FACEBOOK MARKETING INTELLIGENCE

The influence of Facebook marketing on consumer decision-making in the mobile phone and brewing industry

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ABSTRACT
Facebook marketing is becoming an increasingly important tool for companies to influence consumer decision-making. However, there is currently little empirical knowledge about the extent of influence of Facebook marketing on the decision-making process of consumers. We focused on the mobile phone and brewing industry, because these industries will face major challenges in the coming years and there is no research to our knowledge that focused on these industries. This study contributes to these gaps in the literature and investigates the influence of Facebook marketing activities on the decision-making process of consumers. Additionally, this study explores the impact of Facebook marketing in the mobile phone and brewing industry. The theory revealed four Facebook marketing activities that affected the first two phases of the decision-making process. These Facebook marketing activities were advertisements, recommend/share, likes and reviews. Whether they actually had an impact has been tested with the help of survey among 112 students of the University of Twente in the Netherlands. The results of the regression analysis showed that all four Facebook marketing activities had a positive influence on the decision-making process. Furthermore, the results showed that the influence of Facebook marketing activities in the mobile phone industry were higher than in the brewing industry.

Keywords: Facebook marketing, Facebook advertisements, recommending/sharing, likes, reviews, decision-making process, mobile phone industry, brewing industry

1. INTRODUCTION

There are millions of individuals on the internet who want to meet other users to gather information and share experiences or information. These millions of individuals are using social media channels like Facebook, Twitter, Snapchat and Instagram. Because a lot of user information becomes available via social media, companies use social media as a marketing tool (Constantinides, 2009). This has changed the way companies communicate with their customers and share information about their products (Parsons & Lepkowska-White, 2018). Consumers also use social media to communicate with retailers, with the result that consumer engagement is increasing (Araujo, Neijens, & Vliegenhart, 2015).

In the literature there are several models that describe the ways in which consumers get engaged with companies and the path that a consumer goes through before, during and after the purchase of a product or service. Like the customer journey, the AIDA model and the consumer decision-making process. The customer journey is a roadmap that shows how a customer get engaged with a company. The roadmap shows which way a customer goes through to buy a product or to gather information (McKnight, 2017). The AIDA model shows what happens when a consumer sees and uses an advertisement (Rawal, 2013). However, during this study, the focus will be on the consumer decision-making process. According to Power and Phillips-Wren (2011) new technologies like social media ensure that the decision-making process of individuals, groups and organizations keeps changing. The decision-making process consists of phases that a consumer goes through before, during and after the purchase of a product or service (Miklošík, 2015). Social media can have a positive and negative influence on the effectiveness of the decision-making process (Power & Phillips-Wren, 2011).

The scope of this study will be on the social media platform Facebook, because there are still few studies that have focused on Facebook regarding decision-making. According to a report by Newcom Research & Consultancy (2018), Facebook is after WhatsApp the largest social media platform in the Netherlands with 10.8 million active users. The age category that is most on Facebook are people between 20-39 years (89%) (van der Veer, Boekee, Hoekstra, & Peters, 2018).

Additionally, this study will be concentrated on the mobile phone and brewing industry, because there is no study to our knowledge that has done research especially on this topic for these industries. Besides, it is easier to compare products from different industries, because the type of need influences the progress of the decision-making process (Miklošík, 2015). Bourne (1957) claims the same and according to him, social influence is stronger for 'luxury' products because fewer consumers own these products than products that almost all consumers own. There is also a lot of competition in the retail industry, so success will depend to a large extent on the way retailers approach their consumers (Constantinides, Lorenzo Romero, & Gómez Boria, 2008).

After years of growth in the mobile phone industry, there is now for the first time a small stagnation (Fenner, 2018). Innovations play an important role in this market and in the recent period few important innovations have been realized. Moreover, mobile phones are also getting better and are therefore used longer (Fenner, 2018). As a result of these developments, consumers are waiting longer with the purchase of a new mobile phone.

The global brewing industry will face a major challenge in the coming years. Due to declining consumer demand, more and more competitive products, increased requirements of retailers and consumers and more difficult access to the market (Rutishauser, Rickert, & Sänger, 2015). This makes it more and more important for marketers of beer brands to use their marketing budget in the right way.

This study will test which types of Facebook advertisements and other Facebook applications in the mobile phone and brewing industry influence consumer decision-making. This will allow marketers from these industries to observe whether their activities on Facebook actually affect consumers' buying behavior. According to Yadav et al. (2013) there is currently little known about the role of Facebook in influencing transactions, supporting sales and serving as a sales platform. The objectives of this thesis are to fill this research gaps, so to discover to what extent Facebook marketing has an influence on the consumer decision-making process and to explore the impact of Facebook marketing in the mobile phone and brewing industry. The main research question in this study is: What is the influence of Facebook marketing on the consumer decision-making process in the mobile phone and brewing industry?

The remainder of this study is structured as follows. First, a systematic review of the literature is conducted. Followed by an explanation of the research methodology after which the results are analyzed and discussed. The main research question in the conclusion will then be answered followed by a discussion of the implications. The final chapter will discuss the limitations of this research and directions for further research.

2. SYSTEMATIC LITERATURE REVIEW

In this chapter there will be a review of existing literature in order to solve the research problem. A systematic literature review will be conducted and this systematic literature review will serve as a theoretical framework in the remainder of this research. The systematic literature review ensures that there will be a relatively complete picture of the existing literature about the subject (Webster & Watson, 2002). During this systematic literature review, the 'Grounded Theory Literature Review Method' of Wolfswinkel, Furtmueller & Wilderom (2013) will be used. This method serves as a guide for systematizing the literature and consists of five stages (see table 1).

Number	*Task*
1. DEFINE	
1.1	Define the criteria for inclusion/exclusion
1.2	Identify the fields of research
1.3	Determine the appropriate sources
1.4	Decide on the specific search terms
2. SEARCH	
2.1	Search
3. SELECT	
3.1	Refine the sample
4. ANALYZE	
4.1	Open coding
4.2	Axial coding
4.3	Selective coding
5. PRESENT	
5.1	Represent and structure the content
5.2	Structure the article

Table 1: Five-stage grounded-theory method for reviewing the literature in an area: to be used in an iterative fashion. Reprinted from "Using grounded theory as a method for rigorously reviewing literature", by J. Wolfswinkel, E. Furtmueller and C. Wilderom, 2013, European Journal of Information Systems, 22, p. 47. Copyright 2013 by Taylor & Francis Group.

The objectives of this study are to discover to what extent Facebook marketing has an influence on the consumer decision-making process and to explore the impact of Facebook marketing in the mobile phone and brewing industry. To find this out, three sub-questions have been formulated:

- What is the consumer decision-making process and has it changed since the arrival of social media?
- What is Facebook marketing?
- How can consumer decision-making be influenced by Facebook marketing?

The first stage of the five stages of the 'Grounded Theory Literature Review Method' of Wolfswinkel et al. (2013) consists of four steps. The first step is to define criteria for inclusion and / or exclusion of an article. Articles will be scanned for relevance and whether they match with the research questions. Due to the constant changes in the digital world, articles older than ten years are not relevant for the first sub-question and will therefore not be used. In the second step, research fields have to be determined. The research fields must contain the most important words about the research topic (Wolfswinkel, Furtmueller, & Wilderom, 2013). The research fields in this study are social media marketing in the retail sector with a focus on Facebook marketing, the consumer decision-making process and how this process changes through social media. Appropriate databases are chosen during the third step (Wolfswinkel, Furtmueller, & Wilderom, 2013). The literature will be searched in different databases like FindUT, Scopus and Google Scholar. Only trustful articles will be selected. This means that these articles are peer-reviewed by experts and that information about the writers will be checked. In the fourth step, the keywords are formulated. These search terms must reflect the chosen research fields (Wolfswinkel, Furtmueller, & Wilderom, 2013). In the first instance, the keywords that will be used to answer the research questions are: "social media marketing", "Facebook marketing", "consumer decision-making process", "retail AND social media" and "Facebook AND decision making".

In the second stage the actual search of the keywords takes place. The results of the search can be seen in the table below.

