facebook strategies

how to measure campaign success

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*"We don't have a choice on whether we **do** social media, the question is **how well we do it**"*
Erik Qualman

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Preface

The author hereby declares that the content of this master thesis is original and that all sources used to create this master thesis have been properly mentioned and/or cited.

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Acknowledgements

Four years of intensive studying has led to this thesis. During my Bachelor Business Administration I became more and more interested in combining information technology and business. This led to the choice of the Master Business Information Management last year, which brought me new knowledge, experiences and friendships. The past year I have learned a lot from different research angles, and I have tried to combine these different insights in my thesis. Social Media, big data, measurements, metrics and information technology are topics that I find very interesting and that I have tried to combine with this thesis topic. I would not have been able to this research alone and therefore I would like to thank some people here.

First of all, I would like to thank dr. Ting Li for her enthusiasm, help and guidance during my Master Thesis. I would not have been able to finish this thesis on time without her. Secondly, I would like to thank Stefan Peekel who has been my coach at KPMG. He helped me with good discussions and questions and together we have also presented the usefulness of social media to a lot of our KPMG colleagues. Thirdly, I would like to thank dr. Clement Levallois, my co-reader. Clement helped me out with some essential hints and questions that improved my Master Thesis. Lastly, I would like to thank my dear girlfriend, my family, and my friends for their support during the process. I could not have done it without them.

Guido Soonius
Rotterdam, September 2012

Executive Summary

Social media has become more and more important in recent years. Scholars have already laid their focus on social media, but metrics and measurements of social media platforms and in particular Facebook have not been studied yet. Although some debate has been going on around ROI in social media (Hoffman & Fodor, 2010), no predominant metrics have been agreed upon. Companies using social media, base their social media campaigns mainly on "gut-feeling" instead of carefully analyzing the success factors of these campaigns. The usage of social media, and in particular Facebook, has grown enormously. Currently there are 7,085,500 Facebook users in the Netherlands, meaning that around 42% of the total population has a Facebook account[1]. These numbers present huge opportunities for companies, and many companies in the Netherlands already hopped on the bandwagon.

The two most popular brands on Facebook in the Netherlands, KLM and Heineken, have more than 1,000,000 fans, which provides them with the opportunity to reach a lot of their customers via Facebook. One of the advantages of using social media for companies is the possibility to measure and monitor real-time consumer behaviour. Companies can use data from social media for various departments of their organisation such as research & development, marketing and operations. The information stored on the servers of Facebook includes detailed demographics that can be used to target advertising very precisely. With the upcoming attention for social media the attention for a social media strategy has raised as well and many companies and scholars (Larson & Watson, 2011; Wilson & Guinan, 2011) have already made a start with developing social media strategies. However, these strategies have not been based on real data, but on old marketing strategies that have been altered to function as a social media strategy. Other strategies have been based on best practices from other companies (Dunn, 2010), but no detailed analysis based on actual data is used.

This thesis focuses on the measurement of Facebook campaigns posted by companies on their own Facebook page. The thesis extends current knowledge on the measurement of Facebook campaigns by developing a framework that helps companies determine the success factors of its campaign and thereby supporting in developing a social media strategy. The research is based on the data of four Dutch companies that belong to the top 100 most active brands on Facebook in the Netherlands [2]. A regression analysis is conducted to determine the validity of the proposed social media framework. The findings are novel, as academic research has not yet focused on such a detailed form of Facebook measuring.

The results show that the proposed social media framework can be very useful. A graphical overview of the results is also provided in an info graphic on page 8. The outcomes of the combined dataset showed that companies should keep the number of campaigns posted per day to a minimum as a negative relation was found with total reach. Photos increase campaign total reach while no significant relation was found for videos and links with total reach. The category of a campaign also makes a difference; campaigns focusing on getting *likes* and polls increased campaign total reach. The date and time that a campaign was posted had a significant influence on total reach. Campaigns posted between 14:00-15:00 decreased total reach significantly. Last, campaigns that were posted Monday or Tuesday had the highest total reach while campaigns in the weekend showed a significant lower total reach. The proposed social media framework can be used by companies to determine the

[1] socialbakers.com
[2] pagemonitor.nl

success factors of their own Facebook campaigns. All companies were also studied on an individual basis, in which the most successful campaigns were identified and further analyzed.

The first recommendations of this thesis are based upon the above described social media framework, which have been summarized in the following info graphic on the next page. An implication of the research is the importance of social media measurement and the lessons that can be learned by practitioners when using measurement and analysis tools. This relates to the proposed social media strategy framework, which shows four quadrants (social media starting point, social media playground, measure and measure & improve) companies using social media can be in. The results of this research show the usefulness of social media measurements, practitioners are advised to strive for the "measure and improve" quadrant. However, two routes are possible to reach this quadrant. The recommended route for companies that are starting or are already using social media, starts with investing in measurement and analytics tooling. Companies can thereby gradually improve their content and social media strategy and will in the end have a high level of interaction based on a high level of measurement.

This research is the first to show the statistical impact of various factors on the total reach of campaigns on a company's Facebook page. Furthermore, an overview of the success factors has been provided with the proposed framework. However, this research is mainly exploratory, researchers are advised to enlarge the dataset and conduct the research for a larger number of companies in more different industries. Also other variables are advised to examine, such as the influence of negative feedback on the total reach of a campaign.

Keywords: Facebook, Social Media Strategy, Measurements & Analytics, Campaign Success Factors

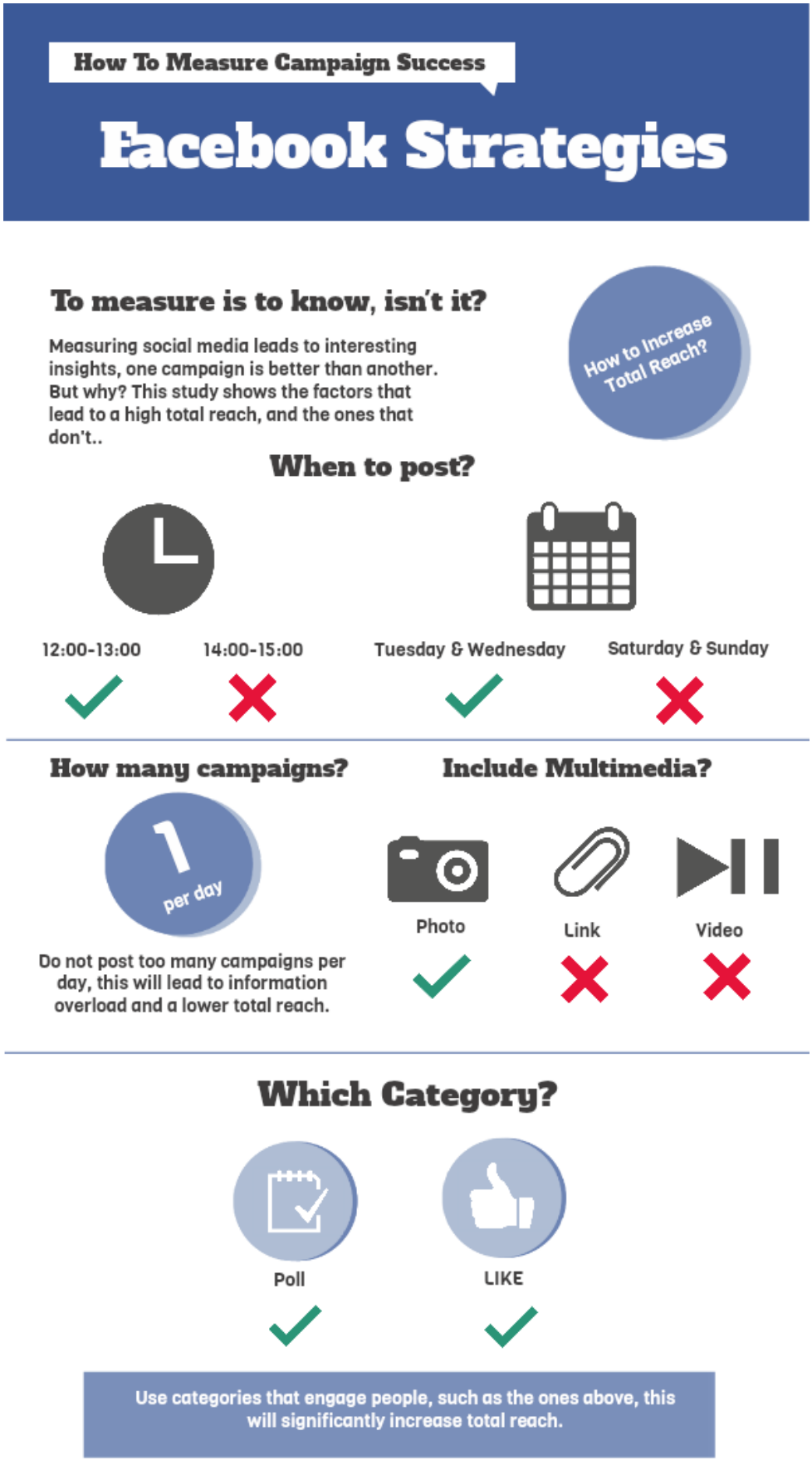

Figure 1: Managerial Recommendations Infographic

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Chapter 1: Introduction

Facebook, Twitter, blogs.. You cannot ignore social media anymore, neither individuals nor companies can. Companies are becoming more and more "customer-centric", and the nature of the customer-to-firm and firm-to-customer interaction are changing drastically (Goodman, Fichman, Lerch, & Snyder, 1995). For Example, Starbucks offering free coffee via Twitter to people who voted during the 2008 U.S. presidential elections (Gallaugher & Ransbotham, 2010). Dell, who sells computers via Twitter[3] and Best Buy's CEO who personally responds to his customers (Dunn, B.J., 2010). Social media has caused a turnaround, customers have gained power and are no longer cooperating with companies (Bernoff & Li, 2008).

Nearly 23% of the time American people spent online was on social networking sites, far more than they played games (9,8%) or sent e-mail (7,6%). Social media usage has grown rapidly, in 2011 4 out of 5 Americans visited social networks and blogs (Nielsen, 2011). Impressing figures that show the increase in both popularity and importance of social media. Moreover, social media has become an age-neutral commodity, used by both men and women of all ages (Stroud, 2007).

Social media offers companies several opportunities and also threats, but the real value often remains unclear. Companies are investing heavily in social media although they often do not see the value social media adds to their company or, in some cases, whether social media does add value at all. Forrester expects an increase of 300% in social media marketing investments in the period (2010-2014), reaching an estimated worth of 3.1 Billion USD (VanBoskirk, 2009). Companies that are active on social media platforms want to attract as many users as possible, as the users will be in most cases the added value for the company. The overarching belief is that users will provide more sales, more awareness and more profit in the end.

The measurement of social media applications is becoming a concern for most companies (Larson & Watson, 2011) and these companies are now trying to find ways to align their business goals with social media initiatives to gain business value (Culnan et al., 2010). An important question for most companies is whether to use traditional marketing metrics and measurements, such as ROI, or to construct new social media metrics (Hoffman & Fodor, 2010; Sterne, 2010; Wilson & Guinan, 2011). The first steps towards measuring the ROI of social media have been made already, and metrics to measure these different social media applications have been developed (Sterne, 2010). Companies should on the one hand increase their total reach on social media, to attract as many customers as possible to this platform, and on the other hand measure whether these customer do have an impact on their firm. Culnan et al. (2010) have introduced a framework that defines the different activities supported by social media platforms and its source of value. It is for example really imaginable that an e-commerce based company wants to improve its sales by using various social media platforms, thus taking revenues as metric for ROI. Web care teams on the other hand, probably want to improve customer relationships, thus taking "customer satisfaction" as a metric. This is already on a high and relatively abstract level of measurement, the start of measuring a company's success on social media should start at the individual campaign level. The factors that determine the success of these campaigns are very interesting as these campaigns will ultimately determine the success of a company on social media as well. If companies are aware of the campaign success factors, it will become easier to compose a

[3] Dell.com

social media strategy. This thesis aims to identify the factors that make a difference for campaigns posted by companies, thereby providing valuable input for social media strategies.

