand, it took 11 days to receive 90% of orders (Nielsen, 2005).

Visits to purchase is an average number of visits to a website that happens before the visit that results in a purchase (Campbell, 2016). Both metrics are useful to plan marketing campaigns. When there are several days between first visit and purchase, marketers give additional information about products instead of pushing them into buying. On the other hand, few days to purchase indicates impulse shoppers. For them, corresponding marketing communication is chosen (Kaushik, 2010a, p. 153).

Apart from many metrics, there are also two web analytics dimensions that are used in e-commerce companies. With **product** and **product category** dimensions, marketers can segment users according to what products or what category of products they are buying. It is a relevant way to distinguish users (Beasley, 2013, p.62). To increase conversion rates and gain long-term revenue from customer retention, marketers focus on **segmentation**. Segmentation enables better insights into the customer base, which leads to better-tailored communication for each particular customer group (Wong, 2016).

Segmentation means grouping customers with similar characteristics together. Customers can be grouped together according to their demographic data such as gender or age, or according to their behavioral data. In latter case, customer segmentation with recency, frequency, and monetary value is one of the most effective methodologies (Sarvari, Ustundag, & Takci, 2016, p. 1134). Customers are segmented according to their behavior, based on how many purchases they completed, what were they most interested in and similar. Developing key performance indicators for every segment enables complete coverage of users base, without overlapping (Iyengar, 2016). Segmentation can be done according to almost any metric or dimension that exists in web analytics tool, including all the metrics mentioned in this master thesis. It can be done with a combination of different metrics and dimensions regarding 'or' or 'and' statements. Website users are different to each other, and that is why they also have to be taken into account differently. Segmentation provides deeper insights and brings extra value (Beasley, 2013, p.145).

2.4 Drawbacks of web analytics

Web Analytics has developed from simple log based files to sophisticated tools in the last decades. Despite this development, web analytics is still not perfect (Wheeler, 2016, p. 73). Two major issues and concerns in use of web analytics are privacy and data accuracy. Use of individual customer data is ethically concerning. When companies collect all levels data, a high degree of responsibility regarding data privacy and security is required at all levels. This includes complying with regulations regarding data collection. Companies have to obtain permission from customers to collect their data and at any point, provide opt-out

possibilities for those customers that do not want to share their information (Kumar et al., 2013, p. 344).

There are many privacy settings that can affect data tracking and accuracy. As web analytics largely depends on the use of cookies, blocked cookies can lead to missing information. Users can manipulate and change their settings to protect own privacy. An example of this is the private mode of browsing, which is an option in most browsers. Users can set a "Do Not Track" (DNT) in Hypertext Transfer Protocol (HTTP) header. With DNT, web server and JavaScript clients do not track them (Zheng & Peltsverger, 2015, p. 9). Blocked or deleted cookies affect the accuracy of web traffic. When the cookie is deleted, returning visitor is not identified as returning one. Normally, cookie deletion rate is around 3-5%. Companies have to take into account that web analytics data is not 100% accurate. However, it is better than having no data at all (Kaushik, 2010a, p. 129).

An issue why some marketers are lately losing trust in digital advertising marketplace is the appearance of non-human traffic. These are bots, created by fraudsters and programmed to visit different websites. To websites and web analytics tool, they look like targetable humans. Because of that, advertisements are displayed to them, as they would be to humans and that leads to traffic quality problems. This issue will be addressed in the future with identifying and blocking non-human traffic before it gets on websites. As for now, marketers have to pay attention to traffic quality and take into account that some of the website visitors are not real people (Rasko, 2017). Some other issues regarding web analytics implementation are incorrect implementation of tracking code, incorrect setting of tracking code, missing tags or improper placement of tags. When the code is not implemented correctly, have improperly placed or missing tags, web analytics tool cannot collect data perfectly. Incomplete or inaccurate data bring inaccurate insights, which can have negative consequences when making decisions based on web analytics data. For those reasons, companies work with information technology experts when implementing web analytics tracking codes (Zheng & Peltsverger, 2015, p. 9).

In previous chapters, I have explained what are the main challenges that digital marketers face nowadays and how is web analytics used for digital marketing purposes. I explained web analytics process and most important metrics that marketers use to evaluate their success. In the following chapter, I am going to present quantitative research. It will complement theoretical part of this thesis by enabling us to understand what is the practice of web analytics usage in Slovenian e-commerce companies.

3 QUANTITATIVE RESEARCH: USAGE OF WEB ANALYTICS IN SLOVENIAN E-COMMERCE COMPANIES

3.1 Research design

The main goal of quantitative research is to research how Slovenian e-commerce companies use web analytics. For this purpose, my data collection technique is questionnaire; found in Appendix A. Questionnaire is one of the most used data collection techniques. It is an efficient way of collecting responses with a large sample because each person is asked to respond to the same set of questions (Saunders, Thornhill, & Lewis, 2009, p. 361).

The questionnaire was developed based on previous researches on this topic, for example, research from Järvinen & Karjaluoto that was done in 2015 and the research from Leeflang et al. from the year 2014. It is self-administered and Internet-mediated. This means respondents complete it themselves, electronically, using the Internet (Saunders et al., 2009, p.362). It consists of five questions about web analytics usage and three questions about respondent's organization and job title. After that, there is an open-end question in case respondents would like to add something on their own. Questionnaire collects two different types of data variables, behavioral and attribute variables. First one collects data on actions that organizations do or have done in the past. The latter collects data on what organizations or respondents possess. An example of that is the size of organization or title of respondent's job (Saunders et al., 2009, p. 368).

Questions about web analytics usage in the company (first five questions) are based on ordinal scale. Respondents answer on ranges of options, where the distance between two options is not necessarily equal. First two questions are asking how often a company is using web analytics to measure certain metrics. The third question is asking how has web analytics contributed to improving company's results. The fourth question asks about problems with web analytics usage. The fifth question asks how important is each metric for the company. Next is an open-end question about respondent's job title. Last two questions are multiple-choice and ask about respondent's organization size and marketing and sales department size.

The questionnaire is created using Google Forms software. It was sent to e-commerce companies such as online stores and other e-commerce marketplaces via email. First, I prepared a database of Slovenian online stores and platforms. I started with participants of competition "e-commerce of the year" (slov. *Spletni trgovec leta*). Shoppers Mind or sMind organizes this competition every year. sMind is a trademark of business intelligence in online shopping and online shopping behavior ("Shopper's Mind Slovenija," n.d.). Apart from participants from that competition, I also added many collective shopping websites and some other Slovenian online shops found online. This altogether formed a database with 120 email addresses. To this group, questionnaires were sent in the week of 20-27th of February 2017.

After that, I updated database with 122 new email addresses. All of them were found online, searching for different Slovenian online shops with Google search engine. To them, a questionnaire was sent on 14th of March 2017. All this combined; the database included 242 email addresses from Slovenian e-commerce companies. I gathered 51 completed questionnaires, which represents 21% response rate.

3.2 Research goals and hypotheses

Hypotheses are created based on literature overview to support research goals. The main goals for quantitative research are to research/explore the following:

- For what purposes do Slovenian e-commerce companies use web analytics and how often do they use it.
- Whether web analytics usage has led to improved business and marketing results.
- What are the main challenges that they face when using web analytics.
- Which metrics are most important to them.

Nowadays, priorities in marketing are measurement and data, branding and online conversion rates (Zahay, 2015, p. 4). This is why the first hypothesis tests if Slovenian e-commerce firms use web analytics. Hypothesis contains two sub-hypotheses to test for what purposes are companies using web analytics.

- Hypothesis 1: Majority of Slovenian e-commerce firms uses web analytics.
  - Hypothesis 1a: Majority of them uses it for counting and understanding audience and measuring their behavior on the website.
  - Hypothesis 1b: Majority of them uses it for evaluating digital marketing channels and profitability.

The main research questions for the first hypothesis are if Slovenian e-commerce companies use web analytics at all and for what purposes do they use it. A study says that using analytics in marketing to make better marketing decisions can increase marketing productivity by between 15% and 20% (Edelman et al., 2014). Second hypotheses tests if the use of web analytics has contributed to better business and marketing results in Slovenian e-commerce companies.

- Hypothesis 2a: Web analytics usage has contributed to better business results in the majority of Slovenian e-commerce companies.
- Hypothesis 2b: Web analytics usage has contributed to better marketing results in the majority of Slovenian e-commerce companies.

Main research questions are to what extent has use of web analytics contributed to better business and marketing results in e-commerce companies.

Third hypothesis tests if marketers in Slovenian e-commerce companies face similar challenges as marketers around the world. Among the most important challenges that were mentioned in the literature is the ability to gain deep insights on customer data. This includes the selection of right metrics in the flood of online metrics (Leeflang et al., 2014, pp. 7–8). According to that, the third hypothesis is developed.

- Hypothesis 3: The biggest problem in use of web analytics for Slovenian e-commerce companies is a selection of right metrics.

The main research question is what are the challenges that Slovenian e-commerce companies face with the usage of web analytics.

There are no unified processes and standards for building the metrics system that would fit every company. Therefore, web metrics chosen for data analysis are unique to each company (Järvinen & Karjaluoto, 2015, p. 117–127). The key to success in e-commerce is being profitable (Hanlon, 2016). The fourth hypothesis tests if most important metrics for Slovenian e-commerce companies are the ones that are connected to profitability.

- Hypothesis 4: Profitability metrics are the most important metrics to Slovenian e-commerce companies.

The main research question for the fourth hypothesis is which are the metrics that companies consider most important. This will also reveal if companies attribute importance equally to different metrics.

3.3 Results of quantitative research

The sample consists of 51 respondents that answered on behalf of e-commerce companies they work for. Respondents differ from one another by the job title. Largest part (35%) of respondents reported their job title is head of marketing. 11.8% of respondents are directors of the company. 9.8% of respondents are marketing employees such as marketing assistants. 7.8% of respondents did not answer this question. Other job titles that were stated were head of the department, head of digital marketing and digital marketing manager, shopper-based design manager and similar. They are presented in table 1 in appendix 2.

In 56.9% of e-commerce companies that participated in the survey, sales and marketing department consists of one to two people. In 17.6% of companies, department has 6-10 people. In 9.8% of companies, it is 3-5 people large, in 7.8% of companies is 11-30 people large and 5.9% have more than 30 people working in sales and marketing department. Data is presented in table 2 in appendix 2.

The size of a company that participated is the following: 58.8% of companies consist of 1-2 employees. 21.6% of three to five employees, 13.7% of 11-30 and 5.9% of 6-10 employees. Data is presented in table 3 in appendix 2.

In the next section, I present results from five questions about web analytics usage in the questionnaire.

First's question's aim is to find if Slovenian e-commerce companies use web analytics for understanding customer's demographics, interests, devices used and behavior on the website. It is asking how often do they use web analytics to check metrics such as sessions, visitors, page views, visitor's age, gender, devices, and metrics that explain their behavior. The main goal of this question is to understand if e-commerce companies use web analytics at all and for what purposes. Respondents have to mark how often do they measure listed options. Results are presented in Table 2. We can see what percentage of respondents use web analytics daily, weekly, monthly, few times a year or never. By checking what is the percentage of respondents that never use web analytics, we can see that most Slovenian e-commerce companies in the sample use web analytics to at least to some extent. The vast majority of respondents say they check metrics for understanding customers demographics, interests, devices used and behavior on the website on daily, weekly or monthly basis. All Slovenian e-commerce companies do use web analytics to check the count of visitors, sessions and page views. Only small percentage of respondents say they never use web analytics to check information about audience, visitor's behavior and events on the website.

Table 2. How often do Slovenian e-commerce companies use web analytics for counting and understanding audience and measuring their behavior on the website.
(frequency)

Answers (%) (n=51)	**Information about audience**	**Count of visitors, sessions and page views**	**Visitor's behavior**	**Events on the website**
Use daily	29.4%	58.8%	33.3%	58.8%
Use weekly	39.2%	33.3%	43.1%	27.5%
Use monthly	21.6%	7.8%	15.7%	7.8%
Use few times a year	7.8%	0.0%	3.9%	2.0%
Never use	2.0%	0.0%	3.9%	3.9%

Similarly to the first question, **second question's** aim is to find out if Slovenian e-commerce companies use web analytics to evaluate digital marketing channels. It asks them how often do they measure traffic generated by channels, conversion rate, customer acquisition cost, customer lifetime value and profitability by channels. The main goal is to understand if e-commerce companies use web analytics to evaluate digital marketing channels. Table 3

presents the frequency of answers to the second question. We can see that 21.6% of e-commerce companies do not measure customer lifetime value, and 11.8% do not measure the cost of acquiring new customers. Almost 6% do not measure the profitability of digital marketing channels.

Table 3. How often do Slovenian e-commerce companies use web analytics for evaluating digital marketing chanels and profitability (frequency)

Answers (%) (n=51)	**Measuring traffic from different channels**	**Measuring conversion rate from different channels**	**Cost of acquiring new customer**	**Customer lifetime value by different channel**	**Profitability of channels**
Use daily	41.2%	33.3%	23.5%	15.7%	27.5%
Use weekly	45.1%	45.1%	33.3%	23.5%	27.5%
Use monthly	13.7%	17.6%	23.5%	25.5%	31.4%
Use few times a year	0.0%	2.0%	7.8%	13.7%	7.8%
Never use	0.0%	2.0%	11.8%	21.6%	5.9%

After seeing results from first two questions, we can take a look at hypothesis 1:

- Hypothesis 1: Majority of Slovenian e-commerce firms uses web analytics.
  - Hypothesis 1a: Majority of them uses it for counting and understanding audience and measuring their behavior on the website.
  - Hypothesis 1b: Majority of them uses it for evaluating digital marketing channels and profitability.