Keyword	**Number of articles**	**Percentage**
Social media marketing	704	43,03%
Facebook marketing	32	1,96%
Consumer decision making process	271	16,56%
Retail AND social media	277	16,93%
Facebook AND decision making	352	21,52%
Total	1636	100%

Table 2: The actual search of keywords

In the third stage, only the relevant articles are selected (Wolfswinkel, Furtmueller, & Wilderom, 2013). This is done based on a number of criteria. First, duplicate items are removed. Then articles were selected based on relevance by looking at the titles and abstracts. These titles and/or abstracts must correspond with the research topic. After this, 107 articles remained. Subsequently, the articles were scanned and another 93 articles fell outside the scope of the research. Ultimately, 14 articles remained that are relevant for the literature review. The whole search process is visualized in the flowchart below.

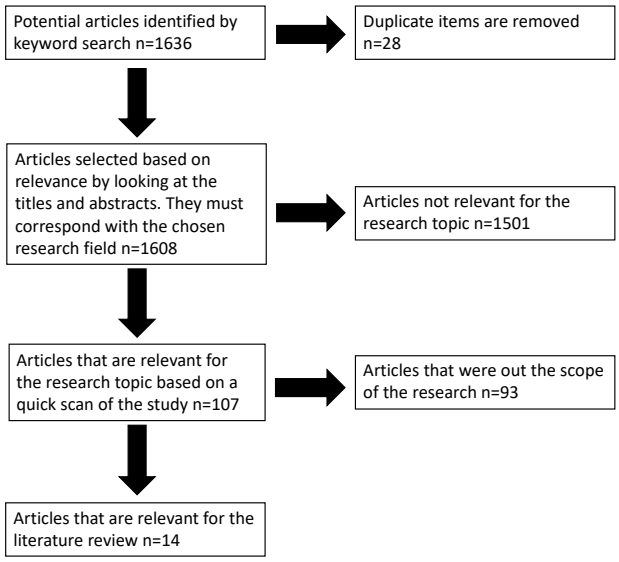

Figure 1: Flowchart of searching for relevant articles

In the fourth stage, the articles are analyzed. For each article important findings will be marked that fit within the scope of the review. In the last stage, the marked findings are structured based on the three sub-questions that have been formulated (Wolfswinkel, Furtmueller, & Wilderom,

2013). For a quick overview of the remaining 14 articles see table 3, a more detailed version is attached in Appendix A.

Author(s) and year of the study	Subject	Research method	Location of the study
Andrej Miklošík (2015)	Decision-making	In-depth interviews	Slovakia
Heinonen (2011)	Decision-making	Diary method	Finland
Constantinides and Fountain (2008)	Web 2.0	Review of existing literature	Netherlands
Sahelices-Pinto et al. (2018)	Decision-making	Survey	Spain
Power and Phillips-Wren (2011)	Decision-making	Review of existing literature	USA
Öztamur and Karakadılar (2014)	Social media	Case study	Turkey
Mas-Tur et al. (2016)	Social media	Qualitative comparative analysis	Spain
Ashley and Tuten (2015)	Content strategies	Content analysis	USA
Harris and Dennis (2011)	Facebook marketing	Focus-groups	United Kingdom
Yadav et al. (2013)	Decision-making and social media	Review of existing literature	USA and Germany
Kumar and Raju (2013)	Advertising and decision-making	Survey	India
Roa and Roa (2012)	Advertisements and decision-making	Survey	India
Richard and Guppy (2014)	Facebook marketing applications	Survey	New-Zealand
Nelson-Field et al. (2012)	Facebook marketing	Survey	Australia

Table 3: Overview of used articles in literature review

2.1 Consumer decision-making process

There are several authors who describe the decision-making process of consumers like Miklošík (2015), Silverman (2011) and Blackwell, Miniard & Engel (2006). The phases are all very similar, however small differences or extra phases have been added by the authors. In this study it was decided to use the decision-making process as described by Silverman (2011) because the phases of this process most clearly represent the total decision-making process of consumers and with the help of these phases it is possible to systematically describe the phase(s) on which Facebook marketing has influence. The decision-making process can be defined as an activity that consists of different phases before, during and after the purchase of a product or service (Miklošík, 2015). Silverman (2011) describes five phases that a consumer goes through before, during and after the purchase of a product or service. These five phases are problem recognition, info search, evaluation of alternatives, purchase decision and post purchase behavior.

In a recent study by Miklošík (2015) it was reported that the decision-making process includes a number of characteristics/conditions. First, decision-making is a variable process. This means that the process can take a different time per person, from a few minutes to months and years. A consumer can go through all phases or jump directly from the bottom to the top. The process can also be terminated at any time. Second, the decision-making process usually happens unconsciously and the consumer is not aware that the process has started and the process is progressing. The consumer will only realize this when the end product has been purchased or used. Third, the decision-making process is strictly individual. It is unique for every consumer and depends on his culture, economic situation, environment and social situation. There is no universal process that applies to all consumers worldwide (Miklošík, 2015).

Since the arrival of Web 2.0 and social media, the decision-making process has been heavily influenced. Information about products or services is much more accessible and easier to find for consumers. Heinonen (2011) describes the relationship between social media and the consumer decision-making process. She states that social media influence the (brand) attitudes and purchase intentions of the consumer. Social media has changed the way people behave during the different stages of the decision-making process.

Only the first two phases of the decision-making process problem recognition and information search and the changes of these phases since the arrival of social media will now be further described. Because the focus of this study is on the first two phases of the decision-making process (see section 2.3 for further explanation). The remaining three phases and the changes of these phases since the arrival of social media are attached in Appendix B.

The decision-making process is described from a rational perspective, besides the rational side of the decision-making process there is also an emotional psychological perspective. However, this study focuses on the rational perspective because the emotional psychological perspective is very complicated and there can be inexplicable reasons why a consumer makes a certain choice. The rational perspective makes it less complicated to test and verify hypotheses in the survey.

2.1.1 Problem recognition

Solomon, Bamossy and Askegaard (2002) explain that the consumer recognizes a problem when there is a difference between the current and the desired situation, which must be sufficiently large to activate the decision-making process. Yadav et al. (2013) claim that problem recognition can occur due to internal signals (e.g. hunger). However, problem recognition can also occur when a consumer is stimulated by external factors, for example advertising on social media channels (Kotler & Keller, 2009).

Constantinides and Fountain (2008) argue that external factors like social media provide external incentives in the decision-making process. As a result, social media channels ensure that consumer creates new needs. By creating these new needs, the consumer recognizes a problem and wants to solve this problem. This can be done in making a purchase. The type of need influences the progress of the decision-making process. A primary need will progress faster and smoother than a secondary or tertiary need (Miklošík, 2015).

2.1.2 Information search

After the consumer has recognized a problem, one looks for information about the purchase. In this phase, comparing products, finding information about these products and judging the best option play an important role (Silverman, 2011). Consumers can search information in two different ways, internally and externally. Internal search means that the consumer has knowledge through previous experience with the product or service. External search means that the consumer collects information from the internet or acquaintances (Sahelices-Pinto, Lanero-Carrizo, & Vázquez-Burguete, 2018). Sahelices-Pinto et al. (2018) claim that the search for information can be passive or active, meaning that consumers sometimes receive information passively, while at other times they actively search for information by, for example, searching information on the internet or visiting stores.

According to Miklošík (2015) the second phase of the decision-making process has been shortened by social media. Consumers search online for information about their purchase. Because a lot of online information is available, consumers find sooner information that they need (Miklošík, 2015). Here they gathered in-depth knowledge about a product. Smith and Chaffey (2012) asserts that social media is one of the main reasons why consumers buy their products online. Because consumers receive information about a product or service on chats, via videos on YouTube, emails and messages on Facebook and Twitter, they are more likely to purchase a product online.

2.2 Social media and Facebook marketing

Weinberg (2009) asserts that social media marketing is a process whereby retailers are encouraged to promote or offer their product or service through social media channels and to communicate with customers. Öztamur and Karakadılar (2014) support this and claim that social media marketing is a mechanism to create more website visits by generating interest among consumers via social media channels. Additionally, it is crucial that marketers know the needs of their consumers. This is important because it enables marketers to communicate with consumers in a personal way (Zhu & Chen, 2015). Mas-Tur, Tur-Porcar and Llorca (2016) contend that the biggest advantage of social media marketing for retailers is that they can collect significant amounts of information about customers. This information can be used in various ways, for example in the development of new products, feedback and selection of segments.