Companies have succeeded and failed using different social media strategies. For most companies social media looked simple and cheap and they hopped on the online bandwagon (Fournier & Avery, 2011). Companies thought going online was necessary because the average media consumption on online channels rose from 26% in 2008 to 32% in 2010 (Lang, 2010). Social Media was seen by many companies as an IT fashion, one that companies had to chase for (Wang, 2010). Now companies have more or less estimated the value of social media but are not sure how to gain value out of their social media platform and what strategy to follow. Social Media can be used for different means; listening, talking, energising and supporting (Bernoff & Li, 2008). These categories refer to branding, sales, supporting and product development functionalities that social media platforms can offer (Culnan, et al., 2010).

Social media strategies and campaigns have often been based on "gut-feeling", not on monitoring and measuring social media channels. The term "social media strategy" in itself is ambiguous; therefore I choose a different perspective for this thesis. I delve into the sum of the factors that influence the total reach of campaigns on social media platforms, which support the development of a social media strategy. This leads to the following research question:

"Which factors determine the increase and success of campaigns on Facebook and how can these success factors be used to support a social media strategy?"

Companies that are able to answer this question could be capable of gaining business value out of their social media platforms and campaigns. Furthermore, companies could think of a social media strategy if they are able to understand the factors that determine total reach of their campaigns. A social media framework is proposed that helps companies to determine the success of their social media campaigns and strategy and, more important, the underlying success factors. The constructs as described in the research question are derived from the current literature and are discussed in detail in the literature review. A quick overview of the research structure is presented in figure 1 to guide the reader through this research.

Research Design

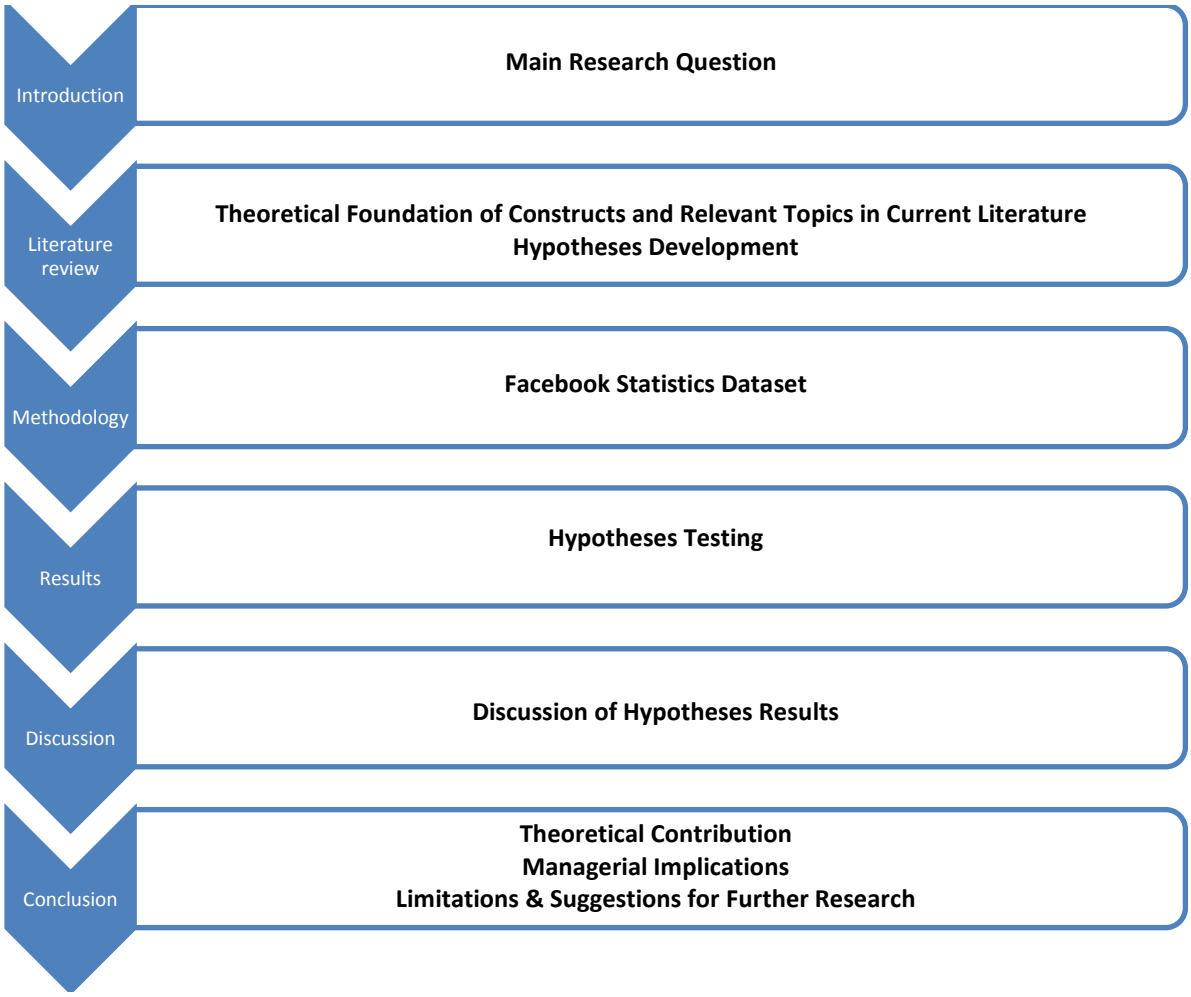

Figure 2: Visual Overview of Research Structure

Chapter 2: Theoretical Foundation

2.1 Definition Social Media

Social media is a broad term and differently understood among companies. In order to be able to make a solid theoretical foundation, the term "social media" needs to be further defined and scoped. In this part, an overview of the current literature on the term "social media" is provided. Web 2.0, user generated content, online communities and social networks are terms that are used to describe social media. These terms are discussed below regarding current literature on these subjects, and the relation between the different terms will be described.

A possible distinction into the possibilities social media offers to its users consists of, firstly, the possibility to construct a public, private or semi-public profile within a bounded environment. Secondly, to be able to see a list of users one is or is not connected to. And lastly, the ability to see whom is connected to whom (Boyd & Ellison, 2007). Social media can be seen as user-generated communication and has become a prevalent source of information that has changed the way companies communicate and interact with their customers (Michaelidou et al., 2011).

The concept of social media is not new and finds its origin in the late 1960's, when computer pioneers described computers as systems fundamentally for social (symbolic or sign-mediated) interaction rather than calculative machines (Aakhus, et al., 2012) . Social media is based on the notion of "a network", the establishment of ties between individuals, groups of people, organisational departments of organisations, that leads to the creation of social networks." (Wasserman & Faust, 1994). This definition of social media is further defined by Larson & Watson (2011) who describe social media as the set of connectivity-enabled applications that facilitate interaction among firms and their networked communities of customers. Important to note here is that the authors focused on social media in a business-to-customer environment, where social media entails also customer-to-customer and business-to-business environments. Moreover user generated content (UGC) can be seen as the overarching means of social media, social media is UGC and the two cannot be separated (Kaplan & Haenlein, 2010). UGC refers to the possibility for users offered by social media and web 2.0 technologies to generate the content themselves, social media portals such as Facebook are based around content that is generated by the users and not by the platform providers.

2.1.1 Online Communities and Web 2.0

As discussed above, social media is not the same as Web 2.0 and a distinction between Web 2.0 and social media is managerially important (Kaplan and Haenlein, 2010; Weinberg and Pehlivan, 2011; Michaelidou et al., 2011). Web 2.0 is a network computer-based platform on which applications, such as social media, run. Web 2.0 is the successor of Web 1.0, which was mainly based on the principles of the Internet such as hyper linking and the possibility to add content (O'Reilly, 2007). According to O'Reilly (2007) the central principle to success behind surviving the 1.0 era into the Web 2.0 era is harnessing collective intelligence. With Web 2.0 the Internet has become more social and intelligent. Furthermore, it is a term that is used to describe a new way in which users and developers utilise the web (Kaplan & Haenlein, 2010). Another important distinction to make, is between social media and online communities. Online communities started already to evolve in the late 90's while social

media platforms began to pop up only a few years ago. Williams & Cothrel (2000) describe online communities as people who engage in many-to-many relations online, a definition that seems very similar to some social media definitions. These online communities meet four types of consumer needs (Armstrong & Hagel, 1996). Firstly, *communities of transaction* which are primarily focused on the buying and selling of goods, services and information. Secondly, *communities of interest* which are focused around a common field of interest. Thirdly, *communities of fantasy* where people can create new personalities, environments and stories. And lastly, *communities of relationship* which are formed around people's life experiences. In these communities people can have deep personal connections according to the authors. Here lies the difference between online communities and social media platforms. While online communities are formed on the base of similarities or common interests, most social media platforms cater to really diverse audiences (Boyd & Ellison, 2007). An example is Facebook, a social network site with around 800 million users with multiple backgrounds and interests.

2.1.2 Social Networking Sites and Facebook

Social media is defined very differently in the literature, however in this research social media is defined as: "*the set of connectivity-enabled applications that facilitate interaction and the co-creation, exchange, and publication of information among firms and their networked communities of customers*" (Larson & Watson, 2011). This definition is used because it entails the functionality of campaigns on Facebook, these campaigns are used to facilitate interaction, co-creation, exchange and publication from on a company's Facebook page. Companies with a Facebook page strive to interact with their users, and in a best case scenario, engage their users to create their own content. A *campaign* is any message on a Facebook page placed by the company, this message can be in the form of a text, picture or video. The comments, likes and questions from the page users are not campaigns but can be seen as reactions.

The definition as well as this research focuses solely on social networking sites while social media includes a wide range of web 2.0 applications such as video sharing, microblogs, blogs and social networking for internal purposes, or to connect with customers, external partners or suppliers (Culnan et al., 2010). The social media landscape is very extensive, although some social media platforms exceed others with its user base. Facebook is one of the most used social media platforms by companies to interact with their customers, a study by Barnes (2010) showed that 23% of Fortune 500 companies used company blogs, 60% corporate Twitter accounts and 56% used a company-specific Facebook account. Even more impressive are the figures as shown by Nielsen (2011), indicating that Facebook had over 140 million unique visitors in May (2011) and that users spend by far the most time online on Facebook than on any other brand. Companies need to be aware of the different platforms available and even more important on the opportunities that these different platforms offer. Kaplan & Haenlein (2010) provide an overview of the different social media platforms, which is stated in figure 2, based on self-presentation/self-disclosure and media richness/social presence.

		Social presence/ Media richness		
		Low	Medium	High
Self-presentation/ Self-disclosure	High	Blogs	Social networking sites (e.g., Facebook)	Virtual social worlds (e.g., Second Life)
	Low	Collaborative projects (e.g., Wikipedia)	Content communities (e.g., YouTube)	Virtual game worlds (e.g., World of Warcraft)

Figure 3: Social Media Classification (Kaplan and Haenlein, 2010)

On the one hand, self-presentation/self-disclosure refers to the conscious or unconscious revelation of personal information, and on the other hand social presence/media richness refers to the possibility of some platforms to share not only text but also video, audio and other forms of media. The media richness theory will be elaborated more thoroughly later in this thesis as the multimedia variable will be described, which is supported by the media richness theory. The different social media platforms are placed within this table based on these dimensions. The different social media platforms require different metrics to measure their value, several metrics have already been developed by academic researchers, thus providing a solid research framework (Hofmann & Fodor, 2010; Culnan, 2010; Larson & Watson, 2011).