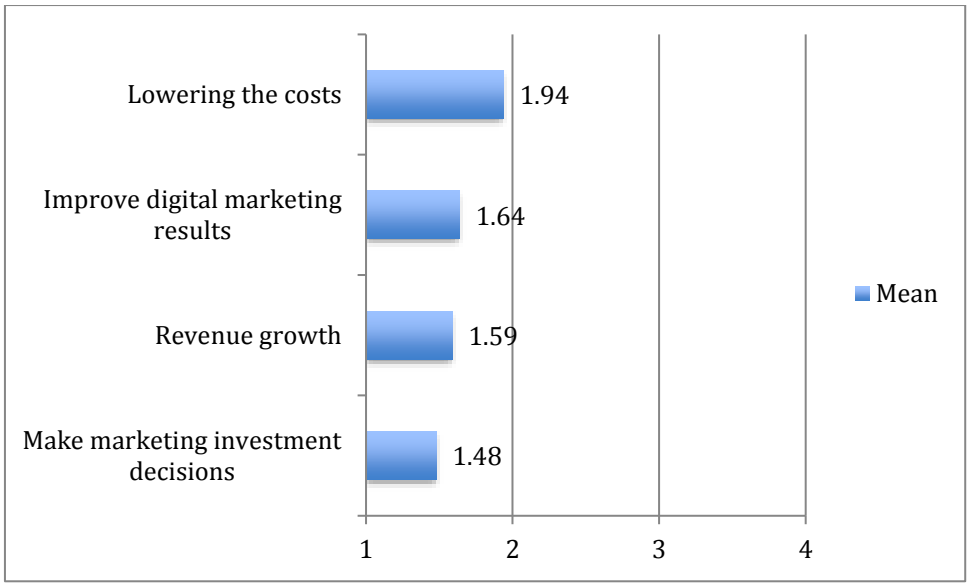
According to the data presented, both, hypothesis 1a and 1b are accepted. In the first case, only very small percentage of e-commerce companies in the sample do not use web analytics. In the second case, a higher percentage of companies in the sample never use it for some actions, but everyone uses it for action such as measuring traffic from different channels. However, the majority of e-commerce companies in the sample still uses it for all the actions researched.

As majority uses it for understanding customer's demographics, interests, devices used and behavior on the website as well as evaluating digital marketing channels and profitability, I

accept hypothesis 1 and say that majority of Slovenian e-commerce companies in the sample does use web analytics.

Third question's aim is to research what have been the benefits of using web analytics for e-commerce companies. The question asks respondents to evaluate, to what extent has web analytics usage contributed to better digital marketing results, make decisions on marketing investments easier, lower the costs and increase the revenue. The scale has four options, 1 meaning strong contribution, 2 meaning contribution, 3 meaning low contribution and four meaning no contribution. Also, it is possible to choose I do not know / no answer. The main goal of this question is to understand how web analytics usage contributes to better marketing and business results. Figure 1 shows that the use of web analytics contributes to better digital marketing results, make decisions easier, lower the costs and increase the revenue.

Figure 1. How usage of web analytics contributes to better results regarding following (mean value)



Scale: 1-Strong contribution 2-Contribution 3-Low contribution 4-No contribution

Companies report on average strongest contribution to improved decision making for marketing investments and to revenue growth. Answers were more concentrated around the mean on option "make marketing decisions easier." Values were least concentrated around the mean for "lowering the cost" option. That means that companies have similar opinions on the contribution of web analytics to making marketing decisions easier. On the other hand, companies have different opinions on the contribution of web analytics to lowering the costs. Data from SPSS report is in Table 6 in Appendix 2. Table 4 presents the frequency of answers to the third question in percentage.

Table 4. Contribution of web analytics usage to marketing and business performance in Slovenian e-commerce companies (frequency)

Answers (%) (n=51)	Improve digital marketing results	Make marketing investment decisions	Lowering the costs	Revenue growth
Strongly contributed	45.1%	58.8%	37.3%	47.1%
Contributed	43.1%	31.4%	33.3%	43.1%
Weakly contributed	9.8%	7.8%	19.6%	3.9%
Didn't contribute	0.0%	0.0%	5.9%	2.0%
I don't know	2.0%	2.0%	3.9%	3.9%

We can see that 58.8% of respondents say that use of web analytics strongly contributes to making marketing investments decisions easier and 47.1% say it strongly contributes to revenue growth. A small percentage of respondents think that web analytics usage did not contribute to lowering the costs and revenue growth.

To test the second hypothesis, questions are grouped together according to where they belong to–either marketing or business benefits. Improvement of digital marketing results and easier decision-making on marketing investments are part of marketing results. Lowering costs and increasing revenue are part of business results. For each group, mean and standard deviation are calculated.

Table 5. Contribution of web analytics usage to marketing and business performance in Slovenian e-commerce companies (mean and standard deviation)

n=49	Mean	Std. Deviation
Improved marketing results	1.5408	0.61098
Improved business results	1.7653	0.74374

Scale: 1-Strong contribution 2-Contribution 3-Low contribution 4-No contribution

Table 5 is used to test hypothesis 2a and 2b:

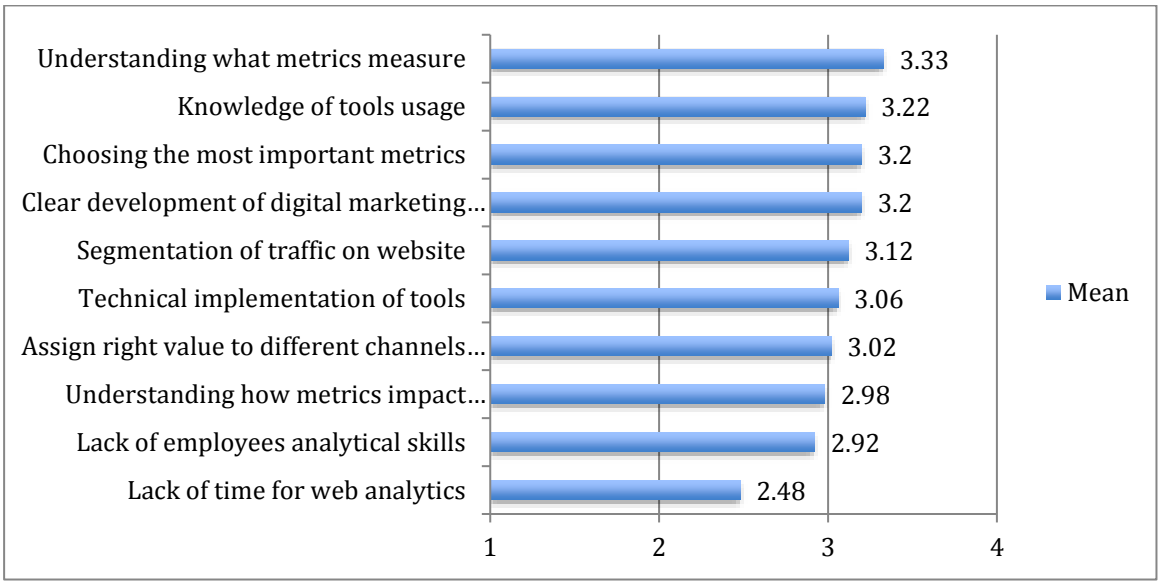
- Hypothesis 2a: Web analytics usage has contributed to better business results in the majority of Slovenian e-commerce companies.
- Hypothesis 2b: Web analytics usage has contributed to better marketing results in the majority of Slovenian e-commerce companies.

Mean 1.54 in Table 5 tells us that contribution to better marketing results was on average somewhere between "strongly contributed" and "contributed." Contribution to better

business results was leaning towards "contributed." Therefore, I conclude that web analytics usage in e-commerce companies in the sample contributes to both, better marketing and business results. Based on that, hypothesis 2a and 2b are accepted.

Fourth question's aim is to research what are the problems that companies face with web analytics usage. The question asks respondents to evaluate; to what extent does certain thing represents a problem in their company. The scale consists of four options, 1 meaning very problematic, 2 meaning problematic, 3 little problematic and 4 meaning not problematic. Also, it is possible to choose I do not know / no answer. The main goal of this question is to understand what are the main challenges that companies face when dealing with web analytics. In Figure 2 we can see that on average, biggest problems for companies are a lack of time for web analytics and lack of employee's analytical skills. On average, they have little problem with understanding what metrics actually measures and knowledge of tools usage.

Figure 2. How problematic is the following for your company (mean value)



Scale: 1- very problematic 2- problematic 3- little problematic 4- not problematic

Further data on the fourth question can be found in Table 7 and 8 in Appendix 2. Data from Figure 2 is used to evaluate the third hypothesis:

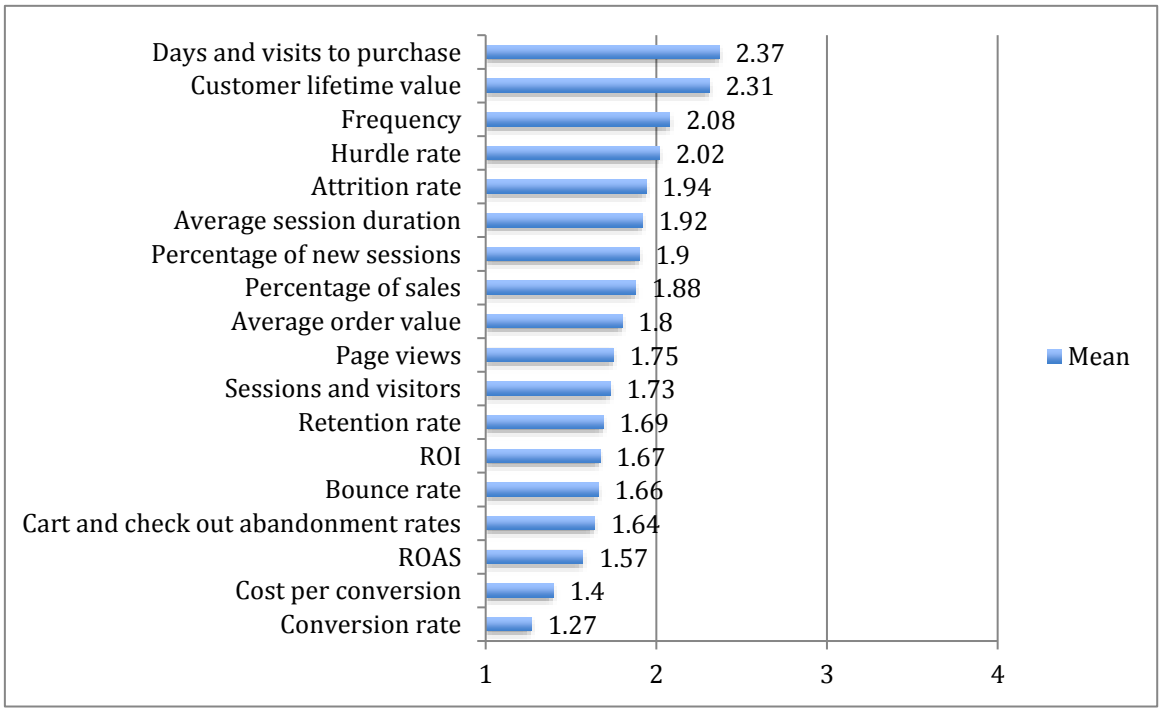
- Hypothesis 3: The biggest problem in use of web analytics for Slovenian e-commerce companies is selecting the right metrics.

As we can see from Figure 2, on average, the biggest problem is a lack of time for web analytics. Therefore, hypothesis 3 is rejected. Choosing the most important metrics represents a big problem to 3.9% respondents, a problem to 9.8% respondents and small problem to 49% of respondents. So, choosing the right metrics is problematic–at least to some extent to 62.7% of e-commerce companies. Lack of time is problematic–at least some

extent to 78.6% of e-commerce companies. Understanding how metrics impact success of the company is problematic to least to some extent to 74.5% of e-commerce companies in the sample.

Fifth question's aim is to research how important are different metrics for e-commerce companies. Respondents evaluate the importance of 18 different metrics on a scale from 1 to 4, 1 meaning very important, 2 meaning important, 3 little important and 4 meaning not important at all. Also, it is possible to choose I do not know / no answer. Figure 3 presents which metrics are on average most important to Slovenian e-commerce companies in the sample. We can see that companies give high importance to conversion metrics such as conversion rate and conversion cost.

Figure 3. The importance of online metrics (mean value)



Scale: 1-very important 2-meaning important 3-little important 4-not important

Question about conversion rate has the lowest standard deviation, which means that companies' answers on conversion rate were concentrated around the mean value. This means companies have similar opinions on the importance of conversion rate. 80.4 % of respondents marked conversion rate as very important, and 72.5% of respondents marked cost per conversion as very important. The metrics that were most unknown to respondents were attrition rate and customer lifetime value. Further data on this question can be found in Table 9 in Appendix 2.

Question 5 was used to test hypothesis 4, which is the following:

- Hypothesis 4: Profitability metrics are most important metrics to Slovenian e-commerce companies.

Profitability metrics are ROAS and ROI, which are both measuring either advertising or overall business profitability. They are on average among the important metrics for e-commerce companies, but they are not the most important. Therefore, according to the data in Figure 3, I reject hypothesis 4. On average, the most important metrics are conversion metrics, not profitability metrics.