An important aspect of social media marketing is content. Content must be relevant, fit within the corporate culture, business goals and deliver customer value (Effing, Spil, Both, & Ogbuji, 2018). Social media content can be used in advertisements to influence consumer behavior. Moreover, content that consumers attracts is more likely to be shared with their own network. High quality content is therefore essential and can encourage consumers to engage (Ashley & Tuten, 2015).

This study focuses on the social media platform Facebook and therefore there will be now a further explanation about the phenomenon Facebook marketing. Facebook is a social media platform that allows people to communicate with friends, family and acquaintances, share photos and chat. Additionally, it has grown as an important platform for social media marketing (Holzner, 2009). According to a report by The Nielsen Company (2014) users of the internet spend on average 7 hours per month on Facebook. This is more than on sites like Google, Yahoo, YouTube, Wikipedia and other social media platforms. For marketers this is an important reason to be active on Facebook. Facebook users are more likely to view a product or download a discount code when it is on Facebook (The Nielsen Company, 2014). Moreover, Facebook enables marketers to enter into a two-way relationship with consumers and can accelerate the sharing of information about a brand and thus foster the performance of a brand (Fulgoni, 2016). According to Marsden (2011) Facebook serves mainly as a supporting platform between the retailer and the customer during the sales process. Facebook marketing can be used for different purposes, namely forcing the customer to purchase, creating customer trust for a future purchase and customer promotion using word-of-mouth advertising (Marsden, 2011).

2.3 Influence of Facebook marketing on decision-making

Table 4 will be used as a guide for this section and hypotheses will be formulated based on this table. The first and second column of table 4 summarizes the decision-making process of consumers. Then the facilitation role of CMSEs is shown in the next column. Computer-mediated social environments (CMSEs) are digital environments like Facebook and Twitter with substantial social characteristics (Yadav, de Valck, Hennig-Thurau, Hoffman, & Spann, 2013). So, the third column indicates which role a social media channel plays (in this case

Facebook) during the different phases of the consumer decision-making process.

The last column shows which CMSE activities influence the different phases of the decision-making process. These activities will be now further explained. There are several ways to influence the decision-making process of consumers by Facebook marketing. Facebook has itself developed a number of tools for marketers who make it easier to approach consumers like Facebook ads manager where consumers can be triggered based on various marketing objectives like (brand) awareness, consideration and conversion (Harris & Dennis, 2011). Moreover, Facebook users can also 'like' pages, post reviews on business pages, make recommendations and share pages or products.

2.3.1 Facebook advertisements

Personal targeting of Facebook users with offers is seen as a big advantage for retailers (Harris & Dennis, 2011). Yang, Kim and Dhalwani (2008) underline this benefit and emphasize that the biggest advantage of Facebook marketing is the ability to directly target potential customers. This means that potential customers see personalized advertisements on Facebook that are based on demographic data, interests and behavior. When consumers use mobile phones, Facebook can locate consumers through the global positioning system (GPS) (Bayer, Ellison, Schoenebeck, Brady, & Falk, 2016). For example, it is possible to target a particular location where Facebook users have recently been. The mobile use of Facebook is very high, 1.66 billion people use a mobile when they are active on Facebook. That is more than 90 percent of monthly active users (Querne, 2018).

Carter (2011) pretends that Facebook is a powerful targeting channel. With Facebook targeting, just as many people can be reached as with traditional marketing, but at a lower price. Retailers can determine exactly when and how long their targeting campaigns should run (Carter, 2011). Previous studies by Kumar and Raju (2013) and Roa and Roa (2012) have shown that advertising in general has a positive impact on the decision-making process. Additionally, as mentioned in the consumer decision-making process part, the consumer can recognize a problem by external factors like advertisements (Kotler & Keller, 2009). Therefore:

H1: Facebook advertisements have a positive influence on problem recognition

2.3.2 Recommending and sharing

In the post purchase evaluation phase, the consumer will firstly be inclined to share his purchase via social media channels. Miklošík (2015) affirms that consumers are looking for appreciation and advice from other users to increase the added value of their purchase. By sharing a positive experience on Facebook or by recommending the purchased product, friends of this user can create a need and get also the feeling of wanting the product. Besides, if a consumer shares a link to a specific product or discount on Facebook, it appears in the news feed of friends of the consumer. Friends of the user can comment on this or share the link with their friends (Richard & Guppy, 2014). Therefore, the second hypothesis is:

Stage of consumer decision process		Facilitating role of CMSEs	Illustrative CMSE activities
Need recognition	Consumer becomes aware of problem or need	–Social network acts as source of inspiration and referral for consumer's pending purchase –Identifying with or conforming to reference groups	Wish-lists, 'like', 'check in', 'bought by', 'pinned'
Pre-purchase activities	Consumer searches for information and evaluates alternatives	–Social network acts as source of information and approval for planned purchase –Reducing functional, financial and social risk	Reviews, recommendations, discussion forums, blog posts, tweets, polls
Purchase decision	Consumer decides what, where and when to buy (or not to buy at all)	–Social network acts as source of information about where and when to buy –Social network helps coordinate group purchases	'buy now', group-purchase, price comparison sites, gift (coupon) delivery
Post-purchase activities	Customer determines satisfaction and may recommend or talk about purchase	–Social network acts as a sounding board for consumption experiences –Signaling identity, bonding and sharing experience, helping others	'like', 'check in', 'bought by', 'pinned', blog posts, tweets, reviews, referrals, recommendations

Table 4: Facilitative role of CMSEs at different stages of consumer decision making. Adapted from "Social Commerce: A Contingency Framework for Assessing Marketing Potential", by M. Yadav, K. de Valck, T. Hennig-Thurau, D. Hoffman and M. Spann, 2013, Journal of Interactive Marketing, 27, p. 317. Copyright 2013 by ScienceDirect.

H2: Recommending or sharing pages, products or discounts by Facebook friends has a positive influence on problem recognition

2.3.3 Likes and reviews

First, there are the Facebook pages of retailers themselves. Smith and Treadway (2010) affirm that these business pages have become the favorite channel for retailers to communicate with customers and to inform them. Retailers can display their products by taking photos, videos, opinion polls, placing promotional codes and organizing events. Another important characteristic of a business page is that customers can communicate with the company (Hardwick, Delarue, Ardley, & Taylor, 2011). Think of giving an opinion about a (new) product, discussing with other customers and asking questions to employees of the company. If the consumer is a fan of a brand, one can 'like' the company page. When the consumer has 'liked' the page, one receives updates about that page in his news feed. In addition, one can see activities of other users who have also liked the page in his newsfeed (Nelson-Field, Riebe, & Sharp, 2012). Harris and Dennis (2011) maintain that the most popular reasons among consumers to like a certain company were getting discounts and showing to their friends which brands they support. When consumers search for information in the second phase of the decision-making process, they can look at the number of Facebook friends who have liked a certain brand on Facebook. Since trust is an important factor when making a purchase (Harris & Dennis, 2011). Therefore, the third hypothesis is:

H3: The number of Facebook friends who have liked a page of interest of the consumer positively influences the search of information

Another important role that a company page plays is that consumers can share their experiences with the product. As mentioned earlier two-thirds of the consumer activities in the pre-purchase phases are concerned with reading reviews on the internet and word-of-mouth recommendations from family and friends (Court, Elzinga, Mulder, & Vetvik, 2009). Research by Nielsen (2014) showed that consumers most trust their friends and family for a review of a product or service. They also trust reviews from other consumers on a Facebook company page more than information on the company's website. Therefore:

H4: Reading reviews of friends or other users on Facebook positively influences the search of information

To clarify the hypotheses in combination with the consumer decision-making process, see the conceptual model (figure 2) below. Based on the last column of table 4 and the theory used in this section, the Facebook marketing activities and hypotheses are linked to a certain phase in the decision-making process. A study by Richard and Guppy (2014) used the same conceptual model for their research. However, their research focused on the influence of Facebook marketing activities on consumer purchase intention and this research focuses on the first two phases of the consumer decision-making process.