More and more companies are using Facebook and other social media platforms to interact with their customers, or "fans" as they are called on Facebook. Later on the different factors that will determine success on Facebook are presented in a framework, however there is another concept on Facebook that needs further elaboration. Every user on Facebook has a "Newsfeed", which is a list of messages, status updates, pictures and more of their friends and the pages they like. For companies it is not only interesting to appear on as many newsfeeds as possible but also to appear as many times as possible on one user's newsfeed. The items in a user's newsfeed can be sorted on "Most recent" and "Top stories", the items are ranked based on Facebook's EdgeRank[4]. This algorithm determines which items, called "edges" on Facebook are ranked high in a user's newsfeed based on three elements. The first element is the affinity of the user with the particular page; how many times did the user click, like or comment on a campaign. The second element is the weight of the edge, which means whether the campaign includes more than just text. A campaign can for example include an application, a picture or a video. The last element is time, this element is based on how long ago the edge was created. The Facebook EdgeRank is therefore important for companies to keep in mind when designing a social media strategy, the social media framework that is proposed can also help to optimise this EdgeRank.

[4] http://techcrunch.com/2010/04/22/Facebook-edgerank/

2.2 Social Media Strategy

If organisations want to enable the facilitation of interaction, co-creation, exchange and publication of information among customers and the company through social media, they need to think of a Social Media strategy. Strategy is about change (Mazzucato, 2002). Moreover, a competitive strategy, as described by Porter (1996), is about being different. It means deliberately choosing a different set of activities to deliver a unique mix of value. A social media strategy is just as a corporate strategy about change, competitive advantage and gaining value. Strategy is often a vague term and cannot easily be captured in a description, in this section the different views on social media strategies taken by companies are described. Although a social media strategy is more comprehensive and entails more than just campaigns, the proposed framework can be used to define a social media strategy on a more operational than strategic level.

In the current literature three overarching approaches to a social media strategy have been identified. First, according to Culnan et al. (2010), a social media strategy comprises of four distinct categories including: branding, sales, customer service and support and product development. A second approach to a social media strategy focuses on a 3-M framework that comprises of a monitor, magnet and megaphone view on the customer-firm dialog (Gallaugher & Ransbotham, 2010). The third approach to a social media strategy that focuses more on risks and rewards, is derived from Fournier & Avery (2010) and comprises of three different managerial approaches. The first approach is about listening and adjusting to the collective, the second approach is about monitoring social media to gain cultural resonance and the third approach is to get in control as a company and let the consumers work on behalf of the brand. This strategy refers to the factors, the hypotheses are build upon and that will be described below. Brand awareness and brand engagement are about listening to and monitoring the collective, ultimately the company wants to be in control of the eWOM (online Word-of-Mouth) and influence the customers that are really engaged with the brand.

The different Social Media strategies can be placed within a Social Media ecosystem that consists of three dimensions, namely business-to-customer (B2C), customer-to-customer (C2C) and business-to-business (B2B) (Larson & Watson, 2011). There has been an explosive growth in the number of companies that are now active within the B2C dimension, using different channels to reach their customers (Boyd & Ellison, 2007). Companies should be aware of the different stakeholders that are involved in the different dimensions of the social media ecosystem. According to Watson & Straub (2007) who explored the network interplay and stakeholder viewpoint net-enabled organisations are now in its third era of networking. This third era is based on public networks that companies use to interact with their individual customers (B2C), investors and governments. In the different eras, different stakeholders are involved. The stakeholders that are involved in the social media ecosystem are based on the findings in this article by Watson & Straub (2007).

Social media strategy is often related to ROI in the literature, however exact factors that determine these strategies are lacking. (Hoffman & Fodor, 2010; Gallaugher & Ransbotham, 2010; Weinberg & Pehlivan, 2011a). These strategies are often defined through surveys and companies are roughly divided into social media champions, transformers, experimenters or practitioners (Wilson & Guinan, 2011). However, factors that determine the success of a social media strategy or social campaign are not clear. In the following paragraphs several factors that determine a social media strategy are explained in more detail, whether the factors differ per company is analysed in the results chapter. The factors form the input for

the proposed social media framework, which can be used to determine the success factors of a social media campaign.

Social media strategies are often focused around branding, rather than on advertisement. Companies use social media platforms to generate brand awareness amongst customers (Taylor et al., 2011). Online word-of-mouth (eWOM) is strongly related to brand awareness as social media platforms have made it possible to keep track of online word-of-mouth (Jansen & Zhang, 2009). Companies can monitor posts, tweets and reactions to keep track of the online word-of-mouth, furthermore companies can now use viral marketing to start eWOM. WOM and eWOM are discussed further in the literature review.

Some companies are known to already have a *social media strategy,* these companies have created a strategy and policies for the effective usage of social media within the company. Best Buy and Starbucks are companies that are often cited (Dunn, 2010; Gallaugher & Ransbotham, 2010) as an example of companies, which make a difference with their Social Media Strategies. These strategies can be, like the corporate strategies as described by Porter (1996), very different between companies. Although these strategies are very different, most companies strive to focus on the M's (Monitor, Megaphone and Magnet) as in the earlier described 3-M framework. Social media strategies are not always visible and it is difficult to distinguish companies' different social media strategies, to some extent this can be possible. In the next section a social media strategy framework is constructed, which differentiates companies based on the level of interaction on social media, as well as the level of measurement. In this thesis some different aspects of a social media strategy are discussed and tested for correlation with the success of a social media campaign, hereby companies can be advised to define their social media strategies in such a way that they can reach the majority of their fans and, acquire new fans.

A very interesting diagram about the steps that companies have to take before they are able to sell through social media is constructed by Eric Qualman (2009) and shows a social media escalator, as depicted below. This diagram has a direct link with the social media strategy framework, which will be discussed in the next chapter. The steps shown in the elevator are part of a social media strategy and one of the most important steps in the social media escalator is the *interact* step; this thesis is mainly focused around this step as the factors that determine a high interaction on Facebook are studied.

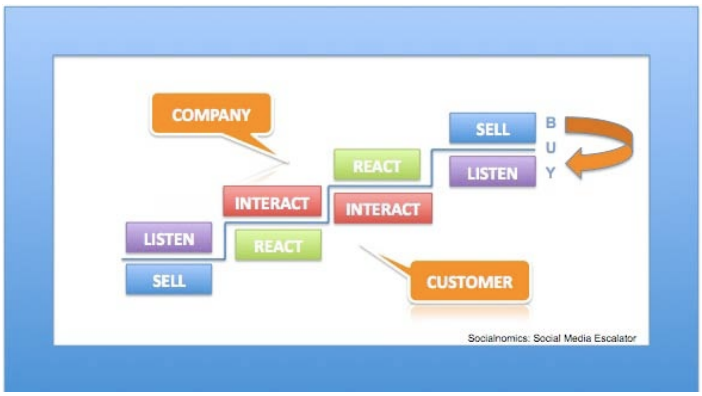

Figure 4: Social Media Escalator (Qualman, 2009)

2.3 Social Media Strategy Framework

Scholar have constructed social media strategy frameworks to determine which stage or phase a company that uses social media is in (Hoffman & Fodor, 2010; Gallaugher & Ransbotham, 2010). These frameworks are very useful to determine the stage of the social media strategy and the path to social media success. In order to be able to define a framework, the factors that determine a company's position in such a framework are important, or as Larson & Watson (2011) stated: "A critical step in defining a social media analytics framework is to decipher, ultimately, which things actually matter to the firm, meaning which activities are worth a firm's time, efforts, and financial resources to bother monitoring." Based on prior literature by Hoffman and Fodor (2010) a social media strategy framework has been developed to position a company's social media usage; this framework is presented in figure 4. The four companies that have been analyzed in this research are plotted in the figure, in the paragraphs below is explained why the different companies have been plotted in the respective quadrants of the framework.

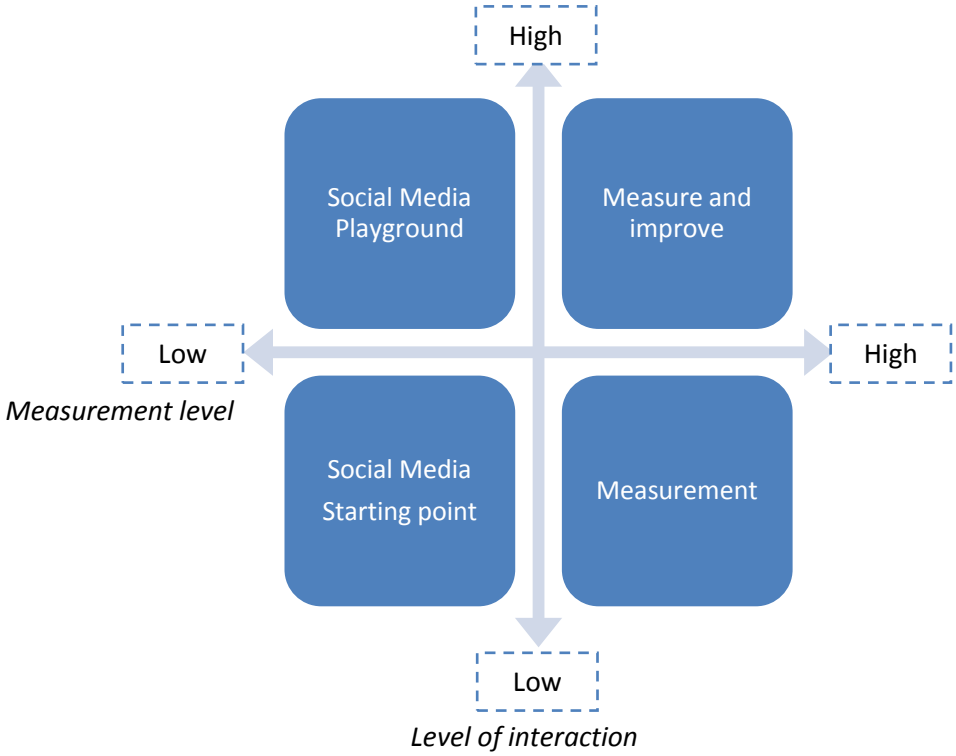

Figure 5: Social Media Strategy Framework

Companies using social media can be placed within one of the four quadrants based on their measurement level and their level of interaction. The measurement level describes to what extent companies monitor and measure their social media activities (e.g. does a company use analytics software to keep track of its activities on the diverse social media platforms?). An option to determine the measurement level of a company is to conduct interviews with social media decision makers within the company. A questionnaire has been constructed to determine a company's position on the axis of level of measurement[5]. The questionnaire is based on a quiz developed by Wilson & Guinan (2011), which is used to determine the orientation of a social media strategy. Managers that make their social media efforts quantifiable by using metrics and analytics score high on measurement level. In order to be able to determine the level of measurement , a holistic picture of social activities and their

[5] The questionnaire can be found in Appendix A

impact has been used. This holistic performance insight model (Murdough, 2009) includes social media insight tools and data sources that can be used by companies to measure their social media usage and impact. The model consists of four different insights tools that will be described shortly below. Based on the usage of the different insights tools, companies can be placed into the social media strategy framework. Interesting is that the different tools can be connected to the four steps identified by Qualman (2009) in his social media escalator.