3.4 Summary of findings

The main goal of the quantitative research was to research if Slovenian e-commerce companies use web analytics, what are the benefits from usage, which problems they face and which are the most important metrics in the process. I found out that majority of Slovenian e-commerce companies in the sample do use web analytics on daily or weekly basis. On average, they most often use it to check visitors, session and page views as well as traffic generated by different channels. Because of these findings I accepted the first hypothesis. Answering the questionnaire, companies have reported positive contribution of web analytics usage to their business and marketing results. Based on that, the second hypothesis was accepted. On average, web analytics usage has mostly contributed to easier decision making regarding marketing investments and to revenue growth. Based on literature overview, there are many problems that companies nowadays face with web analytics usage. The same turned out to be true for Slovenian e-commerce companies in my sample. Literature overview suggests that the major problem could be a selection of most important metrics. However, my research revealed that Slovenian e-commerce company managers' biggest problem is a lack of time for web analytics. Based on this insight, the third hypothesis was rejected. The second biggest problem lies in difficulty to understand how metrics impact the success of the company. Lastly, I researched which are the most important metrics for Slovenian e-commerce companies. As the overall business goal is often profitability, research tested if companies value metrics according to that. Research found out that metrics that are on average most important to Slovenian e-commerce companies in the sample are not profitability metrics, but conversion rate metrics. Based on that, the fourth hypothesis was rejected.

To conclude, the research found out that Slovenian e-commerce companies in the sample do use web analytics to understand their customers as well as to evaluate their digital marketing performance. They know many web analytics metrics and use them accordingly. They are very unified when it comes to choosing the most important metric, which is conversion rate. Web analytics usage contributes to their success, although many have reported lacking time to deal with it.

4 QUALITATIVE RESEARCH – IMPLEMENTATION AND USE OF WEB ANALYTICS IN E-COMMERCE COMPANY

4.1 Research design

With the quantitative method, I have researched how Slovenian e-commerce companies use web analytics. I have discovered for what purposes they use it, which metrics are most important to them, what are the benefits of using web analytics and what problems they face with web analytics usage. However, the quantitative study did not reveal how web analytics process looks like in e-commerce company in practice, and what are the reasons they do things as they do them.

Qualitative research is used to present use of web analytics in practice. Its purpose is to present how web analytics is used in practice for digital marketing purposes. The main goal is to find out how usage of web analytics is organized in the biggest Slovenian online food-ordering platform ehrana.si, a company that has reported positive impacts of web analytics usage on their business and marketing performance. The case study will present web analytics process in the company more widely and include some explanations that are not possible to obtain with quantitative research only. As such, it can provide guidelines for web analytics implementation process in other e-commerce companies. It will answer the following questions:

- What advantages can use of web analytics bring?
- How is web analytics process established?
- How to use demographic data to better target customers?
- How to segment customers to better understand their behavior?
- Which are the most important metrics and how are they chosen?
- How are key performance indicators and their benchmarks developed?
- How to evaluate performance and profitability of different digital marketing channels?
- What are possible problems with web analytics usage?

To gather answers to why, how and what questions, a case study is a worthwhile strategy. Data collection techniques for case study can vary and often include a combination of different techniques, such as interview, observation, and questionnaire (Saunders et al., 2009). Interviews can be organized as a free, unstructured conversation, conversation with prepared and well-defined standardized questions or anything in between. Most commonly, interviews are divided into structured, semi-structured and unstructured (in-depth) interviews (Saunders et al., 2009, p. 320). Qualitative research of this master thesis will be presented with case study, where three primary data collection methods are combined. First one is observation. At the time of research, I was employed in the company as marketing manager. Data about the company and partly of its digital marketing strategy was gained trough my observation. Second data collection method is a semi-structured interview with

company's CEO. With this interview I obtained additional information about both, digital marketing strategy and web analytics process in the company. Third data collection method is data collection from web analytics tool Google Analytics. Observation and semi-structured interview are used to gather general data about the company, their digital marketing strategy and web analytics process. Google Analytics is used to collect and analyze data about their performance and present results of the analysis. Web analytics data collection was chosen because it can provide deep insights that cannot be gained through conversation only.

There are several reasons why I choose to present a case study of the biggest Slovenian online food-ordering platform. First, the company has used web analytics since it was founded in 2011. It claims that web analytics has represented a great advantage for digital product development, as well as understanding their customers. Also, they have successfully used web analytics for evaluation of their digital marketing performance, which has led to better decisions regarding marketing investments. In the longer term, this has contributed to costs saving and higher efficiency, which led to profit increase. Usage of web analytics is especially important to them because all their revenue is generated online. The platform is normally getting around 620,000 sessions, 210,000 users and 5,200,000 page views per month, which generates enough data for web analysis.

Data collected through observation is supported by semi-structured interview because observation alone could not provide answers to all the questions. Main topics of the interview are known, so a set of questions can be prepared in advance to steer the direction of the interview. Questions are aligned with literature overview as well as a questionnaire that was developed for quantitative research of this thesis. Beside from prepared questions, additional questions were asked when needed. Questions that were prepared for the interview are the following:

- What is the main advantage of web analytics usage for you?
- How would you sum up web analytics process in your company?
- How do you segment customers?
- Which are the most important metrics in the company?
- How do you choose the right metrics?
- How do you develop key performance indicators and their benchmarks?
- How do you evaluate different digital marketing channels?
- Have you had any problems with the use of web analytics?

On November 9th, 2016, I interviewed CEO of the company since he has been responsible for web analytics implementation and digital marketing strategy creation from the very beginning. He has also been the main decision maker on those topics. The interview lasted one hour and a half. I wrote down all the answers and later summed it up into chapters 4.3 and 4.4. After that, I used Google Analytics to analyze company's performance for the month

of October 2016. As company normally evaluates its performance on a monthly basis, I had chosen October as a month to present results, because company's digital marketing investment in that month was higher than in any other month before. The results of the analysis are presented in Chapters 4.3 and 4.4.

4.2 About the company

The company presented in this case study is the biggest online food-ordering platform in Slovenia, founded in the year 2011. It is an online marketplace that connects delivery restaurants to people who order food delivery online. Their business model is based on generating revenue by charging a certain amount of commission to the restaurants affiliated with it.

When users place the order online, it is sent directly to the restaurant via platform's program. Restaurant's staff accepts the order, prepares a meal and delivers it. This kind of order taking is faster and brings possibilities for mistakes close to zero. It requires no voice communication or responding to the phone lines. Use of the platform from user and restaurant perspective is presented in Figure 4.

Figure 4. Platform use from user and restaurant perspective

Source: *takeaway.com, n.d.*

Faster order taking is not the only advantage for restaurants. The big advantage lies in marketing value of being listed on the platform. It is a new distribution channel for delivery restaurants, where they can reach their existing and potential customers. As many people visit platform with the intention to order food, restaurants can reach their customers just at the right moment in their buying cycle.

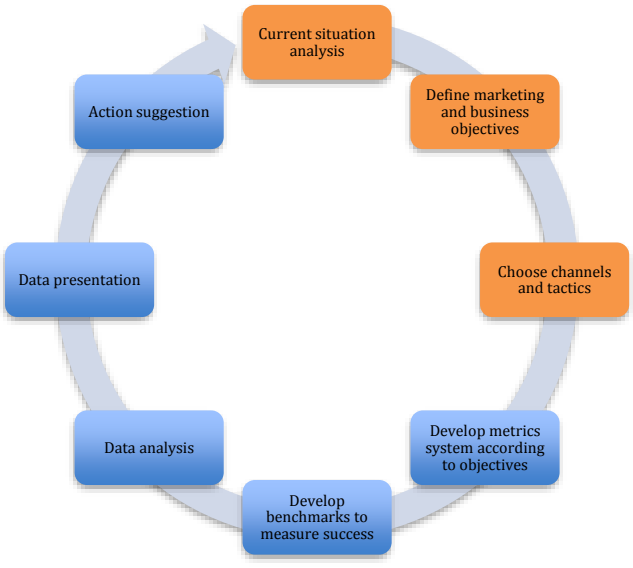
Currently, there are around 100 online restaurants on the platform and 100,000 registered users, out of which 60,000 are active. Main value propositions for users are ease of use and possibility to find an entire offer from all delivery restaurants in one single online place. Sending order through Internet is faster. Additionally, many restaurants offer discounts for online orders, which can not be found on other platforms or via phone order.

Company's goal is to attract as many users as possible and make food ordering through Internet fast, simple and reliable. Therefore, the platform was built with users in mind. It has to enable users to use the site without learning how to use it. This is why user experience played important role in building the platform. User experience is the feeling that person gets when interacting with the digital product. It enables easy navigation where users find what they are searching for with no problems (Cousins, 2013). The company is aware that without good digital product no marketing efforts would bring success. In their case, the product needed to be perfectly designed for users as well as restaurants. To ensure good user experience for both, the company is constantly building new features and updating the existing features on the platform.

Since the beginnings in 2011, the company has seen 100% yearly growth in revenue. With revenue growing exponentially over the years, marketing budget has increased, and they increased investments in both, digital and traditional marketing channels.

Digital marketing strategy is implemented into web analytics process in the company. As seen in Figure 5, first three steps of the process are connected to digital marketing strategy. Next steps are connected to web analytics and consist of choosing the right metrics, developing benchmarks, analyzing and presenting data and suggesting further actions. The process is circular and is performed in the company on a monthly basis, although some metrics such as visitors on the website and their behavior are checked weekly. This is a general frame that company uses when planning digital marketing activities, regardless of goal and type of their marketing activities. In the next subchapters, these steps are explained specifically for the company's marketing campaigns in the month of October 2016.

Figure 5. Web analytics process



Source: *Interview with company's CEO*

4.3 Digital marketing strategy

The first step in creating digital marketing strategy is an analysis of current users demographics and behavior. This reveals possible trends and helps to identify target groups and their behavior. Data is collected and analyzed using web analytics tool Google Analytics.

Before the analysis, targeted segments are identified. When planning a marketing strategy for the month of October 2016, company's CEO has divided platform visitors into three segments, according to their behavior. The first segment is users that have ordered through the platform three or more times during past month. These are considered loyal users that are satisfied with the service. The second segment is users that have ordered once to twice in the past month. These are considered as users that use the platform but need more push to use it more frequently. The third segment represents people that have visited the platform but haven't submitted any order in the past month. The time span for this segmentation can change according to the needs. For example, for some marketing purposes users are segmented similarly, but for longer time span. For this case study, segments are presented in the one-month time span.

The first segment represents company's loyal users. The company explores their demographic to better understand their profile. 45% of users belong to the age group of 25-34 years old and 37% belong to age group of 18-24 years old. This means that 82% of company's loyal users are younger than 35 years old. The rest of the loyal users are older. More than 60% of people who order three times or more per month are males. These insights are used when the company is planning digital marketing campaigns. The goal of campaigns is to attract users with similar demographics.

As explained, demographics data helps to decide whom to target with digital marketing campaigns and what communication tone to use. Company also tracks website visitors in terms of which devices and browser they use. In order to plan digital marketing campaigns, company needs to know and understand how their most valuable customers use technology. Company also checks from which sources are most loyal users coming to the website and how they are behaving on the website. Data of the most valuable segment is compared to data about other segments. This analysis provides useful information about the current state of the platform usage and its users.

The second step in creating digital marketing strategy is defining business and marketing objectives. The company's overall business objective is to increase revenue. With this in mind, they identify objectives for digital marketing activities. Marketing objectives are designed according to the segments identified in the first step as presented in Table 6 and Table 8 on the next pages.

Table 6. Marketing objectives according to segments

	Marketing objective	Segment
1	New users acquisition - attract new visitors to the platform and convert existing visitors into users	Visitors to the platform that have never submitted an order
2	Increase order frequency - push users to order more frequently	Users with one or two orders per month and users that haven't ordered for some time
3	Retain loyal users	Users with three or more orders per month

As next step, digital marketing channels and tactics are chosen according to digital marketing objectives. Channels and tactics are not the main focus of this case study; therefore I will only briefly describe them. For new users acquisition, the company uses promotion techniques such as content marketing, social media advertising, display advertising, search advertising and online PR. To increase orders frequency, they use email advertising, social media advertising and retargeting. To retain loyal users, email advertising is used. Also, they take care that website is optimized for search engines. Graphics and ad copies are designed according to the segment and users demographics.

4.4 Web analytics implementation and use

Prerequisite for every web analysis is selection and implementation of right web analytics tool. The company uses Google Analytics as a tool to collect and analyze data. The main reason to choose Google Analytics was its free availability and ease of implementation and use. Also, it is linked to other Google products that company uses. They set up the tool according to their needs, including event tracking, goals set up and e-commerce tracking.

The first step in web analytics process in the company is developing metrics system that supports business and marketing objectives. For each marketing objective, key performance indicators are developed. After that, supporting metrics are identified. The performance of digital marketing activities and their contribution to marketing and business objectives is monthly evaluated with metrics presented in Table 7. Also, metrics system is changed or adjusted according to the needs. If for example, one month is dedicated to the promotion of mobile application, then goals, key performance indicators, and supportive metrics are assigned accordingly. Table 7 presents general marketing objectives that are mostly valid through the year and were also main objectives in the month of October 2016.

Table 7. Key performance indicators and supportive metrics for marketing and business objectives

Objective	Key performance indicators	Supportive metrics
Marketing objective 1: New user acquisition	• User growth • Number of new users registered	• Average cost per user acquisition • % of revenue from new users • Hurdle rate (% of registered users that also ordered)
Marketing objective 2: Increase order frequency	• Order frequency	• % of revenue from segment with 1-2 monthly orders
Marketing objective 3: Retain loyal users	• Number of loyal users per month	• % of revenue from most loyal users • % of direct traffic
Overall business objective: Revenue increase	• Revenue • Revenue growth	• Conversion rate

To better understand how metrics are measured and used in practice, next section will present a digital marketing performance evaluation in October 2016.