In this conceptual model, the first two phases of the decision-making process have been combined into the Facebook Marketing Intelligence component. Simon (1960) describes this first two phases of the decision-making process; problem recognition and searching for information together as intelligence. Intelligence relates to the identification of the problem and information that needs to be collected concerning the problem (Simon, 1960). So, the Facebook Marketing Intelligence component means that when consumers create a need, they identify a problem and search for information to solve it.

To give an overview of the articles used during the literature review combined with the topic of these articles, see table 5. A + means that the topic; decision-making and/or Facebook marketing is included in that article and a - means that the topic is not included in the article.

3. METHODOLOGY

In order to gain insights into the influence of Facebook marketing on the different phases of the decision-making process, a quantitative research approach will be used. The data will be collected with the help of a survey. The main goal of this survey is to test the four hypotheses and to analyze which Facebook marketing methods influence the first two phases of the decision-making process. Besides, it will be examined whether there are differences in the influence of Facebook marketing between the mobile phone and the brewing industry.

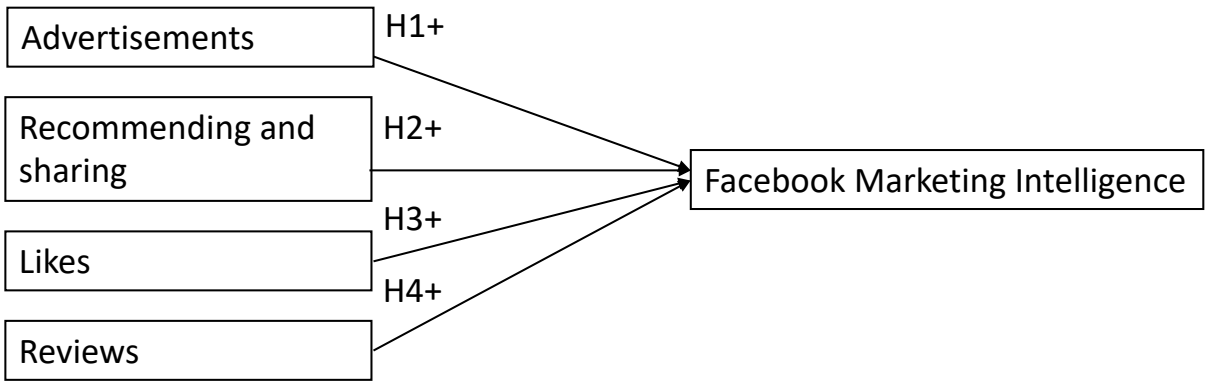

Figure 2: Conceptual model

Keyword	Decision-making	Facebook marketing
Andrej Miklošík (2015)	+	-
Heinonen (2011)	+	-
Constantinides and Fountain (2008)	+	-
Sahelices-Pinto et al. (2018)	+	-
Power and Phillips-Wren (2011)	+	-
Öztamur and Karakadılar (2014)	-	+
Mas-Tur et al. (2016)	-	+
Ashley and Tuten (2015)	-	+
Harris and Dennis (2011)	-	+
Yadav et al. (2013)	+	+
Kumar and Raju (2013)	+	+
Roa and Roa (2012)	+	+
Richard and Guppy (2014)	+	+
Nelson-Field et al. (2012)	-	+

Table 5: Overview of used articles by topic

The hypotheses are developed based on how retailers try to influence consumers (e.g. advertisements) in the first two phases of the decision-making process. So, for certain phases of the decision-making process, questions will be formulated to measure the effect of Facebook marketing in that particular phase.

3.1 Data collection

The study was conducted in the Netherlands and the target group of this research were students at the University of Twente who are active on Facebook. So, students who have a Facebook account. The data was collected with a self-administrated online questionnaire developed with Qualtrics and was distributed from 25th of October 2018 till 8th of November 2018. The research sample was drawn from all students who do the same education as the author namely Business Administration (N=152). The aim of the survey was to obtain the largest possible number of respondents. Because a large sample size will increase the reliability of the research (Creswell & Plano Clark, 2011). To calculate the sample size, the Yamane (1967) formula was used. The Yamane (1967) formula is a simplified formula for calculating the sample size.

The formula is: n = N / (1 + N (e) 2)

n = 152 / (1 + 152 (0,05) ^2) = 110,14 = 110 respondents

Note: n is the sample size, N is the total population, and e is the desired level of precision (confidence level).

In order to collect the minimum number of respondents of 110, a gift card was awarded among the respondents. The respondents were approached by an email. An online survey has been chosen because it provides a faster and higher response and the design is more attractive (Bryman & Bell, 2011).

3.2 Survey

The survey was structured in three parts. Firstly, by asking general questions like the average number of hours of use of Facebook, on what kind of device the respondent is active on Facebook and whether the respondent has ever made an impulsive purchase after seeing an advertisement on Facebook. Demographic questions like gender and age were also asked. These questions were used as control variables in the analysis. The general questions were followed by questions to test the four hypotheses. These questions were about the Facebook marketing activities; advertisements, recommendations/sharing, likes and reviews.

The first hypothesis was about whether Facebook advertisements have a positive influence on problem recognition. Problem recognition is about creating a new need among consumers so that they recognize a problem (Solomon, Bamossy, & Askegaard, 2002). Therefore, respondents were asked if Facebook advertisements create a need with them. This can be done in three ways with Facebook advertisements, namely by letting consumers get to know new brands, let them consider new products and encourage consumers to buy a new product (Facebook, 2018). In order to test this hypothesis, statements were presented to the respondents. They had to indicate what types of Facebook advertisements create needs with them. In the whole survey a 5-point Likert scale ranging from 1= 'strongly disagree' to 5= 'strongly agree' was used to determine the extent to which the respondent agrees with a given statement.

The following hypothesis was used to determine whether recommending or sharing pages, products and discounts has a positive impact on problem recognition. The types of questions were the same as in the previous hypothesis, since they are both about creating a need. The last two hypotheses examined whether likes and reviews have a positive influence on information search. According Harris & Dennis (2011) trust in a certain brand is an important factor when searching for information. Also, consumers have more confidence in reviews from family, friend and other consumers than information from a company itself (The Nielsen Company, 2014). Based on this, statements were presented to the respondents in which they had to indicate whether they agreed or not.

In the third and last part of the survey it was investigated whether there are differences in the influence of Facebook marketing on decision-making in the mobile phone and brewing industry. The questions are structured in the same way as the questions for the four hypotheses. At the beginning of these advertisement statements, a question was asked whether mobile phone and beer advertisements can create a need at all among the respondent. This is because students who do not like beer do not create a need when seeing advertisements about beer. All survey questions are attached in the Appendix.

4. RESULTS

In this chapter the data from the surveys has been analyzed. The data was analyzed with the help of *SPSS*

version 24. A total of 121 students started the survey. Due to incomplete answers, 9 surveys were excluded, so 112 surveys remained.

4.1 Descriptive statistics

The first questions in the survey focused on gathering information about gender, age, Facebook usage, the type of device on which the respondent was most active on Facebook and whether the respondent has ever made an impulsive purchase after seeing an advertisement on Facebook. The remaining 112 respondents consisted of 58 women (51.8%) and 54 men (48.2%). The most respondents came from the age category between 22 and 25 years old (64,3%). The average hours of Facebook use per week is very different among respondents. The largest percentage is on average 1 to 3 hours per week on Facebook (35.7%). The most commonly used device to be active on Facebook is the mobile phone (74.1%). Finally, the vast majority of respondents indicated that they never made an impulsive purchase after seeing an advertisement on Facebook (64.3%). More detailed information on the descriptive statistics of the respondents can be found in Appendix C.

4.2 Reliability and validity

To increase the reliability of the research the aim of the survey was to obtain the largest possible number of respondents (Creswell & Plano Clark, 2011). So, as mentioned in the methodology chapter 110 respondents were necessary to collect with at a confidence level of 95%. After two weeks this number was accomplished and eventually 112 students completed the entire survey. Concerning the generalizability, the target group of this study were students at the University of Twente. The age category that is most on Facebook in the Netherlands are people between 20-39 years (89%) (van der Veer, Boekee, Hoekstra, & Peters, 2018). Thus, this statistic indicated that the age of the respondents in the survey were equal to the age of the largest number of Facebook users in the Netherlands.