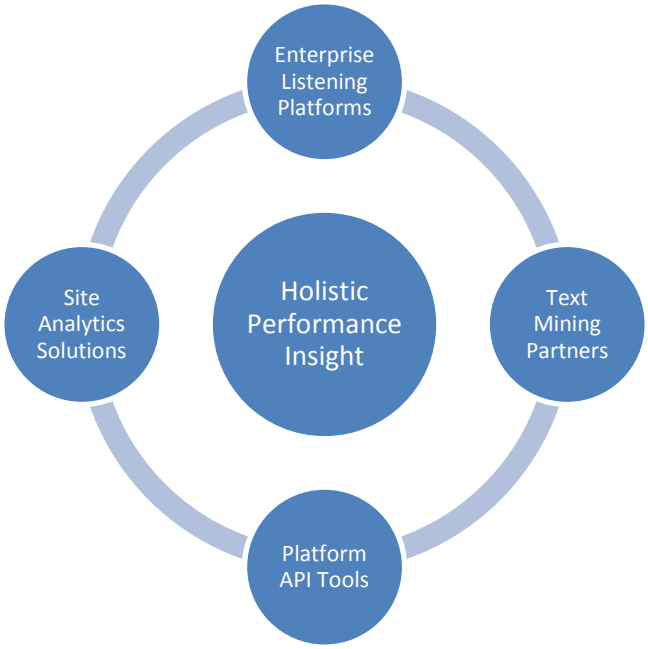

Figure 6: Social Media Insight Tools and Data Sources (Murdough, 2009)

1. *Enterprise Listening Platforms* (ELP), these tools provide an overview of what has been said about a brand on diverse social media platforms. The information is centralized and made ready for reporting and synthesis. The tools are rather passive and are used in the *listening* phase of the social media escalator (Qualman, 2009).
2. *Text Mining Partners,* one step further into the process of social media measuring is the usage of text mining. Although still passive, these tools are able to semi-automate the process of listening and provide managers with an overview of the themes and sentiment of discussion on social media platforms. This connects directly to the second step of the social media escalator as companies using text mining partners are now *interacting* in discussions on social media platforms and can use text mining to control the sentiment.
3. *Platform API (application programming interface),* are tools that are made available by the platforms themselves. This research has been done on the basis of a platform API. These tools give access to social insights that are not accessible via enterprise listening tools and provide managers with deeper understanding of the success on individual campaign basis. More detailed analysis is made possible with these tools than the two previous ones. Managers have detailed insights in their social media activities and the sentiment online and can thus better react to their customers, thereby engaging the public with their brand. This is the third step in the social media escalator.
4. *Site Analytics Solutions,* tools that provide insight into a website behaviour and are used to measure outcomes of social media activities. Referrals from social media platforms can show the added value to a brand's website. When referral set-up has been done in the right way, it becomes easy to tie back website activities to social media efforts.

These tools are used by companies that are in the last step of the social media escalator and can sell products and services via social media.

On the other axis is the level of interaction that describes a company's activity on the diverse social media platforms. Companies that (pro)actively communicate with their customers on these social media platforms will be high on level of interaction. This framework should be seen as a tool for companies to quickly see where they are in comparison to their direct competitors. A metric to determine the level of interaction is called "IPM"[6], which calculates the interaction per thousand Facebook fans. The IPM can be calculated as follows:

$$IPM = \frac{\#\ of\ comments\ +\ \#\ of\ likes\ on\ comments}{Total\ \#\ of\ fans} \times 1000$$

The calculation is done for the past 30 days, companies can thus get a quick overview of their last month achievements compared to other companies. The outcome of the equation is a relative criterion, as the level of interaction differs per industry. The IPM of a company can be compared with its competitors to classify the level of interaction and the position within the social media framework. Now that the axes have been defined, the different quadrants are explained and connected to the level of measurement and interaction.

Social Media starting point

These companies are in the first phase of their social media "journey". Companies that are located within this quadrant can be characterised by a low IPM (i.e. values of 2 or lower) which varies on the industry that the specific company is in. Most companies within this phase have not assigned a manager or a team to their social media activities and guidelines are insufficient or missing. The level of measurement is very low as well, as these companies do not already make use of sophisticated analytics tools and social media dashboards.

Social Media Playground

Companies within this quadrant are active on diverse social media platforms and have a high IPM (i.e. values of 2 or higher), the value of IPM depends on the industry that a company is in. These companies have assigned a manager or a team to their social media activities and there is interaction with its customers on the diverse social media platforms. However, companies are not using analytics tools or social media dashboards to measure the activity on these social media platforms. Therefore companies are in a *social media playground* as they do not know what the impact of their messages and posts is on their company performance.

Measurement

Measurement plays an important in this quadrant as the companies are measuring from the start what they are doing on the diverse social media platforms. These companies can be characterised as thoughtful and careful when it comes to social media and their online presence. Therefore their level of interaction is relatively low (i.e. an IPM value of 2 or lower). The final step towards *measure and improve* should be easy as companies can learn from their measuring and monitoring activities and have knowledge on the most successful social media strategy for their particular company.

[6] www.socialmediatoday.com

Measure and improve

Companies within this quadrant can be seen as an example for other companies that are currently still struggling with their social media strategies. These companies have assigned a dedicated team to manage the social media platform, however other employees are also allowed to be active on the company's social media platform as long as they conform to the regulations. Measuring and monitoring of the social media platform is key, and the social media team uses the four analytics tools described to enhance the business performance with the company's social media activities. As is described later on in the literature review, the performance can be measured in terms of sales, branding, product development and customer service & support.

2.4 Brand Awareness, Brand Engagement and eWOM

Several authors have identified many different factors that influence total reach on social media platforms. In order to understand the success factors of a social media campaign it is important to understand some theoretical constructs about customer involvement on social media channels, in this chapter *brand awareness, brand engagement* and *eWOM* are discussed briefly to address the impact of social media campaigns. These three distinct categories that determine the impact of a social media campaign have been described by many authors (Culnan et al., 2010; Gallaugher & Ransbotham, 2010; Hoffman & Fodor, 2010; Weinberg & Pehlivan, 2011). Subsequently the different campaign factors that form the basis of the framework will be described and more importantly, why these factors could be successful for a company. Figure 5 presents a graphical overview of the conceptual model.

Figure 7: Conceptual Model

Companies strive to make customers *aware* of their brand, *engage* customers with the brand and get a grip on the *eWord-of-Mouth* about the brand. One of the goals of a social media strategy is to increase the total reach, which is the total number of individuals that have seen any content related to a social media page[7]. On Facebook this includes people who like, share and comment on the companies messages. Because of network effects, the theory that suggests that *"the value of a technology for a user increases if more people use the same technology"* (Wattal et al., 2010), customers can be reached directly through the companies' page or via newsfeeds of their friends. Total Reach on Facebook consists of organic reach, viral reach and paid reach. Organic reach includes the users who have seen company campaigns on their own newsfeed or on the page of the company. Viral reach, which is spreading the word about your brand or product via your customers, includes the users who have seen campaigns through one of their friends.

2.4.1 Brand Awareness

Companies that decide to build a social media platform will base this decision often on the opportunity to enhance their online brand awareness. These companies want to have a solid online presence, which reflects the values of their brand in the online world. Brand awareness is even the prominent reason for B2C firms to adopt Social Networking Sites according to Michaelidou et al. (2011). It is about the exposure of a brand, the interesting thing about social media is the added possibility to measure the level of brand awareness.

[7] Facebook.com

Moreover, brand awareness can be seen as one of the major goals in advertising in situations of low interest or involvement (McMahan, 1980). Companies want to make potential customers aware of their brand and more important, companies want customers to really remember their brand. Although social media platforms seemed to be a "no-brainer" for most brand managers, and many companies and their respective brand managers jumped on the social media bandwagon, many brands have been ignored by online visitors (Fournier & Avery, 2011). The authors continue that most companies saw social media as the way to cover the diminishing returns in traditional media, such as radio and television. Social media was seen as a cheap alternative to these expensive media, and the spending was sometimes entirely shifted to social media. Brand awareness is not new, and social media is just a new channel for brand managers to create and enhance brand presence and awareness. Previous research on brand awareness showed that brand awareness can be categorised into two distinct categories namely, brand recognition and brand recall (Percy & Rossiter, 1992). This includes the ability of customers to recognise and recall a brand on its products, logo, colours or other attributes that have something to do with the company.

2.4.1.1 Half-life of Information

The half-life of information refers to the longevity of the information in terms of availability and appearance of the message as well as the interest in a topic. The effectiveness of advertisements or posts on social media wears out over time, the half-life of information provides the opportunity to measure the time span before the advertisements or posts "wear out" and are thus not effective anymore (Prasad, 1999). Due to social media the half-life of information has been reduced drastically, some years ago blog posts were being commented for about 4-5 days while the half-life of information has been reduced from days to hours or even minutes (Qualman, 2009). Companies need to be more and more aware of the half-life of information. Although the half-life of information has been reduced enormously, this does not mean that the impact of messages online has been reduced. The other aspect is the depth of information, which refers to the richness of the messages in terms of text, video and audio. Furthermore, this aspect refers to the number and the diversity of the perspectives. The richness of the information contains more than just an audio or video file, but it is also about bringing together people with common interests on the same social media platform to encourage information sharing. Companies and their respective brand managers have to take into account the half-life and depth of information when they are considering which social media platform they choose to use, but also when designing a social media campaign. Below a framework is depicted that can help managers to choose the appropriate platform for their advertisements as to improve the effectiveness of these advertisements, thereby enlarging the brand awareness and presence online.

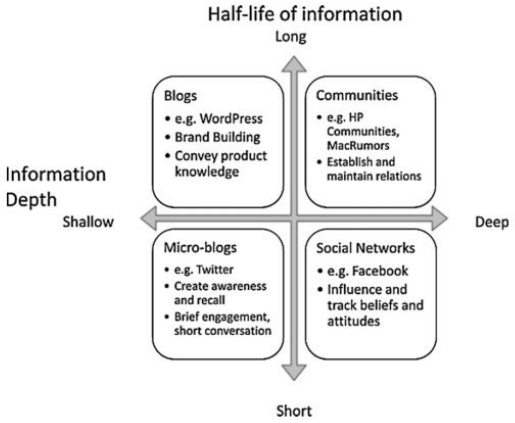

Figure 8: The depth and half-life of information on Social Media (Weinberg and Pehlivan, 2011)

As can be read above, managers should focus on social networks such as Facebook when the half-life of information is expected to be short while the information depth is believed to be rich.

2.4.2 Brand engagement

Once customers are aware of a brand, the next step is to really engage customers in promoting the brand actively on the diverse social media platforms. Brand and customer engagement is not unique to social media and is applicable in many areas and industries. Throughout the literature, brand and customer engagement are used interchangeably, the terms however refer the same definitions (Bowden, 2009; Calder & Malthouse, 2008; McEwen, 2004; van Doorn et al., 2010). Research in the advertisement literature suggests that brand engagement is the extent to which customers have formed emotional and rational bonds with a brand (Bowden, 2009). According to McEwen (2004) this includes feelings of pride, integrity, confidence and passion in a brand. Research in the media area found that engagement is more than just mere liking, according to the authors engagement is a stronger state of interconnectedness between the customer and media used (Calder & Malthouse, 2008). A general measure of brand engagement is discussed by Sprott et al. (2009), who defines it as follows: *"an individual difference representing consumers' propensity to include important brands as part of how they view themselves".* Interesting enough is that we see many real-life examples on brand engagement and people that view certain brands as part of themselves. For example the people that see Apple as a religion instead of "just a brand", this seems to be the highest possible form of customer engagement.

Brand engagement is about building a strong brand, according to Keller (2001) this process consists of four steps. The first step for a company is to identify the breadth and depth of the brand awareness among its customers, thereby the company has to establish the right brand identity. The second step consists of creating meaning for the brand by using associations to the brand that are unique, strong and advantageous. Some examples of brands that create meaning through associations with certain values are Axe, with its "Axe-effect" and l'Oréal with its slogan "because you're worth it". These brands are often associated with either female attention because of the use of a certain deodorant or female beauty because of the use of certain ointments. The third step is to evoke positive consumer's responses and the last step is to create brand relationships with customers that are characterised by loyalty and intensity. If this is the case, customers may be called "engaged" with the brand. Gallaugher & Ransbotham (2010) agree with this statement and

argue that companies should be aware of their online presence, making sure that they establish, nurture and manage their brand online.

One of the most important aspects of brand engagement is to provide customers a reason for doing so (Kaplan & Haenlein, 2010). According to these authors companies need to take two steps. The first step is to really listen to the customer, companies need to know what the interests are of the customer and what the customers would like to talk about. Due to social media monitoring, companies can get a good idea of the things that customers find interesting, valuable and enjoyable. In the second step companies have to post content that fit exactly to the identified needs of the customer. The customer gets inclined to actively click, react and respond to company's messages; this forms of the basis of the proposed social media framework that aims to increase the total reach for Facebook campaigns.