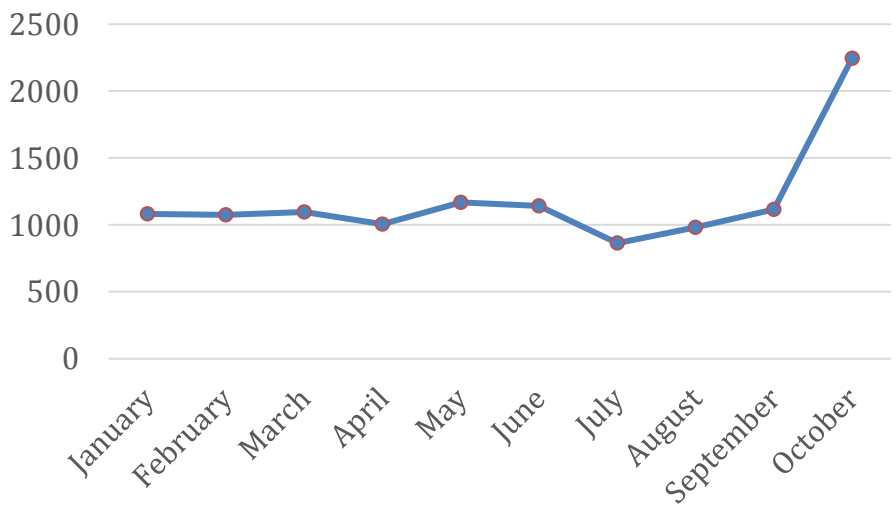
To evaluate performance at the end of the month, the company had assigned benchmark to every objective. Benchmarks are set according to past data and results. Normally they compare them to the best performing month in the year, or same month in the past year. They can change from month to month, according to marketing investments and strategy. All the benchmark for the month of October 2016 are presented in the Table 8. We can see that in the month of October, company was aiming at acquiring 30% more new users than it has acquired ever before. The benchmark was set high, because investment into digital marketing was also higher than it has ever been before. They also aimed at increasing the number of loyal users, retaining existing loyal users and increasing their revenue by 10%.

Table 8. Benchmarks for marketing and business objectives

Objective	Key performance indicators	Benchmarks
Marketing objective 1: New user acquisition	• User growth • Number of new users registered	30% more new users than in the best performing month
Marketing objective 2: Increase order frequency	• Frequency	Increase sessions with more than one order by 10%
Marketing objective 3: Retain loyal users	• Number of loyal users per month	Increase users with 3 or more orders by 5%
Overall business objective: Revenue increase	• Revenue • Revenue growth	Increase by 10% (compared to best performing month until then)

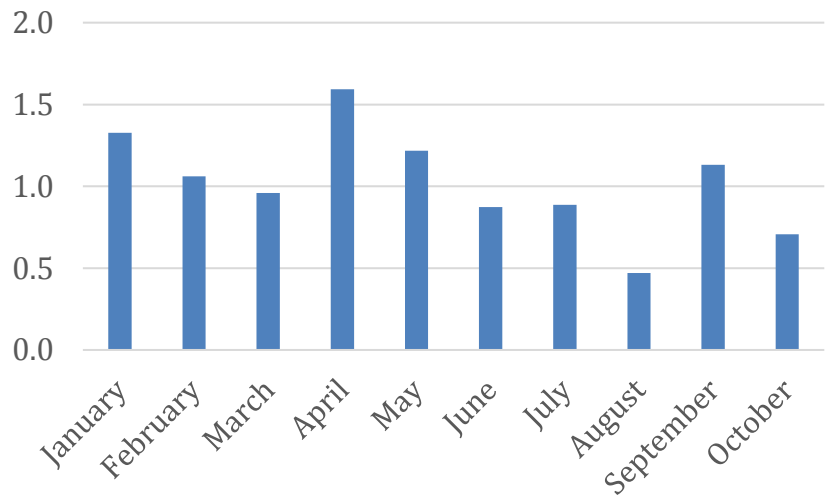
First marketing objective is new user acquisition. It is evaluated with user growth, a number of new users, cost per new user, the percentage of revenue from new users and hurdle rate. In October, the company managed to acquire 2246 newly registered users to the platform. This represents 92% increase from the best performing month in the past. Figure 6 represents the trend of newly registered users per month in the year 2016. Regarding new users registrations, best performing month before October was May, when 1168 newly registered users had joined the platform. According to this data, first digital marketing goal was successfully reached. For better insights, supportive metrics are the average cost per user acquisition, the percentage of revenue from new users in total revenue and hurdle rate.

Figure 6. Newly registered users per month



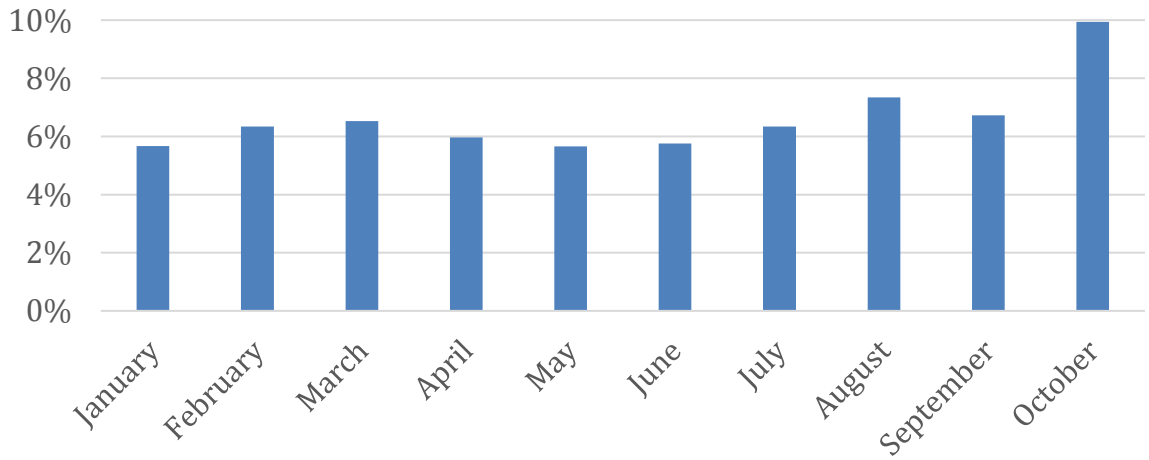
A number of newly acquired users in October has far exceeded the benchmark, but new user acquisition is less successful if it comes at higher cost. This is why the first supportive metric is the average cost per user acquisition. Average cost per newly registered user is important because it takes into account cost component of success of acquiring new users. Figure 7 presents cost per user registration in the year 2016. In October, the company paid 0.71€ on average for a newly registered user. As presented in Figure 7, this number is within the company's normal range.

Figure 7. Average cost per new user registered by month (in €)



The second supportive metric for marketing objective of acquiring new users is a percentage of revenue from new users. Newly acquired users do not bring any value to the company if they do not use the platform to order and generate revenue through their orders. Their monetary value is measured to understand to what extent they contribute to overall revenue. In Figure 8 we can see that in October, revenue generated by new users represented 10% of total revenue, which is more than in the previous months of the same year.

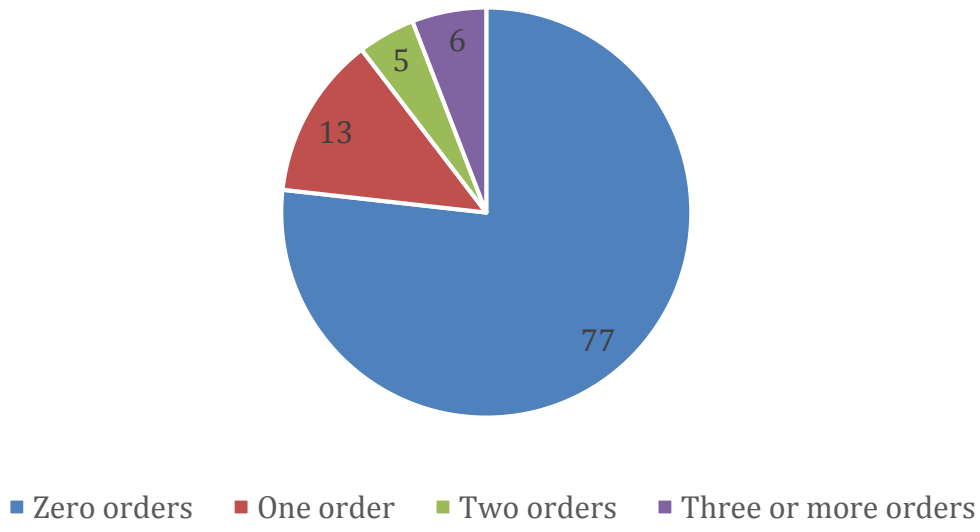
Figure 8. Percentage of revenue from new users in total revenue



Similar to the previous ratio, hurdle rate helps to evaluate the value of newly acquired users. It explains what percentage of newly registered users has also submitted an order in chosen time frame. If hurdle rate is too low, then actions need to be taken to influence and encourage new users to also submit the order after having registered on the platform. The company has seen stable hurdle rate through year 2016 at around 60%. This means that around 60% of newly acquired users also ordered in the same month they joined. The users that have registered on the platform and have submitted no order are addressed with marketing campaigns accordingly and encouraged to submit the order later on.

Second marketing objective is to increase users loyalty by increasing the frequency of their orders. Metric assigned to this objective is frequency, supported by the metric of the percentage of revenue from the segment with 1-2 monthly orders. Frequency explains how often per month visitors on the platform submit the order. To evaluate second marketing objective, it is measured by the percentage of sessions that is generated by visitors with zero, one-two or three or more orders. Company's goal is not only to get traffic to the platform but also to have quality traffic, which is converting and frequently returning to use the platform. The Figure 9 shows that visitors with zero order generated 76.8% of sessions in October. Visitors with one monthly order generated 12.8% of sessions. Visitors with two monthly orders generated 4.54% of sessions and visitors with three or more monthly orders generated 5.9% of sessions. High percentage of sessions without order could suggest that many people visit the platform with some other intention in mind than ordering. This could be, for example, to check menus for restaurants, check opening times, try to find the contact of restaurant or similar. The action that can be taken from this insight is, for example, to perform on exit surveys and try to understand people's real intention of the visit.

Figure 9. Sessions segmented by visitor's order frequency in October 2016 (in percentage)



Data from Figure 9 provides little insight when not put in the context. To see the trend in sessions segmented by visitor's order frequency, data is compared on a monthly basis.

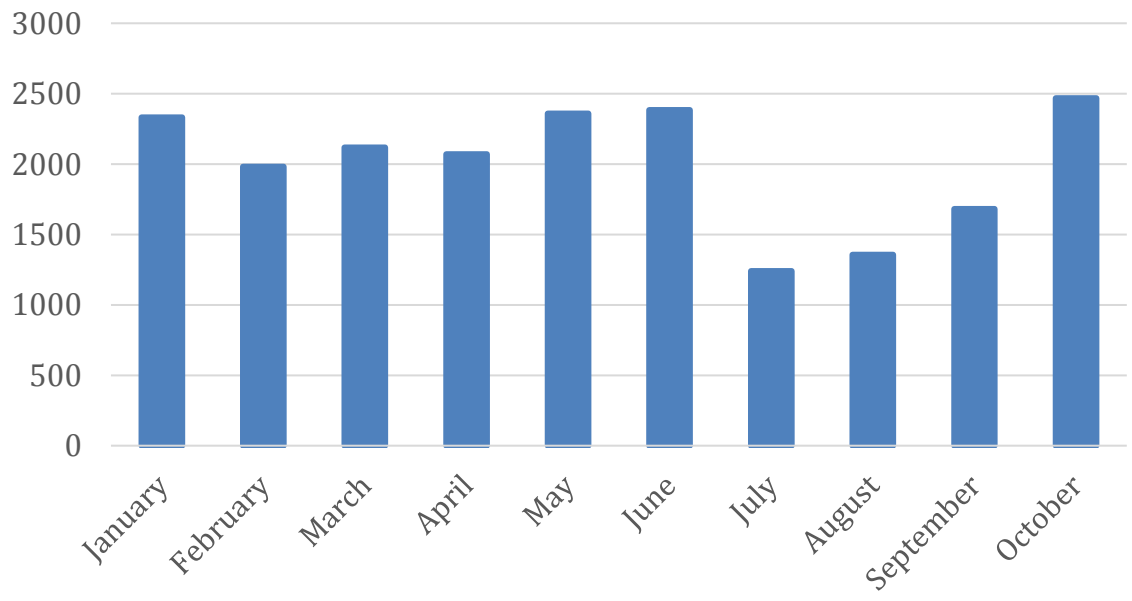
In Figure 10 we can see the percentage of sessions with one, two and three or more orders per each month of the year 2016. We can see that the best-performing months regarding sessions from users with a higher frequency of orders were May and June. In October, a smaller percentage of sessions occurred from users with one, two or three orders than in May. Therefore, the benchmark to increase sessions of users with more than one order by 10% was not met. The reason for this is that an overall number of sessions on the platform in October was higher than in May, or, marketing actions to increase ordering frequency were more successful in May. However, the numbers of October are still in the normal company's range. If the percentage of sessions from valuable users significantly diminishes over time, then actions have to be taken. This means finding reasons why and adjusting marketing strategy accordingly.

Figure 10. Sessions segmented by visitor's order frequency in 2016

Third marketing objective is to retain the most valuable users. Those are considered users that order three or more times per month. In the last chart, we could see what is the percentage of sessions from users with one, two or three monthly orders. To measure the third marketing objective, company measures count of loyal users per month. From this metrics, they can see if a number of users with three or more monthly orders grows or drops over time, what is presented in Figure 11. In October, 2486 users used the service three times or more. Figure 11, shows that October had the highest number of loyal users, despite the

lower percentage of sessions from highly valuable users as seen in Figure 10. Data in Figure 11 shows that company has a stable base of loyal customers. This metric is a leading performance indicator and could predict company's future success. Benchmark for third marketing objective was to increase the number of loyal users by 5%. In October, a number of loyal users were 3.5% higher that in June, which was the best performing month until then according to that metric. The benchmark was not met, but the company still managed to increase the number of loyal users.