Cooper and Schindler (2014) contend that reliability is the overall consistency of a measure. Cronbach's alpha (α) is the measurement to test the consistency. The test is acceptable when α > .70 (Nunnally & Bernstein, 1994). A confirmatory factor analysis was performed to assess the validity. To check if the test shows acceptable convergent validity, the factor loadings of each item must be above .70 (Hair Jr, Black, Babin, & Anderson, 2010). Each scale item showed acceptable reliability (α > .70) and convergent validity (factor loadings > .70), see table 6. The study is therefore reliable and valid and can be used for further investigation. The explained variance of advertisements, recommend/share, likes and reviews were 77,4%, 82,3%, 81,1% and 91,6%. These results show that Facebook marketing has an important impact on the first two phases of consumer decision-making process.

Scale items	Factor loadings	Cronbach's Alpha (α)	Variance explained
Facebook advertisements			
Facebook advertisements ensure that you get to know new brands that you are interested in	0.897		
Facebook advertisements ensure that you are considering new products and that you are looking for more information about it	0.814	0.852	77,4%
Facebook advertisements encourage you to buy something new	0.805		
Recommend share			
Recommending or sharing pages, products or discounts by Facebook friends ensures that you get to know new brands that you are interested in	0.832		
Recommending or sharing pages, products or discounts by Facebook friends ensures that you are considering new products and that you are looking for more information about it	0.895	0.892	82,3%
Recommending or sharing pages, products or discounts by Facebook friends encourages you to buy something new	0.841		
Likes			
When many of my Facebook friends have liked a page from a certain brand, I trust the brand more	0.901	0.767	81,1%
When I have already liked a page of a certain brand, I am more inclined to buy my product there	0.758		
Reviews			
When a certain brand has many positive reviews on Facebook, I trust the brand more	0.878	0.908	91,6%
When a certain brand has a lot of positive reviews on Facebook, I am more inclined to buy my product there	0.894		

Table 6: Scale items, factor loadings, Cronbach's alpha and variance explained

4.3 Hypothesis testing

To test the hypotheses, a multiple regression analysis was conducted. The confirmatory factor analysis was not only used to measure validity, but also to measure the correlation between the different statements. As expected, four different items were extracted from the factor analysis. The four items were computed into four new variables, namely advertisements, recommend/share, likes and reviews. Subsequently, by means of multiple regression analysis it was tested whether these independent variables affected the dependent variables problem recognition and information search. The results are shown in table 7 below.

Hypothesis	R square	Beta β	*t-statistic*	*p-value*
H1	0.676	0.429	6.754	p<0.01**
H2		0.514	8.085	p<0.01**
H3	0.483	0.377	4.485	p<0.01**
H4		0.407	4.853	p<0.01**

Table 7: ***Multiple regression analysis results (*p<0.05, **p<0.01)***

Advertisements and recommend/share had a combined R square of 0.676. This means that 67.6% of the variation in problem recognition can be explained by the independent variables advertisements and recommend/share. Likes and reviews had a combined R square of 0.483. So, 48,3% of the variation in information search can be explained by the independent variables likes and reviews. According to the results from the multiple regression analysis, all hypotheses were supported and had a significant positive influence on the first two phases of the decision-making process; problem recognition and information search. Figure 3 shows the conceptual model from the literature review again, including all beta and p-values.

Recommending and sharing pages, products or discounts (β=0.514) had a greater effect on problem recognition than Facebook advertisements (β=0.429). In addition, reviews (β=0.407). had a greater effect on information search than likes (β=0.377).

Moreover, it has been tested whether the first phase of the decision-making process problem recognition has a positive influence on the second phase of the decision-making process search of information. It was found that problem recognition had a significant positive influence on search of information (β=0.400, p<.001). Results are attached in Appendix D.

It was also examined whether having ever made an impulsive purchase after seeing a Facebook advertisement affects the extent to which a respondent is influenced by Facebook marketing. An independent samples T-test was conducted to test if there was statistical evidence between making an impulsive purchase after seeing a Facebook advertisement and being influenced by the Facebook marketing activities advertisements, recommend/share, likes and reviews. So, it is tested whether respondents who have ever made an impulsive purchase are on average more likely to be influenced by Facebook marketing than respondents who have never made an impulsive purchase before.

The independent samples T-test showed that there was statistical evidence that respondents who have ever made an impulsive purchase after seeing a Facebook advertisement were on average more likely to be affected by Facebook marketing activities than respondents who did not make an impulsive purchase, see table 8. The SPSS output of the independent samples T-test are attached in Appendix E.

Facebook marketing activities	*t-statistic*	*p-value*
Advertisements	t (104) = 5.171	p= 0.000**
Recommend/share	t (110) = 2.985	p= 0.002**
Likes	t (105) = 1.953	p= 0.027*
Reviews	t (99) = 2.073	p= 0.041*

Table 8: Independent samples T-test results impulsive purchases (*p<0.05, **p<0.01)

The results of comparing the means show that respondents who once made an impulsive purchase after seeing a Facebook advertisement are the most influenced by reviews (*M*=3,91; *SD*=0,77), followed by

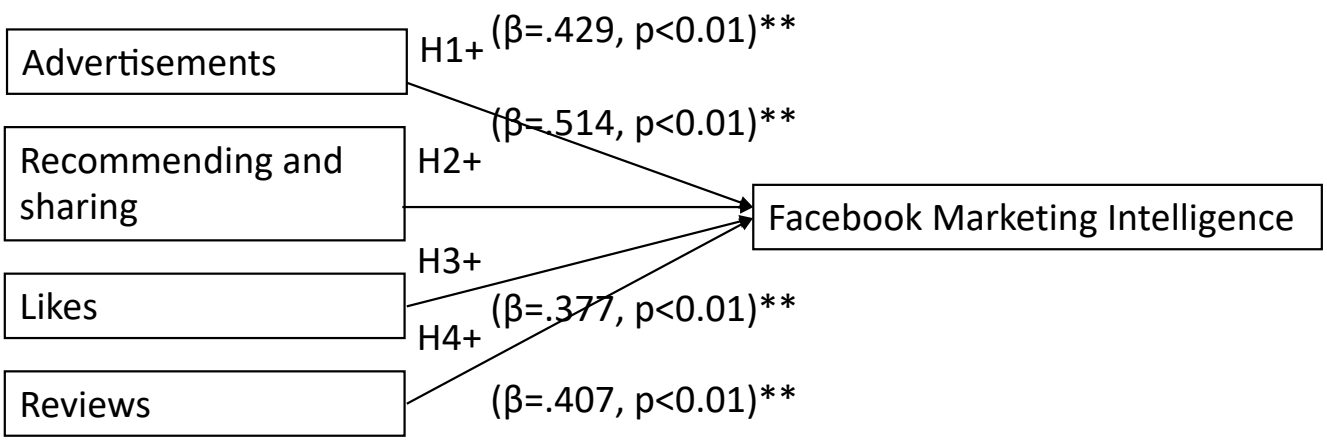

Figure 3: Conceptual model with β and p-values (*p<0.05, **p<0.01)

advertisements (*M*=3,78; *SD*=0,73), likes (*M*=3,66; *SD*=0,72) and recommend/share (*M*=3,59; *SD*=0,87). Besides, they are more likely to recognize a need and search for information on Facebook. However, this is a logical outcome, since the hypothesis testing showed that Facebook marketing had a positive influence on the first two phases of the decision-making process.

Moreover, it has been examined whether the control variables; age, gender, average number of hours of use of Facebook per week and on which device the respondent is most active on Facebook caused differences in the degree of influence of Facebook marketing activities. However, no significant differences were discovered and therefore these variables are not considered.

4.4 The mobile phone and brewing industry

In this part it was investigated whether respondents react differently to Facebook marketing activities in the mobile phone industry than in the brewing industry. These industries face major challenges in the coming years. In the mobile phone industry innovations play an important role and in the recent period few important innovations have been realized. Moreover, mobile phones are also getting better and are therefore used longer (Fenner, 2018). As a result of these developments, consumers are waiting longer with the purchase of a new mobile phone (Chokkattu, 2018). It is therefore increasingly a challenge for mobile phone companies to distinguish themselves from competitors. Due to declining consumer demand, more and more competitive products, increased requirements of retailers and consumers and more difficult access to the market the global brewing industry faces serious issues (Rutishauser, Rickert, & Sänger, 2015). This makes it more and more important for marketers of beer brands to use their marketing budget in the right way.