2.4.3 eWOM

Word of mouth (WOM) is a well-known and already old phenomenon in marketing literature. Research has shown that WOM has a significant influence on consumer's choice and the post-purchase product perception (Gruen et al., 2006). Due to the uprising Internet and social media platforms, WOM has been brought to a whole new level. Word of mouth is now also known as "word of mouse" (Gelb, 2002) or "world of mouth" (Qualman, 2009), reflecting the recent changes in WOM. eWOM can be seen as the electronic form of WOM, and is defined by Hennig-Thurau et al. (2004) as: *"any positive or negative statement made by ... customers about a product or company, which is made available to a multitude of people and institutions via the Internet."* Blog posts, online reviews, posts shared on Facebook or simply tweeting about a product or company can thus be seen as eWOM. On Facebook, eWOM is measured in terms of people talking about a certain post or page (Hoffman & Fodor, 2010). This includes people who like, share or comment on company posts. An important change that eWOM has brought, is the possibility to track WOM, because the data can be stored in a database.

Most of the findings and research on eWOM are based upon research on WOM, some criticism on traditional WOM motives is important to discuss. Arndt (1967) describes WOM as the former type of opinion- or preference-based social interaction. Traditional research on WOM identified multiple motives for consumer WOM. Dichter (1966) has done some early research on the topic and came up with four distinct, although often combined or overlapping, WOM motives for consumers. These "involvement categories" as mentioned by Dichter (1966) are: Product-involvement, self-involvement, other-involvement and message-involvement. First, product involvement entails a tension felt by consumers because of their experience with the product or service. These consumers do not only want to use the product or service but feel a need to communicate their experience to others. Second, sometimes the accent is more on the consumer than on the actual product. Therefore, self-involvement fulfils emotional needs that a consumer might have. Third, consumers want to share good experiences with others. The other-involvement considers the recommendation as a "gift". Last is the message-involvement, which refers to conversation about products motivated by advertisements and not by the actual experience that consumers have with the product. Recent research on WOM and eWOM criticises the involvement categories as introduced by Dichter (1966) because there is no information about the typology provided and the categories are based on anecdotal evidence (Hennig-Thurau et al., 2004; Sundaram et al., 1998). Although eWOM is a new form of the traditional WOM communication, there is a lot of overlap between the two concepts. The closeness between the two concepts is important because most of the consumer motives identified in traditional WOM research will remain relevant for eWOM (Hennig-Thurau et al., 2004).

2.4.3.1 Viral Marketing and eWOM

Practical implications for marketers when designing a website are the "transactional" and "relational" elements as described by Armstrong & Hagel (1996). Transactional elements consist of the information related to buying and selling of products and services, whereas the relational elements entail a higher degree of communication between consumers and is mainly formed around a common interest. Derived from this findings, Bickart & Schindler (2001) suggest that if customers are encouraged to interact with each other, thereby building relationships, this could lead to increased sales. Considering social media, consumers are influenced by transactional and relational elements as well. Many consumers post a Tweet when searching for information about a certain new product that they want to

buy. Tweets or Facebook posts such as “Looking for a new phone, who can help me out?” or “The new iPhone, what do you guys think?” are common on social media platforms. Examples of relational elements on social media platforms can be found on Facebook, where fan pages and groups are formed around common interests. These common interests often imply certain products or services that sometimes can get a cult status and attract several “fans”. eWOM makes it possible to monitor and measure online word-of-mouth, companies have the possibility to actively respond to their customers and some companies are taking it very seriously (Dunn, 2010; Gallaugher & Ransbotham, 2010). eWOM has partly replaced WOM and can be of great influence to companies nowadays.

In the past people used to talk about products, events or services to their direct friends who in turn, passed on the story to their respective friends. Although WOM is very important and useful to companies, this form of WOM knows two disadvantages. First, information spreads slowly through the network and second, the context and content of the original message can be misunderstood or diluted over time (Qualman, 2009). Due to the Internet and to social media platforms information can now fast and easily be shared, without the risk that the original message will dilute over time. Facebook news updates and Twitter streams provide information that can be shared easily to all friends of the user, these friends have friends too with whom they can share the message. The possible viral reach is enormous and companies, including social networking sites, are searching for ways to make use of these opportunities (Enders et al., 2008; Fournier & Avery, 2010; Jansen & Zhang, 2009; Mangold & Faulds, 2009). Viral marketing can be defined as the strategy that encourages people to distribute a message among acquaintances, thereby exponentially enlarging the potential exposure and influence of the message (Bampo et al., 2008). Kaikati & Kaikati (2004) mention the link with eWOM, according to them viral marketing can be seen as “word-of-mouth via a digital platform”. A message that is spread through the use of WOM and is of interest to the receivers who are expected to pass the message along to their acquaintances. Viral marketing can be part of a social media strategy for companies as viral marketing can help the company’s social network grow exponentially because of network effects. Important however is the question why people want to share a company’s post with their friends.

In the next paragraph the campaign success factors that determine whether customers are aware of the company, are engaged with the brand and want to share posts with their friends will be described. These campaign success factors are part of the social media framework that is proposed and tested.

2.5 Success Factors and Hypotheses

Branding is essential for companies, and most companies have discovered social media to be a driver for brand success (Culnan et al., 2010; Dutta, 2010; Fournier & Avery, 2011; Jansen & Zhang, 2009). Campaign success on Facebook is measured in "Total Reach", which is the unique number of visitors who have seen a company's campaign. In this chapter the identified campaign success factors, based on recent research, are described and hypotheses are proposed. The above described definitions, such as brand engagement, brand awareness and WOM are important for understanding the meaning of "success" of a campaign on Facebook.

2.5.1 Multimedia Usage

The different social media platforms such as Facebook, Twitter and YouTube differ strongly when it comes to media richness. The media richness theory states that media differ in its degree of richness, which is the amount of information that is included in a message (Kaplan & Haenlein, 2010). The media richness theory has been developed by Daft & Lengel (1986) and the underlying argument is that the task performance increases when task needs are matched to a medium's ability to transmit information. This means, in other words, that media differ in its ability to enable the communication and understanding between users. The media richness of a photo is, in most cases, higher than plain text. An example is the expression "a picture is worth a thousand words".

The use of the information depth and media richness/social presence theory (Kaplan & Haenlein, 2010; Weinberg & Pehlivan, 2011), can be used by companies to determine on which social media platform they will focus. Some companies focus on Twitter, a platform that limits its users to messages of a maximum of 140 characters and photos are only visible after the user has clicked on a link in the message. Other companies focus on YouTube, an online community to watch and share videos. This research focuses on Facebook, where companies can use text, photos and videos to enrich messages posted. An important reason for companies to include multimedia into their campaigns is Facebook's EdgeRank, the algorithm that determines the rank of the user's newsfeed. One of the elements of the EdgeRank is the *weight* of the edge, meaning that a campaign including multimedia will be ranked higher in user's newsfeeds.

Palmer & Griffith (1998) used media richness theory to study, inter alia, the technical characteristics of web sites. The authors included *Multimedia Use* to explain the use of the Internet for marketing activities. Although the research is already outdated, as the authors also found that most websites in that time were not using many pictures or hyperlinks, the research structure is very useful. Multimedia use is an interesting and meaningful variable that can help explain the performance of a website but also of a social media campaign. As discussed above, multimedia can consist of multiple forms of media. On Facebook it is possible to include a video, photo or link to a campaign. Links are very different from photos and videos as these can be used to redirect the customer to an online shop environment that can be used to increase sales through Facebook. Multimedia usage will be tested for these three forms of multimedia, therefore the following hypotheses are proposed:

Hypothesis 1a: *"A campaign that includes a picture has a positive influence on the Total Reach of a Campaign"*

Hypothesis 1b: *"A campaign that includes a link has a positive influence on the Total Reach of a Campaign"*

Hypothesis 1c: *"A campaign that includes a video has a positive influence on the Total Reach of a Campaign"*

2.5.2 Campaign Categories

Social media campaigns differ strongly and can be divided into different categories, these categories serve different underlying purposes and goals. An overall goal of the campaign categories is to increase total reach on the company's page by motivating customers to actively participate on Facebook. The categories that have been identified in the different cases are based on the categories that will be described below.

The categories of underlying motives for customers to engage on Facebook are based on the motives as earlier described in the *eWOM* section of the literature review. These categories have been introduced by Dichter (1966) and are criticised and extended by Sundaram et al. (1998) who identifies four categories: product performance, response to problems, price/value perceptions and employee behaviour. These categories are often visible on a company's Facebook page, examples include a social media web-care team that responses to problems: "How can we help you with that problem?", customers that compliment the company: "Very happy with my new iPhone, great product!" and customers that have a certain experience with employees of the company: "the store manager was very kind and even gave me a small discount".
However, these categories are focused on customer behaviour on a company's social media page, and are not initiated by the company and do not include the company's campaigns. The other dimension as described by Sundaram et al. (1998) is focused on the motivations of customers to engage in positive word-of-mouth, which can be seen as *interaction* in the earlier introduced social media strategy framework. The authors have made a distinction among positive WOM (PWOM) and negative WOM (NWOM) in the grouping of the categories. In this case only PWOM applies as the campaigns of a company are focused on positive engagement of its customers. The four categories include: altruism, product involvement, self-enhancement and helping the company. Especially product involvement and self-enhancement are categories that many companies are focused on, for example companies that ask their customer what they think of certain products and services. This refers to the magnet function of social media, as described before (Gallaugher & Ransbotham, 2010). Self-enhancement is also applied by many companies to engage customers with their page, an example are the questions that are posed by companies to their audience. Customers can introduce themselves as experts, thereby enhancing their status and seeking appreciation. Companies have a hard time controlling their brand presence online and try to control this by asking the right questions to the public, this shows that the company is aware of its environment (Fournier & Avery, 2011).

The underlying motives of the different categories are primarily based on current marketing literature, even more interesting is the categorisation made by Bernoff & Li (2008) who looked at social media usage and came up with research and development (*"listening"*), marketing (*"talking"*), sales (*"energising"*), customer support (*"supporting"*) and operations (*"Managing"*). The categories described by these authors that apply to the identified campaigns will be discussed.

Listening (Product development, Poll, Question)
Many companies make use of their audience to develop new products or services, or improve current ones. This can be seen as a form of crowd sourcing, which is defined by Howe (2006) as "*crowd sourcing represents the act of a company or institution taking a function once performed by employees and outsourcing it to an undefined (and generally*

large) network of people in the form of an open call". Examples on Facebook are companies that ask their customer to design certain products for them, or limited editions of popular products. Another form of listening are the Facebook polls, that can be used by companies to measure the demand for a certain product or service. An example is Company C, which used their fan base to develop a new cake flavour.

Talking (Photo Album, News, CSR, History, Contest and Announcement Winner, LIKE)
Although engagement may come naturally for some football clubs, politicians and well-known brands it can also be stimulated by smaller companies and brands with the use of some creativity (Mangold & Faulds, 2009). All campaigns that are posted to make fans aware or engage them with the brand, fall within this category. Contests are often used to engage customers, an example is Company A's photo challenge where customers were asked to make a picture with the box in which they had received their ordered products. In some cases company A decided the winners of the contest but in other contest, Facebook users were asked to vote for the winner by "liking" their photo. Online voting gives customers a sense of ownership and increased engagement with the contest (Mangold & Faulds, 2009). Another way to engage customers is to ask questions, about products, the company or industry related news. Customers are often very willing to participate in the community, the motivational categories described above are the underlying motives for this behaviour.

Energising (Promotion)
Some companies have gone further than just marketing and are using social media to sell their products and services as well. This can either directly (Facebook commerce) or indirectly by linking to the company's web shop.

Managing (Recruitment)
Social media can also be used to manage the company. Although the case companies in this research do not use Facebook as a internal tool for sharing knowledge, the platform is used to attract new employees.