Figure 11. Number of users with three or more orders per month



Supportive metrics for second and third marketing objectives is a percentage of revenue from each segment of users. This explains which user segments contribute most to overall business objective, which is revenue generation.

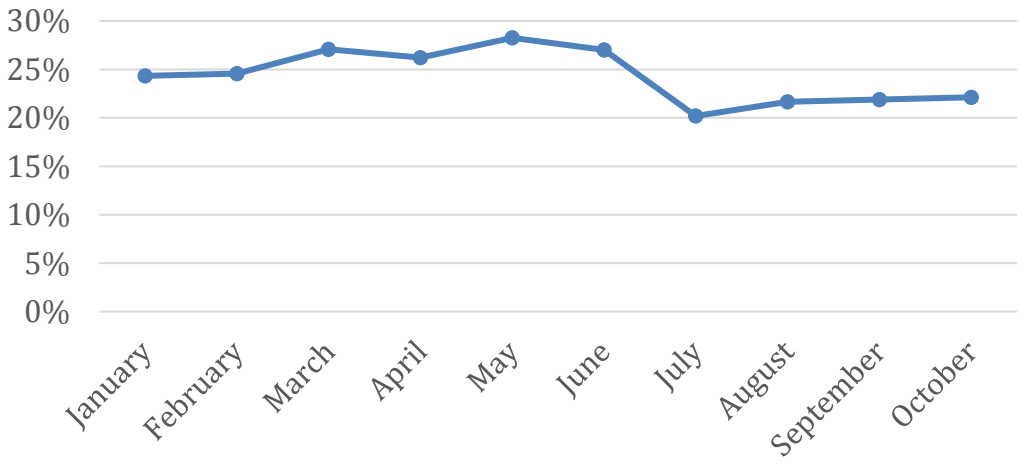
Users who submitted three or more orders in the month of October have contributed most to the overall revenue, followed by the users with one order and the users with two orders. This emphasizes the importance of loyal users for revenue generation. The future opportunity arises in increasing revenue by converting one-order users into two-order users and two-order users into three-order users. Marketing strategy is organized accordingly. The overall business objective in the company is revenue generation. Accompanying metrics to measure success are revenue, revenue growth, order conversion rate and average order value. All of them are measured and reported monthly.

Order conversion rate is the percentage of visits that ends with the purchase transaction and is one of the most important metrics for e-commerce companies (Gudigantala et al., 2016, p. 82). Every order that is successfully submitted through the platform counts as order conversion. There are other micro-conversions that company measures, for example, item

added to cart. However, only macro conversion directly impacts revenue and is therefore important for business objectives.

In Figure 12, we can see conversion rate per month in the year 2016. Despite the growth in revenue in October, we can see that conversion rate has fallen compared to previous months. This is something that attracts attention and needs to be further investigated. Possibilities for lower conversion rate can be that platform attracted a higher number of visitors that were not actually interested in food ordering. Alternatively, it could mean that visitors are facing some problems when trying to navigate the platform and submit the order. To find the reason, company checks the behavior of visitors by channels and referrers, different devices, locations and other eligible segments. This can identify which are the segments with the lowest conversion rate, which helps to find the reasons for the drop in overall conversion rate.

Figure 12. Order conversion rate per month



At the end of every month, the company also evaluates the performance of different channels. This is done to understand the contribution of each channel over time and to make decisions for future digital marketing strategy development. Channels evaluation is divided into three parts: Channel outcomes, channel buying behavior and channel profitability. Table 9 presents metrics system chosen to measure channel efficiency.

Table 9. Metrics selection for channel evaluation

Channel outcomes (contribution to objectives)	• % of user registered in total user registered • % of revenue in total revenue
Channel buyer behavior and promotion	• Sessions • Bounce rate • e-commerce conversion rate
Channel profitability	• Return of advertising spend (ROAS)

First part evaluates channel's contribution to marketing and business objectives. The second part takes a deeper look into visitor's behavior and the quality of the audience that was acquired through different channels. Lastly, paid channels are evaluated according to their profitability. In the channel outcomes section, paid and non-paid channels are evaluated according to contribution to new user registration and revenue. Figure 13 represents the percentage of new user registrations per different channels in the month of October. We can see that great part of newly registered users came to the platform from search engines.
From this perspective, an important part of marketing strategy in the future is search engine optimization. Second largest group of newly registered users comes from direct URL. Those are people that have heard about the platform from friends and referrals or by advertisements, remembered the URL and later came directly to register.

Figure 13. New user registrations per channel in October 2016 (in percentage)

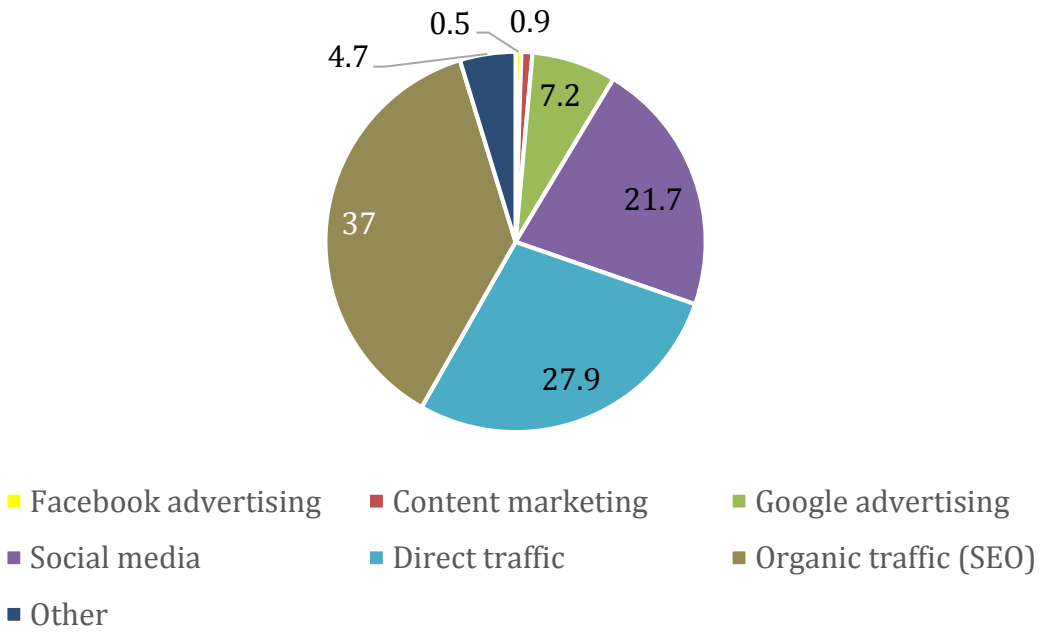
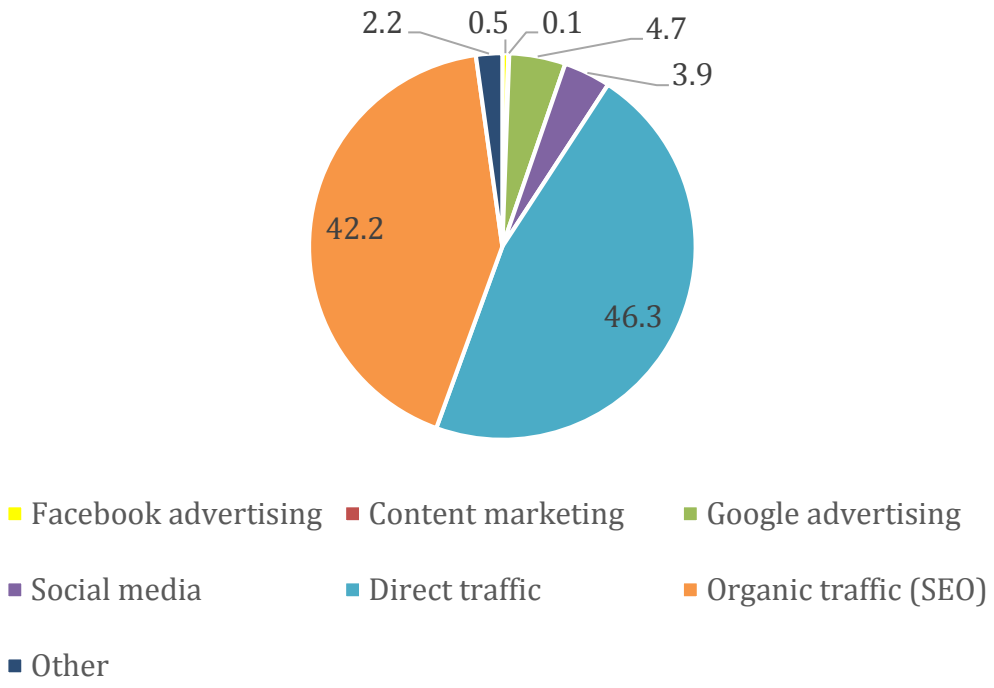


Figure 13 shows that most newly acquired users came from other than paid media. The third largest group of newly registered users came from social media. In this context, social media refers to traffic that comes from company's social media pages and posts that are not promoted; therefore, this is part of company's owned media. An example of that is company's Facebook page. Future strategy of acquiring new users could involve bigger investment (in time and quality content) into presence on social media platforms. However, that does not mean that paid channels are of no importance in acquiring new users. Because the company uses last click attribution model, all the credit is assigned to the last channel that user visits before coming to the platform. This could undermine the importance of channels that are used for awareness building, such as social media advertising and display advertising. The same is valid for Figure 14, which represents revenue generated by different

channels. It shows which channels are most important in generating revenue. The biggest part of revenue, similarly to biggest part of new users, came from direct and organic traffic. A high percentage of revenue generated by direct traffic indicates that platform has many loyal users that benchmarked the website and access it directly.

Figure 14. Revenue per channel in October 2016 (in percentage)



All paid media combined generated about 10% of revenue. These metrics are observed over time, to see if there is a trend of getting more revenue from paid media. Again, paid media might get less credit for revenue generation than it deserves because of last click attribution model. Revenue generated by paid media over time is also observed because it is in company's long-term interest to keep getting the majority of revenue from unpaid media. Being dependent only on paid media channels is not sustainable in the longer term.

To better understand what kind of visitors different channels bring, the company measures behavioral data, segmented by the channel. Metrics used for that are sessions, bounce rate, and e-commerce conversion rate.

Sessions explain which channel is the most successful in bringing traffic to the platform. Even if visitors do not order during the visit, they demonstrated some interest by coming to the website. Later they can be retargeted and encouraged to order. Similarly to revenue generation, search engines and direct traffic generated most sessions in October. Google advertising had generated a considerable amount of sessions, but a smaller amount of revenue and new users proportionally. To understand the reason for this, traffic from Google advertising can be further investigated according to behavior from different segments.

Next metrics to compare the behavior of visitors segmented by the channel is bounce rate. Measuring bounce rate can reveal which channel brings most interested users. Interested in this context means users that do not leave immediately after landing to the platform but rather click further on and explore different pages of the website. Highest bounce rate in the use of the platform in October generated paid media such as Facebook and Google advertising. This may imply that the advertisements did not prepare people well enough to land on the platform or that the platform turned out to be not what they expected it to be from the ads. To further explore the cause of high bounce rate for those channels, visitors can be segmented in terms of devices, browsers, demographics, behavior and similar. This will reveal which segments have the highest bounce rate, which will help to explain the reason for it.

The last metric to measure visitor's behavior segmented by the channel is conversion rate. Unlike bounce rate and sessions, this metrics shows the contribution to revenue. It shows what is the percentage of sessions from each channel that resulted in transaction. In October, best-converting visitors came from social media and direct traffic. Paid media channels brought visitors with the lowest conversion rate. The problem of last click attribution model applies here as well. Anyway, to understand low conversion rate from that channels, visitors can be further segmented as described before.

The third part of channel evaluation explores channel's profitability. Metric to measure profitability of channels is return on advertising spend or ROAS. It takes into account costs of advertising on specific channel and revenue that was generated by that specific channel. There are different ways to calculate it. The company calculates it by dividing revenue generated from channel by the cost of advertising with that channel. As costs, they take into account the cost of advertisement placements without the cost of marketing employee's salaries or graphic designers cost and time. They have observed that ROAS depends on the amount that is invested into marketing. For example, months with moderate marketing investment have seen bigger ROAS than months with higher marketing investment. However, they are aware that effects from advertising do not always appear immediately. At least part of the advertising effect comes in the next months and is therefore not calculated in the monthly ROAS. Precise ROAS calculation also depends on how accurate is the attribution model. If channels are not given credit for revenue generation where they should, ROAS will not reflect the real profitability of channels. Because ROAS is relatively newly measured metrics in the company, they are still observing it. Maybe in the future, they will change or support it with return on investment or ROI, which takes into account all the investments and costs and not only advertising spend.

Web analytics process suggests actions that should be taken in order to improve company's performance and web analytics process itself. According to results presented with this case study, there are some actions that can be taken.

We have seen that users with zero order generate high percentages of sessions. The first action is to explore what is the real visit intention of these people. One way to do it is to implement on exit survey.
It would ask these visitors what was the purpose of the visit or why are they leaving the website. Another thing to explore is the behavior of those visitors. It should be checked what are they doing on the website. Are they adding items to the basket or entering the checkout process? Where do they drop out? Alternatively, are they just clicking on restaurant opening times or menus and never going further that that? Metric that could be implemented for this purpose is attrition rate. Attrition rate measures at which step of the funnel visitors are dropping out. To explore that, visitors are segmented according to their behavior as well as devices used. Firstly, it checks where are the people that do not order dropping out. Secondly, if and where are the loyal users dropping out. Are there differences between mobile and web attrition rate and why? This could help to improve user experience if needed.