Firstly, a confirmatory factor analysis was conducted to measure the coherence between the statements about the mobile phone and the brewing industry. Two items were extracted from this factor analysis. The statements about Facebook advertisements in the mobile phone industry were computed in "mobile phone ads" and statements about Facebook advertisements in the brewing industry were computed in "beer ads". A paired samples T-test has been performed (Appendix F) to test whether there was a significant difference between mobile phone and beer advertisements. There was a significant difference in the extent of influence of Facebook advertisements between the mobile phone (*M*=3,05; *SD*=1,03) and brewing industry (*M*=2,63; *SD*=1,14) conditions; t (111) = 3,976, p= 0,000.

By means of an independent samples T-test it was examined whether there was a difference between gender in the degree of influence of Facebook advertisements in the mobile phone and brewing industry. The independent samples T-test showed that there was no statistical evidence that males were on average more likely to be influenced by Facebook advertisements in the mobile phone and brewing industry than females, see table 9. The SPSS output of the independent samples T-test are attached in Appendix G.

Facebook marketing activities	***t-statistic***	***p-value***
Mobile phone industry	t (110) = -0.072	p= 0.472
Brewing industry	t (110) = 1.563	p= 0.061

Table 9: Independent samples T-test results gender (*p<0.05, **p<0.01)

To measure which type of Facebook advertisements for mobile phones and beer products have the most impact on the respondents, the average scores of the advertisement statements about mobile phones and beer products were analyzed. At the beginning of these advertisement statements, a question was asked whether mobile phone and beer advertisements can create a need at all among the respondent. So only the respondents who filled in 3 (neutral) or higher were included in this analysis. The kind of mobile phone advertisements that affect respondents the most were advertisements that contain price information (*M*=3,84; *SD*=0,71). Followed by advertisements which can be clicked so that more information can be found on the site (*M*=3,79; *SD*=0,93). The kind of beer advertisements that affect respondents the most on were advertisements about beer products that were on sale (*M*=3,98; *SD*=0,82). Followed by advertisement that contain price information (*M*=3,59; *SD*=0,93).

For the recommendation of mobile phones and beer products by friends and the interest in likes and reviews, a paired samples t-test was performed (the same method as for advertisements) to test if there were significant differences between the two industries. It turned out that the influence of recommendations, likes and reviews in the mobile phone industry were on average higher than in the brewing industry. These results are attached in Appendix H. However, these averages had to be higher than the neutral score of 3 to have any influence at all on the decision-making process in both industries. This was not the case anywhere except for the interest in reviews of mobile phone brands (*M*=3,13; *SD*=1,25).

5. DISCUSSION

The systematic literature review led to the expectation that four Facebook marketing activities affect the first two phases of the decision-making process. Four hypotheses were used to check whether this expectation was correct.

The first hypothesis was to test whether Facebook advertisements had a positive influence on problem recognition. Based on results from the multiple regression analysis, this study found a positive significant influence between Facebook advertisements and problem recognition. So, the first hypothesis has been supported and was consistent with previous studies where advertisements had a positive influence on decision-making (Kumar & Raju, 2013; Roa & Roa, 2012). However, these studies tested the influence of advertising in general on the decision-making process. The added value of this research is that advertisements specifically on Facebook had a positive influence on the decision-making process.

The second hypothesis was about whether recommending and sharing pages, products and discounts

has a positive influence on problem recognition. This hypothesis was also supported and there was a positive significant influence between recommending/sharing and problem recognition. This research showed that recommending/sharing had more impact on problem recognition than Facebook advertisements. This was supported by a study of Harris and Dennis (2011) who claim that people trust their family and friends more than any other type of information about products and services.

The third and fourth hypotheses were used to test whether likes of Facebook friends and reviews affected the second phase of the decision-making process; the search of information. Likes from Facebook friends and reviews had a positive significant impact on the search of information phase. Trust in a certain brand is an important factor when searching for information (Harris & Dennis, Engaging customers on Facebook: Challenges for e-retailers, 2011). Because of this, 65% of the respondents from this study trust a brand that was liked by friends more. The positive significant impact of reviews on search of information was consistent with a report of Nielsen (2014) that concluded that consumers have more confidence in reviews from family, friend and other consumers than information from a company itself. So, Facebook marketing activities affect as expected the first two phases of the decision-making process.

Furthermore, the results showed that there was statistical evidence that respondents who have ever made an impulsive purchase after seeing a Facebook advertisement were on average more affected by Facebook marketing activities than respondents who have never made an impulsive purchase. The Facebook marketing activity that on average affects the respondents who have ever made an impulsive purchase the most were reviews. This was in line with previous studies that indicate that the awareness effect of reviews encourages people to buy products they would not normally have noticed (Lo, Lin & Hsu, 2016; Xiang, Zheng, Lee & Zhao, 2016). The added value of this study is that it concerns impulsive purchases after seeing a Facebook advertisement. The two studies of Lo et al. (2016) and Xiang et al. (2016) did research on making impulsive purchases after seeing reviews in general. This study found that of all Facebook marketing activities, reviews had the most effect on consumers who have ever made an impulsive purchase.

For the mobile phone and brewing industry, it was tested whether there was a difference in the degree of influence of Facebook marketing. There was a significant difference between these industries and it turned out that mobile phone advertisements had a higher influence on respondents than beer advertisements. Also, the recommendation of mobile phones, the interest in likes and reviews of a specific phone brand was on average stronger in the mobile phone industry than the recommendation of beer products, the interest in likes and reviews of specific beer brand in the brewing industry. This difference can possibly be explained by the fact that mobile phones are seen as luxury goods and beer is not. According to Yadav et al. (2013) the influence of Facebook marketing activities on luxury goods is stronger compared to products that are not. This is because a decision-making process takes longer on average for a luxury good than for a good that everyone has (Yadav, de Valck, Hennig-Thurau, Hoffman, & Spann, 2013).

However, the average score of beer advertisements was 2,63. This means that beer advertisements did not affect the decision-making process of the respondents at all. For mobile phone advertisements, this average was 3,05, which meant a neutral score, so respondents indicated that they were not sure whether or not mobile phone advertisements affected their decision-making.

With regard to the degree of influence of Facebook advertisements in the mobile phone and brewing industry there was no significant difference between gender. This was not expected, because it was assumed that men would be more affected by beer advertisements than women. In order to get a better picture of what kind of Facebook advertisements do influence respondents, the respondents were filtered out who indicated that they were influenced by mobile phones and/or beer advertisements. This showed that respondents in the mobile phone industry where most likely to be affected by Facebook advertisements that contain price information and Facebook advertisements which can be clicked so that more information can be found on the site. In the brewing industry, respondents were most likely to be influenced by Facebook advertisements where beer is on offer. For mobile phones, consumers are therefore more likely to be affected by the type of Facebook advertisement that makes consumers consider products, and for beer, consumers are more likely to be influenced by the type of Facebook advertisement that encourages consumers to buy something.

6. CONCLUSION

The objectives of this study were to discover to what extent Facebook marketing had an influence on the consumer decision-making process and to explore the impact of Facebook marketing in the mobile phone and brewing industry. So, the first objective was to discover to what extent Facebook marketing had an influence on the consumer decision-making process. The Facebook marketing activities advertisements and recommend/share had a positive influence on the first stage of decision-making; problem recognition. This means that when retailers approach consumers on Facebook through advertisements, consumers are more likely to recognize a ‘problem' and thus create a need. The same applies to the recommending and sharing of pages, products and discounts. When retailers encourage consumers to recommend or share a page, product or discount, other consumers are more likely to recognize a 'problem' and create a need.

The Facebook marketing activities likes and reviews had a positive influence on the second stage of decision-making; search of information. This means that when retailers have many likes and positive reviews on their Facebook page, consumers have more trust in their

company and are more likely to buy their product/service there.

However, not all four Facebook marketing activities had an equal influence on consumer decision-making. This research showed that recommending and sharing pages, products and discounts had the most influence on the decision-making process. Followed by Facebook advertisements, reviews and likes. It can also be concluded that that the influence of Facebook marketing was higher for consumers who have ever made an impulsive purchase after seeing a Facebook advertisement than consumers who have never made an impulsive purchase.