Company/Category:	Company A	Company B	Company C	Company D
Contest	√	√	√	√
Announcement Winner	√	√	√	√
Promotion	√	√	√	√
Question	√	√	√	√
Product Development			√	
Like	√			√
News	√	√	√	√
Recruitment	√	√	√	√
History		√	√	√
CSR[8]		√	√	√
Poll		√	√	√
Photo Album		√	√	√

Table 1: Campaign categories of the different companies

Although the campaign categories can vary per company, the type of category will probably have an influence on the total reach of a campaign. Per company the campaign categories will be tested by constructing dummy variables. The following hypothesis is proposed:

[8] Corporate Social Responsibility

Hypothesis 2: *"The category of a campaign has an influence on the total reach of a campaign"*

2.5.3 Campaign number and length

Twitter is easy in some ways as companies are limited to 140 characters; this is certainly not the case on Facebook where companies have much more freedom with regards to the length of the advertisement. On both social media channels there is no limitation on the number of campaigns and companies are thus free to post as many campaigns per day as they would like to. In the fast changing environment of web 2.0 companies should probably consider the length of the posts as users on social media quickly lose their attention. Some research has been done on the characteristics of Tweets, e.g. the number of characters and the number of words (Jansen & Zhang, 2009). Recent research on Facebook has not yet focused on the length and number of campaigns, as more research has been conducted on a more abstract, strategic level (Dunn, 2010; Gallaugher & Ransbotham, 2010; Wilson & Guinan, 2011).

In this research a social media framework is presented that helps companies to design Facebook campaigns based on a quantitative analysis, therefore the number and length of campaigns could be interesting predictors for total reach. The half-life of information has reduced significantly since the upcoming of web 2.0 (Prasad, 1999) and this could have an influence on the number of campaigns posted on a day. However, on contrary the problem of information overload could be applied to social media as well. Information overload can be defined as "having more relevant information than one can assimilate or having a large supply of unsolicited information that might contain relevant information" (Eppler & Mengis, 2004). Another very clear definition of information overload is provided by Galbraith (1974) and simply states ,"the point where there is so much information that it is no longer possible to effectively use it". Social media has brought its users even more information than they had before, which could have an influence on the number of campaigns on a day, as well as the length of the campaigns. Therefore the following hypotheses are proposed:

Hypothesis 3a: *"The number of characters has a negative influence on the total reach of a campaign."*

Hypothesis 3b: *"The number of campaigns on a day has a negative influence on the total reach of a campaign."*

2.5.4 Date and Time

Social media is available 24 hours a day, 7 days a week. In theory, companies could attract their customers every minute of the day by posting campaigns on their social media channels, but the question is how effective this will be. We still do not live in a 24 hours economy, as many shops still close at 6 p.m. and delivery of goods is handled during the day. Companies that post campaigns in the middle of the night do not have to be surprised when they find out that most of their customers were still asleep; of course, this is different for multinational companies such as Coca Cola and Heineken where many time zones are served. Most research on the influence of time on marketing found that markets where time plays an important role are characterised by *turbulence* and "high-technology products" (Drucker, 1980; Huber, 1984). According to Glazer & Weiss (1993) time-sensitivity has an influence on managerial decision making, they found that certain types of formal planning rather hinder than improve performance. As social media is indicated by many scholars as an

environment that is rapidly changing (Fournier & Avery, 2011; Majchrzak & Ives, 2009), the influence of time on social media could be very interesting. To test for the influence of time on the success of a Facebook campaign, the following hypothesis is proposed:

Hypothesis 4a: *"Time of posting a campaign has an influence on the total reach of a campaign"*

Hypothesis 4b: *"The Day of the week when a campaign is posted, has an influence on the total reach of a campaign"*

2.5.5 Total Reach

The hypotheses proposed above, mainly focus on the factors that determine total reach on Facebook. This metric indicates the total number of unique users that have seen a post, either on their wall, newsfeed or on a friend's wall. In order to raise attention a firm should try to increase the total reach as much as possible, thereby enlarging its online audience.

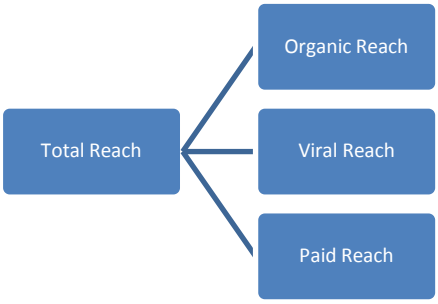

Figure 9: Total Reach

Total Reach consists of three pillars, as can be seen in the picture. *Organic reach* includes all users who have seen company campaigns on their own newsfeed or on the Facebook page of the company. These users are already a fan of the particular Facebook page and should attract the friends in their networks to the company's page. This is called *viral reach*, which is spreading the word about your brand or product via your customers and includes the users who have seen campaigns through one of their friends. Last is the *Paid Reach*, the visitors of the page that have seen the campaign via Facebook advertisements from the particular company.

Total reach can be seen as an effective variable for measuring a company's campaigns success, because the total reach takes into account the above described organic, viral and paid reach. The use of this total reach as a dependent variable makes it possible for companies to compare the effectiveness of different campaigns that they have posted on Facebook. Companies can easily whether campaign X or Y reached more of their potential customers.

Although some authors (Fournier & Avery, 2011) argue that companies no longer have the control over their reach on social media platforms, others disagree and provide guidelines to attract possible customers to the various social media platforms (Bernoff & Li, 2008; Qualman, 2009; Taylor et al., 2011; Weinberg & Pehlivan, 2011). As stated before in this thesis, there is not yet an overarching view on the metric to use to determine the ROI of social media. Connecting the total reach of a campaign to ROI could be a next step for most companies, in order to be able to measure the overall effectiveness of their social media performance. Most authors agree on the fact that traditional marketing metrics cannot be used to measure Social Media ROI anymore (Culnan et al., 2010; Gallaugher & Ransbotham, 2010; Hoffman & Fodor, 2010). The source of value depends on the activities that are supported by a company on various social media platforms. Culnan et al. (2010) refer also to virtual customer environments (VCE), i.e. the formation of customer communities online enabled by social media platforms. In table 2, the source of value for different activities on social media platforms is provided.

How Virtual Customer Environments Create Value	
Activity Supported	**Source of Value**
Branding (advertising, public relations, content delivery)	Drive Traffic, viral marketing, customer loyalty and retention
Sales (includes "call for action"- e.g., link to purchase item)	Revenue
Customer Service and Support	Cost Savings, revenue, customer satisfaction
Product Development	Revenue

Table 2: The Source of Value (Culnan et al., 2010)

Now that all the hypotheses have been defined, the following conceptual framework has been constructed to provide a summary of the proposed hypotheses. The framework and its outcomes are used to provide recommendations for social media (i.e. Facebook) strategies. The outcome of the analysis is a part of a social media strategy in which companies measure their actions and use analyses to improve their performance on Facebook.

2.6 Conceptual Model

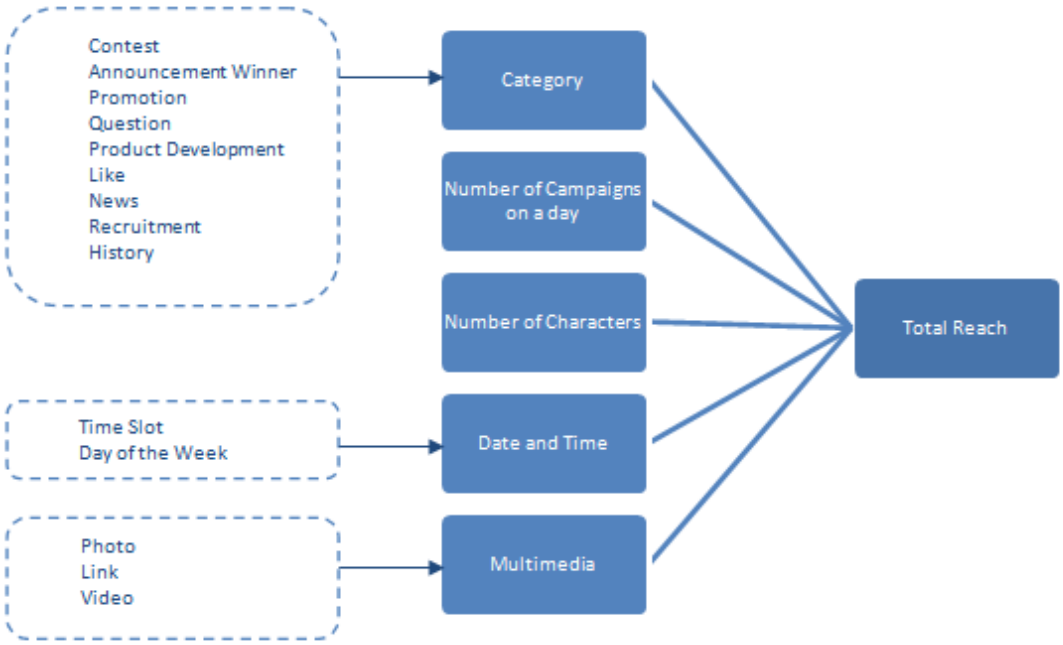

Figure 10: Conceptual Framework

Chapter 3: Methodology

3.1 Scope

The definition of social media is very broad and in the literature review, the scope of this thesis has already been explained in short. This research focuses mainly on Facebook, as this is one of the most used social media platforms worldwide (Nielsen, 2011). Furthermore the data that can be derived from Facebook is very extensive, as most of the user activities on company pages is tracked and monitored. This data formed a rich source for research and was used to test and validate the proposed econometric model. The main purpose of this model is to form a guideline for the social media strategy of a company.

3.2 Research Strategy

The main purpose of this research is to advice companies on their social media strategy in a quantitative fashion, therefore the social media framework has been developed. To develop and validate the model, the literature review and quantitative analysis of Facebook statistics data were used. On the one hand the literature review was used to determine the current state of the academic literature on the topic, purposes of the company's social media strategy (branding, supporting etc.) and developing a conceptual model. On the other hand, secondary data was used to test the constructed model. The data used is discussed in more detail in the next paragraph. General information about the case study research can be found in Appendix D.

To provide an overview of the different cases a table has been developed. In this table, which is stated in the following paragraph, the different companies used in the case study research are included, as well as the industry the company is in. Because of confidentiality the names of the companies have been anonymised.

3.2.1 Statistical Analysis

To test the factors that have an influence on the total reach of a campaign, several statistical tests were used. Before the tests were conducted, the data has been analysed and checked for outliers and normality. Then, the descriptive statistics were elaborated upon in order to gain a better understanding of the dataset and the variables used. A multiple linear regression analysis was used to test the validity of the conceptual framework that has been build in the literature review. The regression model that describes the conceptual model as build during the literature review is formulated as follows:

$$\text{Total Reach} = b_0 + b_1\text{Category} + b_2\text{Number of Campaigns on a Day} + b_3\text{Number of Characters} + b_4\text{Date and Time} + b_5\text{Multimedia} + \varepsilon$$

Finally, a time series analysis was conducted to validate the outcomes of the regression analysis with some very successful and unsuccessful campaigns that have been identified in the dataset. These campaigns were compared with each other and the success factors that were identified in the regression analysis have been checked for in these successful campaigns.

3.3 Data Collection Procedure

The dataset used, contained data from multiple sources. The different companies were selected because of their performance within in the industry. All selected companies were very active on social media in their respective industries and formed an example for other companies in the same industry. Some selection criteria were a necessity for the companies

selected. First, the number of fans had to be at least above 30,000 at the moment of deriving the data from Facebook and preferably higher because the results of the analysis were more valuable as a higher part of the company's customers are active on the social media platform. Second, the company had to be active for at least one year because the data collection was started in August 2011. All the companies that were selected, conformed to these criteria. The data has been derived from Facebook in June and July and the end date of the dataset, differed per company. These different companies have been chosen in order to be able to explore the use of Facebook among different industries and the success factors that matter.

The secondary data was collected from the companies that have been used as case studies and included Facebook statistics from the company's Facebook page. The dataset was an excel file containing multiple sheets and information on both a page level as on a individual campaign level, for this research only data on an individual campaign level was used. The information in the dataset was very comprehensive and included inter alia information about the number of visitors per day, the number of photo views, link clicks, comments and likes. The data has been transformed before the regression was conducted.

3.3.1 Nature of The Data

The analysis was conducted for three companies in three different industries, the nature and characteristics of the data can be found in the table below. Data was collected from the 1st of August till the 30th of June. The number of fans at the end of the period was determined on the date of deriving the data from Facebook and can differ now.