Next thing that could be reconsidered in company's web analytics process is attribution modeling. As we have seen in paid media channels evaluation section, paid media has contributed a small part of newly registered users and revenue. However, because last click attribution model is currently applied in the company, it is possible that paid media channels got less credit than they deserved. This is especially true for brand awareness generating channels such as display and Facebook advertising. The company could consider some other attribution models, for example, time decay model, that was explained in chapter 2.3.3 of this thesis. By using that model, companies assign credit to different touch point in the customer journey, based on numbers of days that passed since last interaction before conversion (S. Reh, 2015). Using this model, the company could compare results to currently used models and evaluate the suitability of each model.

Lastly, loyal users (users that order three or more times per month) are the most important segment for the company, as they generate the biggest part of company's revenue. Knowing this, the company could rethink marketing actions and tactics that are addressing this segment. Would this segment prefer not to be advertised to or do they need an extra push? Would rewarding loyal users increase their number? These questions lead into new marketing actions and tactics that get tested and evaluated to see what is best performing strategy over time.

A problem that company sometimes faces with web analytics usage is a lack of time. Web analytics process always gives suggestions for future actions. Future actions often mean exploring deeper into web analytics data to gain additional insights, which can be fairly time-consuming. Also, it is often hard to decide which metrics to choose as key performance indicators. They try to choose the metrics that best fit the context. If it turns out chosen metrics were not appropriate, then they change them during the process. However, the most important metrics are always connected to profitability and revenue.

Limitation of web analytics data collection is that not every single visitor to the platform is counted. Because users of online ordering services tend to be tech savvy, there is a chance that some of them use settings to protect their privacy. The company takes that into account when dealing with web analytics. In the future, they could consider connecting application level logging data to web analytics data, which would lead to higher data accuracy.

4.5 Summary of findings

This case study has shown how web analytics is used in practice to evaluate company's performance. The company has learned about their users, their behavior on the platform and the efficiency of different marketing channels. Because of web analytics usage, they know their best segments and use this data when planning new campaigns. Knowing which channels contribute most to marketing and business objectives helps them decide on future marketing investments.

The case study has also shown that web analytics metrics system is unique for each company as metrics always depend on marketing objectives. For different marketing objectives, different metrics system would be used. It showed that web analytics is a circular process that is adjusted and changed over time. The case study confirmed that it is difficult to decide which metrics to select, as there are so many different metrics measuring similar things. Even after metrics are selected, companies should stay aware that best metrics selection could change over time. Another problem highlighted in the case study is a lack of time for web analytics. This happens because the whole process can be quite time-consuming. To conclude, web analytics usage can bring many advantages when applied correctly. However, the process is not defined once for all but should always be adapting to company's needs as well as technology advancement.

CONCLUSION

Low costs, greater efficiency, and ease of implementation have contributed to the rise of digital marketing. With that happening, priorities in marketing became measuring and data. Web analytics additionally fueled the growth of digital marketing, making it more measurable and result oriented. Web analytics is used to measure the efficiency of digital marketing campaigns, evaluate marketing and overall business performance. It helps to understand website visitor's characteristics as well as their behavior. It is used in many different industries around the world and is especially important for e-commerce companies as large part of their revenue is generated online.

The process of applying web analytics into digital marketing strategy is unique according to company's specific needs. To exploit web analytics to their benefits, companies have to fulfill some prerequisite. It starts with the clear definition of digital marketing strategy. This

includes an overview of the current situation, the definition of marketing and business objectives and choice of appropriate tactics and actions. After that, they design a clear process that contains choosing the right metrics for performance measurement, developing key performance indicators, collecting, analyzing and presenting data in a way that gives useful suggestions for future actions.

There are many challenges that marketers face nowadays. Many still lack behind in assigning clear goals to their campaigns. Many lack analytical skills, which makes it hard for them to exploit web analytics to their benefits. In Slovenia, marketers and owners of e-commerce companies do know that good web analytics usage contributes to better performance. Many e-commerce companies in Slovenia are already exploiting web analytics to improve marketing and business results. Metrics that are most important to them are conversion rate and cost per conversion, which show their focus on revenue. As major challenges, they have reported a lack of time for web analytics and lack of analytical skills of themselves or their employees. They also have difficulties in understanding how metrics impact the overall success of the company.

This master thesis also presented how web analytics process is implemented in an e-commerce company, which has reported business and marketing benefits from web analytics usage. It showed that web analytics process is a circular process where steps are always adapting to current marketing and business objectives as well as technology advancements. To pick most suitable metrics for performance measurement, marketers have to have clear goals and know the availability of metrics that nowadays exist. This is often a challenge, as there are so many metrics available. As marketers and owners of Slovenian e-commerce companies have reported a lack of time and skills for web analytics, case study presented can serve them as a reference point when creating own web analytics process.

When used right, web analytics can bring many advantages to an e-commerce company. It can improve the efficiency of marketing campaigns and make decision-making on marketing investment easier. Marketing efficiency leads to higher revenue and lower costs. This, in the end, impacts company’s profitability and overall success.

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APPENDIXES

TABLE OF APPENDIXES

APPENDIX A: Questionnaire for quantitative research

Anketa o uporabi spletne analitike med spletnimi trgovinami in platformami

Trajanje ankete: 3-4 minute, 5 vprašanj o uporabi spletne analitike.
Anketa je namenjena: Osebam, odgovornim za marketing/spletno analitiko v spletnih trgovinah ali spletnih platformah.
Anketa je anonimna. Raziskavo delam v sklopu magisrske naloge na Ekonomski Fakulteti v Ljubljani. Rezultati bodo objavljeni v magistrski nalogi z naslovom "web analytics for e-commerce", ki bo javno dostopna na straneh Ekonomske Fakultete v Ljubljani.

Že vnaprej lepa hvala za sodelovanje in vaš čas!

1. **1. Prosim ocenite, kako pogosto z uporabo spletne analitike spremljate:**
   Mark only one oval per row.

	Spremljamo dnevno	Spremljamo tedensko	Spremljamo mesečno	Spremljamo nekajkrat letno	Nikoli ne spremljamo
Podatke obiskovalcev spletne strani (starost, spol, naprave ipd.)					
Število obiskovalcev spletne strani, sej, in ogledov strani					
Obnašanje obiskovalcev spletne strani na strani					
Dogodke na spletni strani(nakup, dodan artikel v košarico ipd.)					

2. **2. Prosim ocenite, kako pogosto merite uspešnost različnih kanalov in marketinških kampanij s spremljanjem:**
   Mark only one oval per row.

	Spremljamo dnevno	Spremljamo tedensko	Spremljamo mesečno	Spremljamo nekajkrat letno	Nikoli ne spremljamo
Obiska spletne strani, ki ga pripeljejo različni kanali/kampanije					
Stopnje konverzije, ki jo ustvarijo različni kanali/kampanije					
Stroška za pridobitev novega kupca na spletni strani					
Dolgoročne vrednosti kupca, ki ga pripeljejo različni kanali/kampanije					
Profitabilnosti različnih kanalov/kampanij					

3. **3. Prosim ocenite, do kolikšne mere vam je uporaba spletne analitike do sedaj pripomogla k:**
   Mark only one oval per row.

	Je občutno pripomogla	Je pripomogla	Je malo pripomogla	Ni pripomogla	Ne vem / Nimam odgovora
Izboljšanju rezultatov digitalnega marketinga					
Lažjemu odločanju o investiciji v marketinške aktivnosti					
Nižanju stroškov					
Višanju prodaje					

4. **4. Prosim ocenite, do kolikšne mere je pri uporabi spletne analitike za vas problematično naslednje:**
   Mark only one oval per row.

	Zelo problematično	Problematično	Malo problematično	Sploh ni problematično	Ne vem / Nimam odgovora
Jasna opredelitev ciljev digitalnega marketinga					
Izbira najbolj pomembnih metrik					
Razumevanje, kaj posamezna metrika meri					
Ustrezno segmentiranje obiska na strani					
Pripisovanje ustrezne vrednosti različnim kanalom in napravam					
Razumevanje, kako posamezna metrika vpliva na uspeh podjetja					
Tehnična implementacija orodij					
Znanje uporabe orodij					
Pomanjkanje analitičnih sposobnosti kadra					
Pomanjkanje časa za spletno analitiko					

5. **5. Prosim ocenite, kako pomembne so za vas naslednje metrike:**
   Mark only one oval per row.

	Zelo pomembno	Pomembno	Malo pomembno	Nepomembno	Ne vem / Ne poznam
Seje in uporabniki (sessions and visitors)					
Ogledi strani (page views)					
Povprečno trajanje seje (average session duration)					
% novih sej (%new sessions)					
Stopnja obiskov ene strani (bounce rate)					
% obiskovalcev, ki stran zapusti na določenem koraku (attrition rate)					
Stopnja konverzije (conversion rate)					
Strošek na konverzijo (cost per conversion)					
Vrednost življenske dobe potrošnika (customer lifetime value)					
Število dogodkov (npr. nakup) na uporabnika v določenem obdobju (frequency)					
Dnevi in obiski do nakupa (days and visits to purchase)					
Zapustna stopnja košarice in nakupnega procesa (cart and check out abandonment rate)					
Delež obiskovalcev, ki so po opravljenem dejanju (npr. nakup) izvedli še eno dejanje (npr. ponoven nakup) (hurdle rate)					
Delež obiskovalcev iz preteklosti, ki se še vedno vračajo (retention rate)					
Povprečna vrednost naročila (average order value)					
% od prodaje (% of sales)					
Donosnost oglaševanja (return on advertising spend)					
Donosnost naložb (return on inverstment)					

6. **Prosim, navedite naziv vašega delovnega mesta (npr. vodja marketinga)**

_____

7. **Približno koliko je zaposlenih v vašem podjetju?**
   Mark only one oval.

   - ◯ 1-10
   - ◯ 11-50
   - ◯ 51-100
   - ◯ Nad 100

8. **Koliko je zaposlenih v trženju? (vključuje marketing, komercialo in prodajo)**
   Mark only one oval.

   - ◯ 1-2
   - ◯ 3-5
   - ◯ 6-10
   - ◯ 11-30
   - ◯ Nad 30

9. **Bi radi še sami kaj dodali ali pripomnili?**

_____

_____

_____

_____

_____

APPENDIX B: Quantitative research results

Table 1. Job title of respondents

Job Title	Responses
Vodja prodaje	2.0%
Vodja trgovine	2.0%
Vodja spletnega marketinga	3.9%
Vodja projektov v marketingu	2.0%
Vodja projetkov	2.0%
Vodja prodaje in marketinga	2.0%
Vodja mednarodnega razvoja	2.0%
Vodja marketinga	35.3%
Vodja analitike	2.0%
Vodja	3.9%
Urednik spletne trgovine	2.0%
Shopper based design manager	2.0%
Operativni director	2.0%
One man band	2.0%
N/A	7.8%
Marketing/prodaja	2.0%
E-commerce	2.0%
Direktor podjetja	11.8%
Digital Marketing Manager	2.0%
Asistent/delavec v marketingu	9.8%

Table 2. Marketing and sales department size

Marketing and sales department size	Responses
1-2	56.9%
3-5	9.8%
5-10	17.6%
11-30	7.8%
More than 30	5.9%
No answer	2.0%

Table 3. Company size

Company size	Responses
More than 100	13.7%
51-100	5.9%
11-50	21.6%
1-10	58.8%

Table 4. SPSS results on question 1

	Information about audience	Count of visitors, sessions and page views	Visitor's behavior	Events on the website
n Valid	51.00	51.00	51.00	51.00
n Missing	0.00	0.00	0.00	0.00
Mean	2.14	1.49	2.02	1.65
Std. Deviation	1.00	0.64	1.01	1.00
Minimum	1.00	1.00	1.00	1.00
Maximum	5.00	3.00	5.00	5.00

Table 5. SPSS results on question 2

	Measuring traffic from different channels	Measuring conversion rate from different channels	Cost of acquiring new customer	Customer lifetime value by different channel	Profitability of channels
n Valid	51.00	51.00	51.00	51.00	51.00
n Missing	0.00	0.00	0.00	0.00	0.00
Mean	1.73	1.94	2.51	3.02	2.37
Std. Deviation	0.69	0.88	1.27	1.38	1.15
Minimum	1.00	1.00	1.00	1.00	1.00
Maximum	3.00	5.00	5.00	5.00	5.00

Table 6. SPSS results on question 3

	Make marketing investment decisions	**Revenue growth**	**Improve digital marketing results**	**Lowering the costs**
n	50.00	49.00	50.00	49.00
Mean	1.48	1.59	1.64	1.94
Std. Deviation	0.65	0.67	0.66	0.92
Minimum	1.00	1.00	1.00	1.00
Maximum	3.00	4.00	3.00	4.00

Table 7. SPSS results on question 4

	n	**Mean**	**Std. Deviation**	**Minimum**	**Maximum**
Clear development of digital marketing goals	51	3.20	0.849	1	4
Choosing the most important metrics	51	3.20	0.775	1	4
Understanding what metrics measure	51	3.33	0.887	1	4
Segmentation of traffic on website	51	3.12	0.765	1	4
Assign right value to different channels and devices	50	3.02	0.915	1	4
Understanding how metrics impact success of the company	50	2.98	0.714	1	4
Technical implementation of tools	51	3.06	0.858	1	4
Knowledge of tools usage	51	3.22	0.808	1	4
Lack of employee’s analytical skills	49	2.92	0.932	1	4
Lack of time for web analytics	50	2.48	1.015	1	4