The second objective of this study was to explore the impact of Facebook marketing in the mobile phone and brewing industry. The difference between the mobile phone and brewing industry was that the influence of Facebook marketing in the mobile phone industry was higher than in the brewing industry. Facebook advertisements in the mobile phone industry affected the decision-making process and in the brewing industry, Facebook advertisements did not affect the decision-making process. Of the remaining Facebook marketing activities in both industries, only reviews in the mobile phone industry affected the decision-making process. So, the other Facebook marketing activities had no influence on the consumer decision-making process in these industries. By achieving the objectives of this study, it was possible to answer the main research question. The main research question was:

What is the influence of Facebook marketing on the consumer decision-making process in the mobile phone and brewing industry?

All four Facebook marketing activities in this study had a positive significant influence on the consumer decision-making process in general. However, there was little influence of Facebook marketing on consumer decision-making in the mobile phone and brewing industry. In the mobile phone industry, Facebook advertisements and reviews about mobile phones had a positive influence on the decision-making process of consumers. The type of Facebook advertisement that had the most influence on consumers in the mobile phone industry was the type of Facebook advertisement that contained product information. In the brewing industry, none of the four Facebook marketing activities had an influence on the consumer decision-making process.

7. IMPLICATIONS

This study provides useful information for marketers in the mobile phone and brewing industry. It indicates that Facebook activities in the mobile phone industry are important. The consumer is particularly interested in the type of Facebook advertisement that offers product information. They are also influenced by reviews of mobile phones. So, it is important that mobile phone companies post advertisements with product information on Facebook and that these advertisements are clickable so that consumers can be linked to their website. It is also important that mobile phone companies have many (positive) reviews on their Facebook page, because this creates trust among consumers.

In the brewing industry, Facebook activities are less important. Of course, marketers should pay attention to Facebook marketing, but this should not be their top priority. The type of beer advertisements that consumers indicated they were most by influenced were Facebook advertisements with price offers. However, not the brewing companies sell their beer themselves but supermarkets, wholesalers, cafes and restaurants. Therefore, supermarkets and wholesalers in particular are recommended to place advertisements with beer offers on Facebook to consumers who are geographically targeted.

8. LIMITATIONS AND DIRECTIONS FOR FURTHER RESEARCH

This study contains some limitations which should be considered when interpreting results and conclusions. Firstly, this study investigated the rational side of the decision-making process. However, consumers can also unconsciously be influenced by Facebook marketing activities. Future research could focus more on this psychological side in combination with Facebook and decision-making. It could then be examined in more depth why consumers are influenced by certain Facebook marketing activities.

Secondly, another direction for further research could be to test the influence of problem recognition and search of information in this study together termed as Facebook Marketing Intelligence on the next phase of the decision-making process the intention to purchase. This study has only examined the influence of Facebook marketing activities on Facebook Marketing Intelligence. It would be beneficial to test the relationship between Facebook Marketing Intelligence and the intention to purchase phase.

Thirdly, 64.3% of the respondents were between 22 and 25 years old, which limits the generalizability of the research. Besides, the target group of this study consisted only of students. An interesting future direction could be to investigate the influence of Facebook marketing on the decision-making process in various other contexts. Like on other target groups, in different industries and Facebook marketing activities on other phases of the decision-making process.

Finally, no previous research had been done into the influence of Facebook marketing in the mobile phone and brewing industry. Therefore, the results for these industries should be questioned and confirmatory research for the same industries is needed to support these results.

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10. APPENDICES

Appendix A: Overview of used articles from the literature review

Author(s) and year of the study	Key emphasis of the study	Research method	Location of the study
Andrej Miklošík (2015)	Decision-making process of consumers in the digital era	In-depth interviews	Slovakia
Heinonen (2011)	Relationship between decision-making and social media	Diary method	Finland
Constantinides and Fountain (2008)	Investigates the relevance of web 2.0 for marketing strategy and for direct marketing	Review of existing literature	Netherlands
Sahelices-Pinto et al. (2018)	Analyzes the influence of motivations attributed to corporate social responsibility practices in business settings on four stages of consumer decision-making process	Survey	Spain
Power and Phillips-Wren (2011)	Impact of social media and web 2.0 on decision-making	Review of existing literature	USA
Öztamur and Karakadılar (2014)	Analyzing the role of social media for Small and Medium-Sized Enterprises	Case study	Turkey
Mas-Tur et al. (2016)	Consumers' use of social media	Qualitative comparative analysis	Spain
Ashley and Tuten (2015)	An analysis of content strategies of top brands	Content analysis	USA
Harris and Dennis (2011)	Investigation into the emerging interactions between young consumers and consumer products/services on social networks	Focus-groups	United Kingdom
Yadav et al. (2013)	How social media can be used to generate value for businesses	Review of existing literature	USA and Germany
Kumar and Raju (2013)	The role of advertising in consumer decision-making	Survey	India
Roa and Roa (2012)	Impact advertisements on consumer decision-making process	Survey	India
Richard and Guppy (2014)	Investigates the influence of Facebook applications and activities on consumers purchase intention	Survey	New-Zealand
Nelson-Field et al. (2012)	Investigates the buying concentration of the Facebook Fan base of two different brands	Survey	Australia

Appendix B: The other three phases of the decision-making process

Evaluation of alternatives

If a consumer has chosen the best option, one will consider whether there are alternatives to this option in the third evaluation phase. It depends on the problem which alternatives the consumer is going to consider, but it can for example be alternatives that are cheaper or easier to use. The consumer can also look at the user experiences of other consumers (Silverman, 2011). Sahelices-Pinto et al. (2018) maintain that consumers use different evaluation criteria to compare products and brands. The intensity of the evaluation of alternatives depends on a number of issues, like the available time, the type of need, the value of the product and the income of the consumer (Miklošík, 2015).

With the arrival of social media, consumers have gained access to a very broad source of information. In this phase experience with the product plays an important role. Silverman (2011) maintains that consumers have more confidence in the experiences of other users on social media than advertisements on mass media. Social media can be designated as opinion leaders, who can strongly influence the opinion of a consumer. Court et al. (2009) add that two-thirds of consumer activities in this phase are concerned with reading reviews on the internet and word-of-mouth recommendations from family and friends. Power and Phillips-Wren (2011) identify that social media has created a new kind of peer pressure. Decisions can be influenced because a consumer wants to feel liked by a certain social network group.

Purchase decision

When the consumer has considered all alternatives, they make a purchase decision in the fourth phase (Sternthal & Craig, 1982). Kotler and Keller (2009) clarify that between the intention to buy something and the final purchase, two elements can cause noise, namely the opinion of others and unanticipated situational elements. Due to the opinion of, for example, friends or family, a consumer can still decide not to buy a product or to choose an alternative. With unexpected situational elements is meant that for example a situation can arise where a consumer has to make another purchase that is more important at that moment (Kotler & Keller, 2009).

Purchases via the internet and social media are constantly increasing. Consumers get more and more trust in this way of buying. Additionally, feedback on social media from other people about a product has a major influence on the purchasing decision. Even if a consumer had not considered a certain product, it can be bought through positive experiences from other users on social media (Silverman, 2011). However, Miklošík (2015) states that many consumers still prefer stores in the neighborhood because of their location, atmosphere and speed of purchase.

Post purchase behavior

After the consumer has made a purchase, one enters the post purchase decision phase. At this stage, a consumer determines whether one has made a good choice when purchasing the product. This results in two findings: satisfaction or dissatisfaction. If the product

leads to satisfaction, this will provide a positive experience and the consumer will recommend the product to others (Silverman, 2011). If the product leads to dissatisfaction, the consumer will look into other options in the future and start showing new behavior with regard to a purchase (Sternthal & Craig, 1982).

In the post purchase evaluation phase, the consumer will firstly be inclined to share his purchase via social media channels. Miklošík (2015) affirms that consumers are looking for appreciation and advice from other users to increase the added value of the purchase. If the consumer is not satisfied with his purchase, this feeling can be enhanced if one reads negative experiences from other users. Because companies know that negative experiences will be shared quickly, they try to expand their services. Examples include free shipping of products, good customer support and a long warranty (Miklošík, 2015).