Company	Industry	# Fans Start[9]	# Fans End	Growth %	Campaigns per Day	IPM
A	Online Retail	8,127	58,000	583.9%	0.71	2.1
B	Financial	575	42,000	6834.6%	0.54	7.63
C	Offline Retail	32,613	99,000	190.5%	1.03	2.34
D	Communication	23,255	86,000	263.7%	1.16	3.64

Table 3: Overview Case studies

The companies have also been plotted in the social media strategy framework that has been proposed in the literature review. The level of measurement is determined with the "Level of Measurement questionnaire", which can be found in Appendix A. The level of interaction has been calculated using the IPM formula on August 27th.

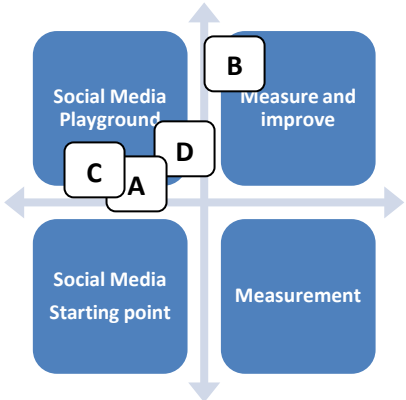

Figure 11: Case Companies Compared

[9] Approximation, due to confidentiality

3.4 Dependent Variable

3.4.1 Total Reach

This variable included the number of unique individuals who have seen any content related to a company's Facebook page. This could include content posted on the page, such as campaigns, as well as advertisements and sponsored stories. The dataset used in this research, included data on the campaigns posted by the company. The total reach variable that was used, included only the number of unique individuals who have seen the actual campaign posted by the company. The total reach variable included the growth of the number of fans over time, therefore the total reach variable was standardised by taking into account the total number of Facebook fans on the day of the campaign. The dependent variable in the dataset was called "Total Campaign Reach per Fan" (in thousands). To measure the influence of the independent variables on the total reach, a multiple regression analysis was conducted. The dependent variable was constructed in order to compare all campaigns, from all companies independent from the popularity or the total number of fans of a specific company page. The calculation of the dependent variable is as follows:

$$Campaign\ Total\ Reach\ per\ Fan = \frac{Total\ Campaign\ Reach}{Total\ Number\ of\ Fans}^{10} \times 1000\ fans$$

3.5 Independent Variables

In the literature review the different independent variables, and their background in current literature were described. In this part of the methodology the variables are described thoroughly and how the variables were tested in the regression analysis.

3.5.1 Category

The campaigns posted by the company were tagged and placed within a category. These categories were based upon current literature in a couple of research fields, including marketing, information and advertising research. These categories differed slightly per company, as some companies had company specific categories. The different categories were coded and dummy variables were created in order to be able to use these in the statistical analysis. A comprehensive overview of the different categories and its theoretical background can be found in the literature. In the dataset, the actual campaign was included as a string. This text was analysed manually to determine the category of the campaign. In order to determine the right category of the campaign, the following criteria were handled:

- Campaigns that included a simple message about the company, its website or its achievements were categorized as "News".
- Campaigns that included price drops, advertisements or discounts were categorized as "Promotion".
- Campaigns that were focused solely on attracting new employees, were categorized as "Recruitment".
- Campaigns that offered users the chance to win a price with a monetary value were categorized as "Contests". The campaigns that announced the winners of these contests were categorized as "Announcement Winner".
- Campaigns that posed a open question to its public were categorized as "Question", the campaigns that included a poll with predetermined answers were categorized as "Poll".
- Campaigns that were focused solely on getting likes and included the word LIKE in the campaign were categorized as "Like".

[10] On the day of the campaign

- Campaigns that included historic facts about the company were categorized as “History”.
- Campaigns that were focused on corporate social responsibility within the company were categorized as “CSR”.
- Campaigns that included an album of photos were categorized as “Photo Album”.
- Campaigns that used its fans to co-create a product were categorized as “Product Development”.

3.5.2 Time

Social media does not end when a company closes its doors at 6 o’ clock, however campaigns are still posted by employees of a company. Therefore it is interesting to look at the time when campaigns have been posted by the company and the success of the campaign at that time. The variable time was tested by categorising the data into timeslots (8:00-9:00; 9:00-10:00 etc.) and creating dummy variables for these timeslots. The timestamp in the dataset included also the date of the campaign, therefore the dates were used as input for categorising the data into the different day of the week the campaign was placed (Monday, Tuesday, etc.). Categorizing the campaigns into timeslots and days was done manually by looking at the timestamp of the campaign.

3.5.3 Length of the Campaign and Number of Campaigns on a Day

This variable included the number of characters of a campaign. These variables were computed in the dataset by using a count function (LEN(Ax)) in Excel that returned the correct number of characters (every character including spaces used). There is no limit on the number of campaigns that a company can post per day, therefore it is interesting to test whether companies should post multiple campaigns a day or maybe only one. In the dataset was indicated how many campaigns were posted on the same day, because “campaigns” were used as unit of analysis the minimum number of campaigns on a day is one. The dataset used, did not include the days when no campaigns were placed.

3.5.4 Multimedia

Many campaigns on Facebook include multimedia, such as photos, videos and links. In this research, multimedia was measured in the number of clicks on a photo, video or link. Beside to test whether multimedia had an impact at all on the total reach, also the presence of multimedia was tested, this was used for the final analysis of the dataset of the combined companies. The reason is that the final analysis is meant as an advice for companies on how to design the “ideal” campaign. Companies do not have a direct influence on the number of views or clicks, but they do have an influence on including multimedia aspects in a campaign.

Chapter 4. Results

Four companies formed the basis of this research, the results of the analysis of these different companies are described in this section. Per company, an overview of the descriptive statistics is provided. Thereafter, the model with the best fit is described after which the results of the regression analysis and two-way ANOVA, if applicable, are discussed. Furthermore, some cases will be highlighted and analysed to test whether the findings from the regression analysis also occur in real-life cases. Consequently the results of the four different companies are compared and shortly discussed. The full statistical output can be found in appendix C.

4.1 Case Company A

4.1.1 Descriptive Statistics

The descriptive statistics table is presented to gain a better understanding of the continuous variables used in the analysis.

Variable	N	Mean	SD	Minimum	Maximum
Total Reach	238	386.44	85.90	152.08	623.96
Number of Characters	238	199.55	100.68	16	486
Number of Campaigns on a Day	238	1.58	.669	1	3
Photo View	128	488.09	609.19	1	2608
Link Clicks	173	392.13	611.16	1	2631
Video Play	28	308.46	388.64	23	1698

Table 4: Descriptive Statistics Company A

Looking at the descriptive statistics table some insights were gained. The standard deviation for the Campaign Total Reach indicated a relatively small spread. The maximum was only 3 standard deviations from the mean, which is not so much. A campaign posted by company A had an average of 199 characters, which is almost in the middle between the minimum of 16 and the maximum of 486. The standard deviation indicated a modest spread of the values in the dataset. The number of campaigns on a Day analyzed was 238, this is excluding the outliers. This means that Company A posted approximately 0,71 campaigns per day, as the dataset contained campaigns from August 1st until June 29th. The mean in the descriptive table was 1.58; because in the dataset only the days with at least one campaign per day were included. Remarkable is that photos were viewed more often than links were clicked or videos were played, the N is not the same because only the campaigns that did include photos, links or videos were taken into account here.

4.1.2 Regression Analysis

Regression analysis is very useful to make predictions based on the data and to determine the value of each independent variable on the dependent variable, therefore this analysis was chosen to analyze the data (Malhotra & Birks, 2007).

There were eight outliers in the data, as assessed by inspection of boxplots for values greater than 1.5 box-lengths from the edge of the box. The outliers have been inspected and have been, if necessary, excluded from the dataset. “Total Reach” score was normally distributed for all, as assessed by Shapiro-Wilk's test ($p > 0.05$).

Before the outcomes of the regression analysis were presented and conclusions could be drawn, it was necessary to check the validity of some assumptions. First, the Durbin-Watson statistic which was used to test for correlation between the residuals of two observations

(Field, 2009), this is sometimes described as a lack of autocorrelation. The Durbin-Watson statistic for this analysis was 1.025. Values close to 2 indicate that there is no correlation between residuals, thus there was independence of residuals in the dataset after excluding the outliers. The backward method was used to find the best "fit" of the regression model. SPSS created 27 models, the overview of the model with the best fit is shown in table 5 and the variables that had a significant relationship with the dependent variable are shown in table 6. These models were build subsequently by adding and removing variables from the model and with each model the significance and the fit were tested until the model with the best fit was found. The first model included all variables and all dummy variables (k-1), then variables were removed to test whether the model improved. One of the methods for determining the model with the best fit is the backward selection method. The backward selection is preferable to the forward selection method as the suppressor effects are less likely to occur. Suppressor effects occur when a predictor has a significant effect in case another variable is held constant (Field, 2009). The Tolerance value should be at least higher than 0.1 - which is a VIF of greater than 10 – values below 0.1 could have a collinearity problem. In the dataset, all the Tolerance values were greater than 0.1 (the lowest is 0.846), thus there were probably no problems of collinearity in the dataset.

F	R^2	Sig.	Durbin-Watson
12.88	0.38	.000	1.025

Table 5: Overview of the Regression Analysis

A more in-depth analysis of the regression analysis was conducted to determine the validity of the hypotheses that were constructed in the literature review. An overview of the hypotheses that were accepted and rejected can be found at the end of this chapter in section 4. The regression model was useful (F=12.88; p=.000) and predicted approximately 38% of the total variation in total reach. In table 5 the variables are depicted that showed a statistical significant relationship with total reach.

Variables	βeta	Sig. F Change
(Constant)		.000
Multimedia: Photo View	.393	.000
Multimedia: Link Clicks	.448	.000
Multimedia: Video Play	.234	.000
Category: Announcement Winner	-.133	,002
Category: Promotion	-.119	,000
Category: News	-.131	.016
Date and Time: 08.00-09.00	-.149	.005
Date and Time: 09.00-10.00	-.139	.009
Date and Time: Monday	.127	.025
Date and Time: Tuesday	.117	.037
Date and Time: Thursday	.115	.043
Date and Time: Sunday	.151	.005

β=standardised coefficient

Table 6: Significant Variables from the Regression Analysis

The regression showed a statistical significant relationship between Photo View (β=.393; p=.000), Link Clicks (β=.448; p=.000), Video Play (β=.234; p=.000) and total reach. This means that if the photo views, link clicks or video plays on a campaign increase, the total

reach will increase significantly. People are probably more attracted to campaigns that include something they can view or click on. These results indicated that hypothesis 1a, hypothesis 1b and hypothesis 1c should be accepted, interesting is that all multimedia components showed a statistical significant relation with total reach.

Three dummy variables that were created for the independent variable "Category" showed a statistical significant relationship with total reach, Announcement Winner (β=-.133; p=.002) , Promotion (β=-.119; p=.000) and News (β=-.131; p=.016). Dummy Variables are tested using a base case, which is often the largest case or a case that has already been chosen when the hypotheses were developed (Field, 2009). The base case for this category was "Contest" because this was the case with the highest frequency, and all the other cases within this category were tested against this base case. This meant that the total reach was significantly lower for categories "Announcement Winner", "Promotion" and "News", with the respective β-values than for the base category "Contest". These results indicated that hypothesis 2 should be accepted, some campaign categories increased the total reach more than other campaign categories. This related to findings in the literature review that identified different social media categories for different purposes (Bernoff & Li, 2008; Gallaugher & Ransbotham, 2010).

For the category Date and Time, two sets of dummy variables were created. For timeslot, 15 dummy variables were created to test for a statistical relationship with total reach. Two dummy variables showed a statistical significant relationship with total reach, 08:00-09:00 (β=-.149; p=.005) and 09:00-10:00 (β=-.156; p=.000). The base case for the timeslot variable was 17:00-18:00 because of the high frequency in combination with the low total reach. These results indicated that hypothesis 4a should be accepted, as time has an influence on the increase in total reach. Posting a campaign between 08:00-09:00 and 09:00-10:00 had a negative influence on total reach and company A should not post a campaign in one of these two timeslots.