Table 8. Frequency of answers on question 4

n=51 % of answers	**Very problem-atic**	**Proble-matic**	**Little problematic**	**Not proble-matic**	**I don't know**
Clear development of digital marketing goals	3.9%	15.2%	37.3%	43.1%	0.0%
Choosing the most important metrics	3.9%	9.8%	49.0%	37.3%	0.0%
Understanding what metrics measure	5.9%	9.8%	29.4%	54.9%	0.0%
Segmentation of traffic on website	2.0%	17.6%	47.1%	33.3%	0.0%
Assign right value to different channels and devices	5.9%	21.6%	35.3%	35.3%	2.0%
Understanding how metrics impact success of the company	2.0%	19.6%	54.9%	21.6%	2.0%
Technical implementation of tools	2.0%	27.5%	33.3%	37.3%	0.0%
Knowledge of tools usage	3.9%	11.8%	43.1%	41.2%	0.0%
Lack of employee's analytical skills	5.9%	27.5%	31.4%	31.4%	3.9%
Lack of time for web analytics	17.6%	35.3%	25.5%	19.6%	2.0%

Table 9. SPSS results on question 5

	n	Mean	Std. Deviation	Minimum	Maximum
Sessions and visitors	51	1.73	0.666	1	3
Page views	51	1.75	0.717	1	4
Average session duration	51	1.92	0.771	1	4
Percentage of new sessions	51	1.90	0.728	1	3
Bounce rate	50	1.66	0.688		3
Attrition rate	51	1.94	1.103	1	5
Conversion rate	51	1.27	0.635	1	4
Cost per conversion	50	1.40	0.833	1	5
Customer lifetime value	51	2.31	1.068	1	5
Frequency	51	2.08	1.055	1	5
Days and visits to purchase	51	2.37	1.019	1	5
Cart and check out abandonment rates	50	1.64	0.827	1	4
Hurdle rate	51	2.02	1.104	1	5
Retention rate	51	1.69	0.927	1	5
Average order value	51	1.80	0.872	1	4
Percentage of sales	51	1.88	0.952	1	5
ROAS	51	1.57	0.878	1	5
ROI	51	1.67	0.909	1	5

Table 10. Frequency of answers on question 5

n=51 % of answers	Very important	Important	Little important	Not important	I don't know
Sessions and visitors	39.2%	49.0%	11.8%	0.0%	0.0%
Page views	39.2%	49.0%	9.8%	2.0%	0.0%
Average session duration	31.4%	47.1%	19.6%	2.0%	0.0%
Percentage of new sessions	31.4%	47.1%	21.6%	0.0%	0.0%
Bounce rate	45.1%	41.2%	11.8%	0.0%	0.0%
Attrition rate	43.1%	33.3%	15.7%	2.0%	5.9%
Conversion rate	80.4%	13.7%	3.9%	2.0%	0.0%
Cost per conversion	72.5%	17.6%	3.9%	2.0%	2.0%
Customer lifetime value	21.6%	43.1%	23.5%	5.9%	5.9%
Frequency	35.3%	35.3%	23.5%	3.9%	3.9%
Days and visits to purchase	21.6%	35.3%	29.4%	11.8%	2.0%
Cart and check out abandonment rates	54.9%	25.5%	15.7%	2.0%	0.0%
Hurdle rate	41.2%	29.4%	19.6%	5.9%	3.9%
Retention rate	52.9%	33.3%	7.8%	3.9%	2.0%
Average order value	43.1%	39.2%	11.8%	5.9%	0.0%
Percentage of sales	41.2%	37.3%	15.7%	3.9%	2.0%
ROAS	60.8%	27.5%	7.8%	2.0%	2.0%
ROI	52.9%	53.3%	5.9%	3.9%	2.0%

APPENDIX C: POVZETEK MAGISTRSKE NALOGE V SLOVENSKEM JEZIKU

Uvod

Danes živimo v svetu, kjer se tehnologija spreminja tako hitro, da ji ni vedno lahko slediti. To velja tudi za tržnike, ki se morajo nenehno prilagajati spremembam v okolju ter napredku tehnologije. Veliko tržnikov dandanes razume pomembnost digitalnih vzgibov, vendar kljub temu niso vsi pripravljeni nanje. Elektronsko trženje se je v zadnjih letih bliskovito razširilo, predvsem zaradi cenovne dostopnosti, učinkovitosti in možnosti merjenja. Prav za slednjo je pomembna spletna analitika, ki lahko veliko pripomore k večjemu uspehu trženja. Uporaba analitike izboljša rezultate trženja in poslovanja, v kolikor je uporabljena v skladu s trženjskimi in poslovnimi cilji podjetja. Vsako podjetje si za ta namen razvije svoje metrike, ki so zanj najbolj pomembne. To so metrike s katerimi se lahko meri uspešnost oglasov, oglasevalških akcij, rezultatov trženja ter poslovnih rezultatov. Ta magistrska naloga je razdeljena na tri glavne dele.

Prvi del je pregled literature, v katerem uporabim sekundarne vire, kot so strokovni članki, raziskave ter knjige iz področja elektronskega trženja in spletne analitike. Namen je ugotoviti, kakšne prednosti lahko prinese uporaba spletne analitike ter kako se jo uporabi za namene elektronskega trženja. Raziščem, ali obstajajo kakšni pogoji za vpeljavo uporabe spletne analitike v podjetje ter kakšni so najpogostejši problemi pri tem. Pregled literature je sestavljen iz dveh delov. Prvi del predstavi elektronsko trženje ter trženjsko strategijo, ki je z njim povezana. Drugi del predstavi spletno analitiko, proces spletne analitike ter najpomembnejše metrike. Zaključi se s predstavitvijo pomankljivosti uporabe spletne analitike.

Drugi del magistrske naloge je kvantitativna raziskava. V njej s pomočjo spletnega vprašalnika raziščem, kako spletno analitiko uporabljajo slovenska spletna podjetja in spletne trgovine.

Tretji del naloge je kvalitativna raziskava, v kateri na primeru podjetja prikažem uporabo spletne analitike v praksi. S študijo primera največje slovenske spletne platforme za naročanje hrane na dom raziščem, kako se spletna analitika uporablja v podjetju, kjer je uporaba spletne analitike prinesla boljše trženjske in poslovne rezultate.

Elektronsko trženje

Že več kot desetletje je internet najhitreje rastoč nakupovalni kanal. Dandanes so prioritete v trženju merljivost in merjenje, podatki in stopnje konverzije na spletnih straneh. Vse to še do pred kratkim ni bilo del tradicionalnega trženja. Namen elektronskega trženja je promocija izdelkov, storitev in blagovnih znamk preko uporabe vseh elektronskih medijev.

Najpogostejša termina sta spletno trženje ter elektronsko trženje. Slednji je širši pojem, saj ne zajema le uporabe spleta, pač pa tudi ostale medije. Primer so mobilne aplikacije ter interaktivna televizija. Vsi te mediji so pri elektronskemu trženju uporabljeni v promocijske namene. Trženjski cilji se dosežejo s pomočjo uporabe elektronskih tehnologij. Pri elektronskemu trženju ima velik pomen uporaba tehnologije. Še bolj kot to pa je pomembno razumevanje ljudi ter kako ljudje uporabljajo tehnologijo. Veliko tržnikov danes se sooča s problemi, kot so pridobivanje uporabnih podatkov o svojih kupcih in uporabnikih s pomočjo analitike. Prav tako predstavlja problem ocenjevanje uspešnosti elektronskega trženja v podjetju. Da bi uporaba spletne analitike podjetju prinesla prednosti, mora ta imeti skrbno definirano strategijo elektronskega trženja. Oblikovanje strategije vsebuje ključne korake, kot so ocena trenutnega stanja, definicija ciljev in definicija strategije, ki je v skladu s cilji.

Pri oceni trenutnega stanja podjetje razišče, kako uspešne so trenutne trženjske aktivnosti in koliko doprinesejo različni elektronski kanali. Ocena trenutnega stanja upošteva tako notranje kot tudi zunanje faktorje. Drugi korak pri oblikovanju strategije elektronskega trženja je opredelitev in oblikovanje ciljev. Ti morajo imeti realističen časovni okvir ter biti dosegljivi. Delijo se na kvanitiativne ter ne-kvanitiativne. Prvi so cilji, ki so povezani z rezultati podjetja. Primer takega cilja je rast dohodka ali donosnost naložb v oglaševanje. Drugi pa vsebujejo odločitve o širitvi na tuje trge in razvoju novih izdelkov. V magistrski nalogi je predstavljen okvir za določanje ciljev za transakcijsko spletno podjetje. Ko so cilji definirani, se oblikuje strategija. Ta vsebuje vse taktike ter odločitve o tem, kateri kanali bodo uporabljeni za promocijo.

Spletna analitika

Začetki spletne analitike segajo v leto 1993, ko se je pojavil prvi široko uporabljen brskalnik Mosaic. Uporaba spletne analitike se je hitro razširila za namene elektronskega poslovanja, optimizacije trženja, razvijanja spleta ter izboljšanja uspešnosti spletnih strani. Danes se spletna analitika uporablja v mnogo različnih panogah. Spletna analitika pomeni tehnologijo in metode za zbiranje, merjenje, analizo in predstavitev podatkov uporabe spletnih strani ter spletnih aplikacij. Pripomore k izboljšavi izkušnje, ki jo na spletu doživljajo uporabniki. Uporaba spletne analitike lahko olajša sprejemanje odločitev v trženju. To se kasneje pretvori v zaželjene rezultate, ki se zgodijo na spletu ali pa v realnem svetu.

Podatki v spletni analitiki so v obliki metrik in dimenzij. Metrika predstavlja število, ki pove, na primer koliko ljudi obišče spletno stran v določenem obdobju. Izražena je lahko kot števka ali pa kot razmerje med števkami ali med razmerji. Ključni kazalniki uspeha so metrike, ki podjetju povejo, kako dobro mu gre na svoji poti doseganja cilja. Metrika kot sama ne pove veliko, če ni postavljena v kontekts s pomočjo dimenzij. Na primer, število spletnih obiskovalcev pove več, če ga razdelimo glede na dimenzijo, ki je v tem primeru lahko geografska lokacija uporabnikov.

Uporaba spletne analitike lahko veliko doprinese k uspehu podjetja, vendar le pod pogojem, da je pravilno uporabljena. Če informacije, pridobljene s pomočjo spletne analitike niso pravilno uporabljene, potem uporaba spletne analitike ne predstavlja nobene prednosti. Spletna analitika kot sama ne prinaša nobene izboljšave v trženju. Koliko bo podjetje odneslo od uporabe, je odvisno od tega, kako uporabljajo metrični sistem glede na svoje specifične cilje in potrebe. Vsako podjetje mora razviti svoj metrični sistem, ki bo služil za ocenjevanje uspešnosti trženjskih aktivnosti. Proces spletne analitike pomaga identificirati pomembne kazalnike uspešnosti ter določiti njihovo minimalno vrednost, ki je potrebna za uspeh. Nato meri in ocenjuje te metrike, kasnje pa se na podlagi rezultatov predlaga izboljšave. Na tej točki je pomembna tako kvaliteta samega analitičnega procesa kot tudi procesa vodenja. Slednji zajema pravočasno opravljanje analize ter uspešno predlaganje izboljšav glede na rezultate analize. To je še posebej pomembno, saj so ponavadi težave tu prej strateške narave kot pa tehnične. Orodja so seveda pomembna, vendar je jasno opredeljen proces še pomembnejši. Koraki v procesu spletne analitike so planiranje, zbiranje podatkov, izbira orodij ter izbira najbolj pomembnih metrik in kazalnikov uspeha. Za tem sledi analiza podatkov ter predlaganje ukrepov in izboljšav, ki temeljijo na podatkih.

Planiranje se začne z definicijo jasnega cilja. To je ponavadi cilj trženja, ki je povezan s cilji oglaševalskih kampanij ali pa s širšimi cilj podjetja. Na primer, cilj je lahko povišanje opaznosti blagovne znamke, povečanje prodaje ali povečanje zvestobe blagovni znamki. Lahko je povezan s stroški, na primer znižanje stroška za pridobitev novega kupca. Šele ko so cilji jasno opredeljeni, se lahko merijo rezultati. Merjenje omogoča, da vodje lažje razumejo in upravičijo investicijo v določeno trženjsko aktivnost ter se bolj objektivno odločajo o prihodnjih investicijah.

V začetku spletne analitike so se podatki večnoma zbirali z logiranjem spletnih strežnikov. To je tradicionalna metoda, pri kateri brskalnik ustvari tekstovni dokument, ki posname aktivnosti na spletni strani. Ko se je razširila uporaba JavaScripta, se je uveljavila nova metoda zbiranja podatkov, imenovana označevanje strani. Pri tej metodi je majhen delček kode dodan na vsako podstran spletne strani. Ta sledi uporabnikovi aktivnosti na spletni strani ter informacije shranjuje v piškotek. Ta metoda je večinoma uporabljena pri malih in srednje velikih spletnih straneh. Tretja metoda, ki se uveljavlja predvsem v zadnjem času pa je pridobivanje podatkov direktno iz spletne ali mobilne aplikacije. Tu se uporabnik vpiše ali prijavi v sistem, s čimer razkrije določene podatke. Bolj znana orodja za spletno analitko, kot na primer Google Anaytics, uporabljajo metodo označevanja strani. Vsako orodje je kompleksen ustroj ter vsebuje določene unikatne lastnosti. Pri izbiri orodja jih podjetja med seboj primerjajo glede na zanesljivost, način pridobivanja podatkov, možnosti shranjevanja podatkov ter časovni zamik med zbiranjem in poročanjem podakov.