Appendix C: Descriptive Statistics

Descriptive statistics of the respondents (N=112)

		Frequency	Percentage
Gender	Male	54	48,2%
	Female	58	51,8%
Age	18-21	17	15,2%
	22-25	72	64,3%
	26-30	20	17,9%
	31 or older	3	2,7%
Average Facebook usage per week	1-3 hours	40	35,7%
	4-6 hours	27	24,1%
	7-9 hours	23	20,5%
	10 or more hours	10	8,9%
	Less than 1 hour	12	10,7%
Device where you are most active on Facebook	Desktop	10	8,9%
	Laptop	17	15,2%
	Tablet	2	1,8%
	Mobile phone	83	74,1%
Ever made an impulsive purchase after seeing an advertisements on Facebook	Yes	40	35,7%
	No	72	64,3%

Appendix D: Simple linear regression (Influence problem recognition on search of information)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,400[a]	,160	,152	,85174

a. Predictors: (Constant), Problem_recognition

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2,115	,247		8,565	,000
	Problem_recognition	,348	,076	,400	4,577	,000

a. Dependent Variable: Information_search

Appendix E: Independent samples T-test (impulsive buying)

Group Statistics

	Have you ever made an impulsive purchase after seeing an advertisement on Facebook?	N	Mean	Std. Deviation	Std. Error Mean
Advertisements	Yes	40	3,78	,73	,11544
	No	72	2,92	1,03	,12153
Recommend_share	Yes	40	3,59	,87	,13790
	No	72	3,02	1,03	,12084
Likes	Yes	40	3,66	,72	,11377
	No	72	3,33	1,05	,12431
Reviews	Yes	40	3,91	,77	,12127
	No	72	3,56	1,00	,11741

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Advertisements	Equal variances assumed	9,986	,002	4,697	110	,000	,86667	,18450	,50102	1,23231
	Equal variances not assumed			5,171	103,511	,000	,86667	,16762	,53426	1,19908
Recommend_share	Equal variances assumed	2,080	,152	2,985	110	,003	,57315	,19203	,19259	,95371
	Equal variances not assumed			3,126	92,070	,002	,57315	,18335	,20901	,93729
Likes	Equal variances assumed	6,826	,010	1,758	110	,082	,32917	,18727	-,04195	,70028
	Equal variances not assumed			1,953	105,281	,053	,32917	,16852	-,00496	,66330
Reviews	Equal variances assumed	5,219	,024	1,926	110	,057	,35000	,18173	-,01014	,71014
	Equal variances not assumed			2,073	98,727	,041	,35000	,16880	,01506	,68494

Appendix F: Paired samples T-test (degree of influence between ads in the mobile phone and brewing industry)

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Mobile phone ads	3,05	112	1,03	,09758
	Beer ads	2,63	112	1,14	,10764

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	Mobile phone ads - Beer ads	,42500	1,13109	,10688	,21321	,63679	3,976	111	,000

Appendix G: Independent samples T-test (degree of influence between gender)

Group Statistics

	What is your gender?	N	Mean	Std. Deviation	Std. Error Mean
Mobile_phone_ads2	Male	54	3,04	,99	,13538
	Female	58	3,06	1,08	,14121
Beer_ads2	Male	54	2,80	1,08	,14737
	Female	58	2,47	1,18	,15434

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference Lower	Upper
Mobile_phone_ads2	Equal variances assumed	,744	,390	-,072	110	,943	-,01418	,19617	-,40294	,37458
	Equal variances not assumed			-,072	109,996	,942	-,01418	,19562	-,40185	,37350
Beer_ads2	Equal variances assumed	1,753	,188	1,563	110	,121	,33448	,21403	-,08967	,75864
	Equal variances not assumed			1,567	109,989	,120	,33448	,21340	-,08843	,75739

Appendix H: Paired samples T-test (degree of influence recommendations, likes and reviews in the mobile phone and brewing industry)

Recommending mobile phones vs. beer

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Recommending mobile phones	2,89	112	1,203	,114
	Recommending beer	2,68	112	1,125	,106

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	Recommending mobile phones - Recommending beer	,214	1,365	,129	-,041	,470	1,661	111	,099

Interest in likes mobile phone brands vs. beer brands

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Interest in likes mobile phone brands	2,66	112	1,167	,110
	Interest in likes beer brands	2,30	112	1,089	,103

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	Interest in likes mobile phone brands - Interest in likes beer brands	,357	1,081	,102	,155	,560	3,496	111	,001

Interest in reviews mobile phone brands vs. beer brands

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Interest in reviews mobile phone brands	3,13	112	1,246	,118
	Interest in reviews beer brands	2,53	112	1,162	,110

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	Interest in reviews mobile phone brands - Interest in reviews beer brands	,598	1,234	,117	,367	,829	5,132	111	,000

Appendix I: Survey questions

1. How many hours (approximately) do you spend on Facebook per week on average?

Less than 1 hour
1-3 hours
4-6 hours
7-9 hours
10 or more hours

2. On which device are you most active on Facebook?

Desktop
Laptop
Tablet
Mobile phone

General questions

3. Please indicate to what extent you agree with the following statements

Advertisements	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Facebook advertisements ensure that you create new needs					
Facebook advertisements ensure that you get to know new brands that you are interested in					
Facebook advertisements ensure that you are considering new products and that you are looking for more information about it					
Facebook advertisements encourage you to buy something new					

4. Have you ever made an impulsive purchase after seeing an advertisement on Facebook?

Yes
No

5. Please indicate to what extent you agree with the following statements

Recommend and share	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Recommending or sharing pages, products or discounts by Facebook friends ensures that you create new needs					
Recommending or sharing pages, products or discounts by Facebook friends ensures that you get to know new brands that you are interested in					
Recommending or sharing pages, products or discounts by Facebook friends ensures that you are considering new products and that you are looking for more information about it					
Recommending or sharing pages, products or discounts by Facebook friends encourages you to buy something new					

6. Please indicate to what extent you agree with the following statements

Likes	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
The number of (friends) likes that a company has on Facebook helps you to make a decision about a possible purchase					
When many of my Facebook friends have liked a page from a certain brand, I trust the brand more					
When I have already liked a page of a certain brand, I am more inclined to buy my product there					

7. Please indicate to what extent you agree with the following statements

Reviews	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Reviews on Facebook help you to make a decision about a possible purchase					
When a certain brand has many positive reviews on Facebook, I trust the brand more					
When a certain brand has a lot of positive reviews on Facebook, I am more inclined to buy my product there					

Product specific questions

Now there are a number of questions focused on the mobile phone industry and brewing industry with regard to Facebook.

8. Please indicate to what extent you agree with the following statements

Advertisements	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Facebook advertisements about mobile phones can create a new need for you					
Facebook advertisements about mobile phones affect me, when they inform me about the newest phones					
Facebook advertisements about mobile phones affect me, when I can click through to the website, so that I can find more information					
Facebook advertisements about mobile phones affect me, when they contain product information					
Facebook advertisements about mobile phones affect me, when they contain price information					
Facebook advertisements about mobile phones affect me, when they inform me about mobile phones that are on sale					
Facebook advertisements about beer can create a new need for you					
Facebook advertisements about beer products affect me, when they inform me about the newest types of specialty beer					
Facebook advertisements about beer products affect me, when I can click through to the website so that I can find more information					
Facebook advertisements about beer products affect me, when they contain product information					
Facebook advertisements about beer products affect me, when they contain price information					
Facebook advertisements about beer products affect me, when they inform me about beer that is on sale					

9. Please indicate to what extent you agree with the following statements

Recommend and share	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
When a Facebook friend recommends a mobile phone on Facebook, it can encourage me to want this product too					
When a Facebook friend recommends a certain beer brand on Facebook, it can encourage me to want this product too					

10. Please indicate to what extent you agree with the following statements

Likes	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
While searching for information about a mobile phone, I am interested in the number of friends that have liked a specific phone brand					
While searching for information about a beer brand, I am interested in the number of friends that have liked a specific beer brand					

11. Please indicate to what extent you agree with the following statements

Reviews	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
While searching for information about a mobile phone, I am interested in reviews on Facebook about phone brands					
While searching for information about beer products, I am interested in reviews on Facebook about beer brands					

12. What is your gender?

Male
Female

13. What is your age?

18-21
22-25
26-30
31 or older