Načrtovanje merjenja uspešnosti trženja vsebuje odločanje o izbiri pravik metrik in defniniranju kazalnikov uspeha, kot so na primer obiskovalci na strani ali stopnja konverzije. Uspešen metrični sistem se razlikuje od podjetja od podjetja. Zaradi tega ni nekih splošnih

standardov, ki bi se jih vsa podjetja lahko držala. Vsako podjetje mora zgraditi svoj metrični sistem, ki je v skladu z njihovimi cilji. Kljub temu pa obstaja nekaj lastnosti, ki so skupne uspešno izbranim metrikam. To so merljivost, neposredna povezanost z uspehom podjetja, možnost napovedovanja prihodnjih rezultatov in primerljivost z metrikami konkurentov. Nekatere metrike le razložijo pretekle pojave, druge pa so zmožne vsaj do neke mere napovedati, kako se bo uspeh podjetja odvijal v prihodnje. Na primer, če prodaja obstoječim kupcem pada skozi čas, je to lahko kazalec manjšega prihodka v prihodnosti. Spletna analiza se deli na mikro in makro analizo. Makro analiza poda širšo sliko, kot so informacije o obiskovalcih na spletni strani, iz kje prihajajo ter katere podstrani najraje obiskujejo. Mikro analiza pa se osredotoča na majhne podrobnosti v obiskovalčevem obnašanju, na primer dodajanje artikla v košarico. Analiza obnašanja se začne z mikro ciljem in konča z makro ciljem, ki je nakup oziroma transkacija. Makro metrike torej merijo, do kolikšne mere so strateški cilji doseženi in kako elektronsko trženje doprinaša k uspehu podjetja in dobičkonosnosti. Na drugi strani pa mikro metrike ocenijo učinkovitost trženjskih akcij in taktik ter njihovo implementacijo. Pri merjenju vseh metrik je še posebno pomemben kontekst. Podatki so namreč bolj razumljivi, če se jih med seboj primerja glede na različne segmente, skozi čas, ali glede na povprečje. Osredotočanje na razmerja, raje kot na absolutne številke, doda podatkom več pomena, kar vodi v večjo razumljivost. Najpogostejši problemi, ki se pojavijo pri določanju in izbiri metrik so nezmožnost ocene, kako metrika vpliva na finančne rezultate v podjetju. Poleg tega imajo podjetja težave tudi pri razumevanju, kaj posamezna metrika pravzaprav meri. Tretji problem je, da se je v ogromni izbiri metrik težko odločiti za le nekaj pravih, podjetju najbolj pomembnih metrik.

Metrike se delijo glede na to, kaj merijo. V nalogi so predstavljene osnovne metrike za spremljanje obiska in obnašanja na spletni strani, plačljivih oglaševalskih akcij, ovrednotenje različnih kanalov in obiskovalcev ter metrik, ki so posebej pomembe za spletna podjetja in spletne trgovine. Pomembne metrike za spremljanje obiska in obnašanja na spletni strani so seje, edinstveni in vračajoči se obiski, čas na spletni strani in posamezni podstrani, stopnja ogledov ene strani, zapustna stopnja na posamezni podstrani, globina in frekvenca obiska ter stopnja konverzije. Te metrike podajo informacije o tem, kako se obiskovalci spletne strani gibljejo skozi stran, odzivajo na razične stvari na strani ter opravijo nakup. Plačljive oglaševalske akcije vsebujejo oglaševanje preko različnih kanalov kot so Facebook, Google iskalno imrežje ali Google prikazno omrežje. Metrike za spremljanje plačljivih trženjskih kampanij so cena na tisoč prikazov, razmerje med kliki in prikazi, razmerje med ogledi in prikazi in cena na klik. Sem spada tudi analiza ključnih besed in preproste metrike, kot so število všečkov na socialnih omrežjih. Pri oglaševanju preko elektronske pošte sta pomembna stopnja odprtja in stopnja klika. Pomembna metrika pri pridobivanju novih uporabnikov in večanju prodaje je cena na akcijo. Ta pove, koliko podjetje plača za dejanje uporabnika, ki je lahko registracija ali pa na primer nakup. Vsaka plačljiva kampanija se oceni glede na to, koliko je doprinesla k cilju kampanije, trženja ali podjetja. Kadar je cilj nakup, sta pomembni metriki stopnja konverzije ter dobičkonosnot naložbe v oglaševanje.

Uspešnost različnih kanalov se ovrednoti z metrikami, ki so segmentirane glede na to, kateri kanal je odgovoren za pridobitev obiskovalca na spletni strani. Najpreprostejše so na primer globina obiska, odstotek novih obiskovalcev v vseh obiskovalcih in frekvenca obiska. Pomembna je tudi »metrika obrabe« (angl. *attrition rate*), ki razloži, kolikšen odstotek obiskovalcev zapusti spletno stran na točno določeni točki. Dve pomembni metriki, ki se nanašata na dobičkonosnost sta dobičkonosnost investicij in dobičkonosnost investicij v oglaševanje. Prva je širši pojem in se nanaša na vse investicije podjetja. Druga pa meri le prihodke, ki so nastali zaradi oglaševanja na točno določenem kanalu. Kot stroške zajema le stroške, ki so povezani z vložkom v oglaševanje.

Metrike za ovrednostenje različnih obiskovalcev so življenska vrednost kupca, število dni, ki je minilo od nakupa ali zadnjega obiska, frekvenca nakupov ali obiskov in pa odstotek obiskovalcev, ki je po opravljeni eni akciji (na primer registracija) opravilo še drugo (na primer nakup). Omeni se tudi stopnja zadržanja uporabnikov, ki razloži, kolikšen odstotek ljudi, ki so nekoč bili uporabniki, so še vedno uporabniki danes. Vse te metrike se osredotočajo na dolgoročni uspeh in ne le merjenje trenutnih stanj in kratkoročnih stopenj konverzij. Tržnikom omogočajo, da poiščejo uporabnike, ki bodo za podjetje predstavljali dolgoročnjejšo vrednost.

Metrike, ki so pomembne za spletna podjetja in se osredotočajo na nakup so zapustna stopnja košarice, zapustna stopnja nakupnega procesa in povprečna vrednost nakupa. Pomembna je tudi stopnja konverzije naročil, ki meri kolikšen odstotek obiskov se konča z nakupno transakcijo. Dolgo časa je kot najpomembnejša metrika za spletna podjetja veljala rast prihodkov. V zadnjem času pa jo vse bolj izpodrivata donosnost investicij ter donosnost investicij v oglaševanje. Slednji v nasprotju s prvo zajameta tudi stroške, ne le prihodke in zato velikokrat odražata bolj realno sliko.

Spletna analitika ima nekaj pomankljivosti. Dve težavi sta točnost podatkov ter zasebnost podatkov. Podjetja morajo biti pri zbiranju podakov pazljiva, da s podatki ravnajo odgovorno in v skladu z zakonom. Podatki so lahko netočni, ker se določeni uporabniki ognejo zbiranju njihovih podatkov. To storijo z nastavitvami v njihovem brskalniku ali pa z brisanjem piškotkov. V nadaljevanju predstavim kvantitativno in kvalitativno analizo.

Kvantitativna raziskava

Pregled literature je razkril, da veliko podjetij še vedno ne meri uspešnosti elektronskega trženja ter da se pri uporabi spletne analitike soočajo z mnogimi težavami. Zaradi tega je namen kvantitativne raziskave raziskati, kako slovenska spletna podjetja in spletne trgovine uporabljajo spletno analitiko v namene elektronskega trženja. Glavna raziskovalna vprašanja so v katere namene in kako pogosto uporabljajo spletno analitiko, katere koristi jim prinaša uporaba spletne analitike, katere so najpomembnejše metrike ter s katerimi težavami se pri

uporabi spletne analititke soočajo. Za ta namen sem oblikovala spletni vprašalnik ter ga po elektronski pošti poslala 242 slovenskim spletnim podjetjem ter spletnim trgovinam. Zbrala sem 51 odgovorov, kar predstavlja 21% stopnjo odgovora. Zbrane podatke sem analizirala s pomočjo programa za statistično analizo SPSS. Na podlagi rezultatov sem tudi sprejela ali ovrgla zastavljene hipoteze.

Glavne ugotovitve pri raziskavi so, da slovenska spletna podjetja in spletne trgovine pogosto uporabljajo spletno analitiko. Najpogosteje jo v povprečju uporabljajo za spremljanje obiskovalcev, sej in obiska posameznih strani na spletni strani. Odstotek podjetij, ki spletne analitike nikoli ne uporablja je nižji od 5%. V namene ocenjevanja različnih kanalov, podjetja v povprečju spletno analitiko največ uporabljajo za merjenje obiska, ki ga na spletno stran pripeljejo različni kanali in za merjenje stopnje konverzije, ki jo ustvarijo različni kanali. Podjetja najmanj merijo življensko vrednost kupca, saj teh metrik ne meri 21.6% vprašanih podjetij. Kljub temu pa velika večina podjetij uporablja spletno analitiko v veliki meri. Uporaba spletne analitike v vprašanih podjetjih je imela pozitiven vpliv na trženjske in poslovne rezultate. V povprečju je največ pripomogla k lažjemu odločanju o investicijah v trženje ter k rasti prihodkov. Nekoliko bolj je v povprečju pripomogla k izboljšanju trženjskih rezultatov kot poslovnih rezultatov, čeprav je pozitivno vplivala na oboje. Vprašana podjetja imajo v povprečju največ težav s pomanjkanjem časa za spletno analitiko, pomanjkanjem analitično uposobljenega kadra ter z razumevanjem, kako posamezna metrika vpliva na uspeh podjetja. Kot najpomembnejši metriki so podjetja v povprečju določila stopnjo konverzije in strošek na konverzijo. Na tretjem mestu pomembnih metrik pa je donosnost investicij v oglaševanje. Kvantitativna raziskava je torej pokazala, da slovenska spletna podjetja in trgovine v veliki večini uporabljajo spletno analitiko tako za boljše razumevanje obiskovalcev na spletni strani kot tudi za merjenje uspešnosti raznih trženjskih kanalov. Uporaba spletne analitike je pripomogla k boljšim trženjskim in poslovnim rezultatom. Najbolj pomembne metrike so tiste, ki so povezane s konverzijami. Kljub pomanjkanju časa ter analitičnega znanja, spletna analitika slovenskim spletnim podjetjem in trgovinam prinaša pozitivne koristi.

Kvalitativna raziskava

Namen kvalitativne raziskave je predstaviti uporabo spletne analitike v praksi. Namen je predstaviti proces spletne analitike v podjetju, ki je imelo od uporabe spletne analitike pozitivne koristi. Glavna raziskovalna vprašanja so, kako izgleda implementacija spletne analitike v praksi, kako podjetje izbere najpomembnejše metrike in glavne kazalnike uspeha ter kako uporabi spletno analitko za merjenje uspeha. Kvalitativna raziskava je študija primera podjetja ehrana.si, ki je največja slovenska platforma za naročanje hrane na dom preko spleta. Podatke za raziskavo sem zbrala na tri različne načine in sicer z opazovanjem, pol strukturiranim intervjujem ter uporabo orodja Google Analytics. Omenjeno podjetje sem izbrala zato, ker je v podjetju celotni del prihodkov ustvarjen preko spleta. To pomeni, da je

uporaba spletne analitike za njih še posebej pomembna. Hkrati platforma ustvari veliko obiska in transakcij, kar pomeni, da je zbrana zadostna količina podatkov za obdelavo.

Študija primera je pokazala, da podjetje s spletno analitiko najprej zbere demografske podatke o njihovih najbolj pomembnih uporabnikih. Na podlagi njih se odločijo, katere ključne segmente bodo ciljali s prihodnjimi oglaševaljskimi kampanijami ter kakšne so najverjetneje lastnosti ključnih targetiranih segmentov. Naslednji korak je definicija trženjskih in poslovnih ciljev. Trženjske cilje podjetje segmentira gleda no to, na kateri ključni segment uporabnikov se nanašajo. Glavni ključni segmenti uporabnikov so zvesti uporabniki, srednje zvesti uporabniki ter uporabniki brez naročila. Prvi na mesec preko platforme naročijo vsaj trikrat, drugi pa enkrat do dvakrat. Naslednji korak je izbira oglaševalskih kanalov ter taktik, s katerimi bodo doseženi cilji. Nato se oblikuje metrični sistem, ki je namenjen ocenjevanju uspešnosti. Sistem temelji na glavnih trženjskih in poslovnih ciljih, ki so bili določeni v prejšnih korakih. Izberejo se najbolj pomembne metrike za spremljanje uspeha, ki predstavljajo ključne kazalnike uspeha. Vsak cilj ima torej en ali dva ključna kazalnika uspeha ter nekaj dodatnih, podpornih metrik. Za vsak ključni kazalnik uspeha podjetje določi mejo, ki predstavlja doseženi uspeh. Za tem je predstavljena spletna analiza za omenjeno podjetje v mesecu oktobru 2016.

Študija primera je pokazala, da je metrični sistem res unikaten za vsako podjetje ter da mora biti tesno povezan s cilji podjetja. Za različne trženjske cilje so uporabljene različne metrike. Dokazala je, da obstaja mnogo metrik, ki merijo podobne stvari ter da se ni vedno lahko odločiti, kater metrike so najprimernejše za merjenje uspeha. Druga težava s katero se podjetje sooča pri uporabi spletne analitike je pomanjkanje časa. Celotni proces namreč vsakokrat predlaga globje informiranje o pojavu, kar vodi v novo spletno analizo in je časovno lahko zelo zamudno. Študija primera se zaključi s spoznanjem, da spletna analitika prinaša mnogo prednosti, kadar je pravilno uporabljena. Proces spletne analitike ni definiran enkrat za vselej, pač pa se mora spreminjati v skladu s cilji podjetja in napredkom v tehnologiji.

Zaključek

Uporaba spletne analitike lahko torej pripomore k boljšim rezultatom elektronskega trženja ter lažjemu odločanju o trženjskih odločitvah. Boljši rezultati trženja, ter pravilne odločitve pa vodijo k višjemu prihodku in nižjim stroškom. Tako na koncu uporaba spletne analitike pripomore k večji dobičkonosnosti podjetja ter večjemu splošnemu uspehu. To se seveda ne zgodi z uporabo samo po sebi, pač pa s skrbno definiranimi cilji, strategijo elektronskega trženja ter jasnim in učinkovitim procesom spletne analitike.