The second set of dummy variables was created for Day of The Week; 7 dummy variables were created to test for a statistical significant relationship with total reach. For dummy variables, Monday (β=.127, p=.025), Tuesday (β=.117; p=.037), Thursday (β=.115; p=.043) and Sunday (β=.151; p=.005) showed a statistical significant relationship with total reach, where the base case was Wednesday because this day had the highest frequency of all cases. These results indicated that hypothesis 4b should be accepted, as the day of the week has an influence on the increase in total reach.

4.1.4 A Detailed Analysis of Successful Campaigns

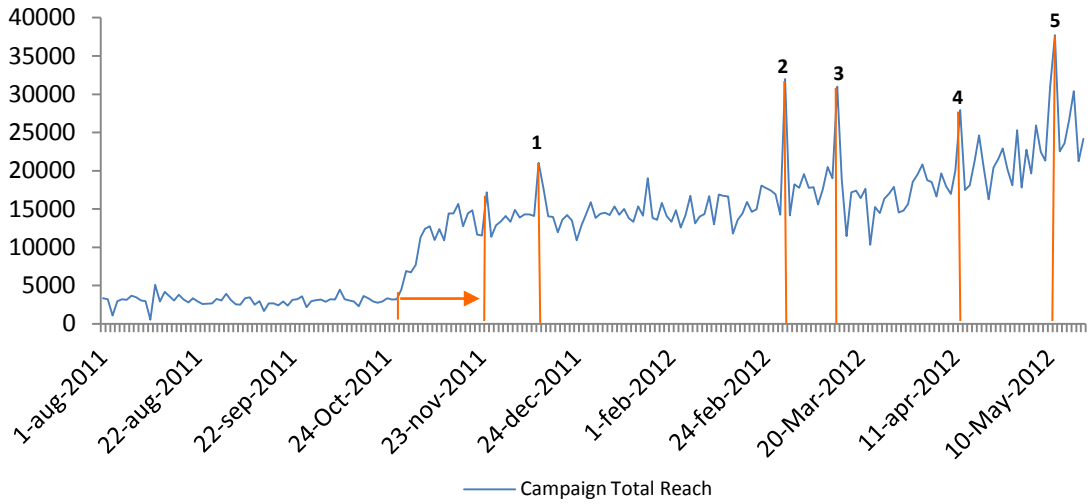

Figure 12: Analysis of successful campaigns (Company A)

The figure above shows the campaign total reach over time and highlights some interesting, successful campaigns that illustrate the outcomes of the regression analysis. These cases are described to validate the outcome of the regression analysis and to check whether the identified success factors were included in these cases. The content of the campaigns was part of the dataset, this made the detailed analysis possible.

Campaign	Photo	Link	Video	Monday	Tuesday	Thursday	Sunday
1	X	√	X	X	X	X	√
2	√	X	X	X	X	√	X
3	X	√	X	X	X	X	X
4	√	X	X	X	X	√	X
5	X	√	X	X	X	X	X

√= success factor identified X = success factor not identified

Table 7: The identified success factors of the campaigns

Contest causes growth.

The first period of growth in the campaign total reach is from October the 26th till November the 23rd. In the first period of measurement the *total reach* mean was around 3000 per campaign, after October the 26th there was a strong growth in the total reach, up until a total reach of 15.000 per campaign. The reason for this growth was probably the contest organized by Company A, a contest in which contesters could win gadgets worth €10,000,-. The number of fans in this period also increased from 11,682 on October 26th to 35,374 on November 23rd. Most campaigns posted in this period concerned the specific contest and attracted a lot of new fans. A success factor of this campaign could be the design of the contest; contesters were asked to like the page and, more important, invite three more friends to like Company A's Facebook page. Interesting to see, was that the contest went viral and the posts received a lot of likes and comments and were shared among Facebook friends. One of the campaigns "If I win the contest, then…" was seen by 913 unique visitors because friends of them had liked or shared the campaign whereby the campaign had been placed on their Facebook walls. Such a campaign is known as "a call to action". Most other campaigns only attracted around 100-200 visitors in that way.

1. *Use questions.*

The first interesting case was on December 11th, where the campaign total reach was far higher than other campaigns in that period. This campaign was a simple 4 word question: Which browser do you use?" that attracted a lot of users and created some viral reach (346) as well. The post included a link to a news article ("Google Chrome is the safest web browser"[11]) that was clicked 550 times, far more than most links were clicked in that same period.

2. *Call-to-action.*

In the period from December to March the average campaign total reach remained steady and did not include cases that had a significantly higher total reach. On the first of March there was an interesting peak in the campaign total reach, side note was that on March 1st two campaigns were placed. The first campaign was placed because March 1st is international day of compliments and included a question, "Who is your hero?". This question resulted in quite some comments, however the second campaign placed on that day was the main cause of the high peak in campaign total reach on March 1st. This second campaign was placed to announce the opening of a new shop and included a *call-to-action* "LIKE this campaign if you like ice". This request became a success and 1,582 users liked the campaign. This example shows how a short and concise post with a simple question, can lead to a huge success in terms of total reach.

3. *LIKE this campaign if you like sleeping.*

On March 13th another peak in the campaign total reach was notable, interesting enough this campaign showed a lot of similarities with the successful campaign on the first of March. The campaign was posted to announce a new shop and included, just like the campaign described in the paragraph above, a request to "LIKE this campaign if you like sleeping". The request became a success again and 1,279 users liked the campaign.

4. *Use a contest.*

The fifth and sixth interesting cases are on the April 12th and May 11th, and are again almost similar to the two cases mentioned in the paragraph above. On the one hand, the campaign on April 12th announced the opening of a new shop and included a request to "LIKE this campaign if you would like to dine in a chic restaurant". Interesting to note is that this case was placed on a Thursday, between 18:00-19:00. The results of the analysis showed that this timing was perfect for a campaign from case company A. Furthermore, the campaign included a photo that had been viewed 808 times. The viral reach of the campaign was substantial (8,062), which is a good indication for a high total reach.

5. *Even more LIKES.*

On the other hand, the campaign placed on May 11th shared again some similarities but also some differences. This campaign was placed on a Friday around 19:30, and did include a link. The campaign has been classified as a "LIKE" campaign, and was placed because case company A reached 50,000 fans and used the campaign to thank their Facebook fans. The fans of case company A wanted to share this with their friends, this led to the highest viral reach (15,562) in the dataset.

[11] Nu.nl, December 11th 2011

4.2 Case Company B

4.3.1 Descriptive Statistics

For company B the same analysis was conducted as for company A, therefore the descriptive statistics table is presented first to gain a better understanding of the dataset.

Variable	N	Mean	SD	Minimum	Maximum
Total Reach	167	522.7325	240.84	1.58	1322.47
Number of Characters	178	249.50	189.38	12	1692
Number of Campaigns on a Day	178	1.90	1.74	1	7
Photo View	62	173.60	215.57	1	1359
Link Clicks	101	17.93	23.061	1	130
Video Play	36	50.86	125.605	1	756

Table 8: Descriptive Statistics Company B

Some interesting findings were gained from the descriptive statistics. The number of cases for the dependent variable "Total Reach" was lower than for the independent variables, because the dependent variable had some missing cases, therefore the analysis was conducted for 167 cases. The standard deviation for Total Reach indicated a relatively small spread, which was comparable to the analysis for Company A. The average number of characters, 250, was relatively large and was not at all in the middle between 12 and 1692. The standard deviation indicated a fairly large spread. This corresponded with findings from Jansen & Zhang (2009) on Twitter research, who found a very large divergence in the number of characters on that platform. The number of campaigns analyzed was 178 for a period of 331 days, which means that company B posted approximately 0,54 campaigns per day. For the days that included at least one campaign, the mean was 1.9, meaning that if company B posted a Campaign they posted almost two campaigns in average per day. Photos were viewed more often than videos and links, and also the spread for photo views was relatively large as indicated by the standard deviation. Although the mean for link clicks and video plays was almost equal, the maximum showed a big difference, 756 for video plays and 130 for link clicks.

4.2.2 Regression Analysis

The regression for company B showed some different but also interesting results compared to the outcomes of the regression analysis for Company A. The dataset contained 4 outliers and 11 missing values, which resulted in a final dataset containing 167 cases.

Because the analysis was in essence the same for all case companies the validity of some assumptions are described very briefly. The Durbin-Watson statistic for the regression analysis of Company B was 0.862, which could be alarming. A low outcome of the Durbin-Watson statistic indicates that successive error terms are positively correlated or very close in value to one another (Ghauri & Gronhaug, 2010). However, the dataset did not include variables with a higher correlation than 0.7, which could be an indicator for autocorrelation. The backward method was again used to find the best "fit" of the regression model. SPSS created 31 models, in Table 10: "Overview of the Regression Analysis" the regression with the best fit can be found. All the Tolerance values in the dataset for Company B were higher than 0.1 (the lowest is 0.525), thus there will be probably no problems of collinearity in the dataset.

Model	F	R^2	Sig.
31	10.164	0.34	.000

Table 9: Overview of the Regression Analysis

A more in-depth analysis of model 31 will be conducted to identify the success factors for company B, and to determine the validity of the hypotheses that have been developed in the literature review. The regression model is found useful (F=10.164; p=.000) and predicts 34% of the total variation in total reach. All variables that show a statistical significant relationship with total reach are depicted in table 10.

Variable	β	Sig. F Change
(Constant)		.000
Number of Characters	-.158	.022
Number of Campaigns on a Day	.189	.033
Time Slot: 09:00-10:00	.279	.000
Time Slot: 00:00-01:00	.184	.017
Category: History	-.387	.000
Category: Photo Album	.118	.139
Category: Announcement Winner	.129	.052
Category: Contest	.121	.071

β=standardised coefficient

Table 10: Significant Variables from the Regression Analysis

The regression showed a statistical significant relationship between the number of characters and total reach (β=-.158 p=.022). The relationship was found to be negative, which means that if the number of characters in a campaign increases, the total reach decreases. The frequency table indicated that a campaign with 0-50 characters is most successful in terms of total reach, it is thus important to keep campaigns concise and to the point. These results indicated that hypothesis 3a should be accepted, beacuse the total reach decreases when the number of characters in a campaign decreases. The opposite is true for the number of campaigns that are posted on a day (β=.189 p=.033), the Beta-value indicates that if the number of campaigns posted on a day increases, the total reach increases as well. These results indicated that hypothesis 3b should be rejected, as the total reach increased and not decreased when the number of campaigns posted on a day increased. This is in contrary to the findings from Eppler & Mengis (2004) who found proof for information overload in a web 2.0 environment.

Two dummy variables that have been created for "Time Slot" showed a statistical significant relation with total reach, 09:00-10:00 (β=.279 p=.000) and 00:00-01:00 (β=.184 p=.017). In total 17 dummy variables were created for this category and 14.00-15.00 was chosen as a base case, because the majority of the cases belong to this case. The results indicated that hypothesis 4a should be accepted, the time of posting of a campaign had an influence on the total reach. Posting a campaign between 09:00-10:00 and 00:00-10:00 increased the total reach significantly more than the base case. The time slot 00:00-01:00 was remarkable and a possible explanation could be that the campaigns posted around this timeslot were focused on students during introduction days for universities. The campaigns were posted because of a contest, and the high total reach could possibly be explained by the participants who liked, commented and shared the campaigns with their friends.

A second set of dummy variables was created for the independent variable "Category", for this category 10 dummy variables were created and "News" was chosen as a base case because of the highest frequency. Three dummy variables showed a statistical significant relation (α<0,1) with total reach, History (β=-.387 p=.000), Announcement Winner (β=.129

p=.052) and Contest (β=.121 p=.071). These results indicated that hypothesis 2 should be accepted, as the category of a campaign had an influence on the total reach. Campaigns categorized as "History" decreased the total reach compared to the base case and "Announcement Winner" and "Contest" increased the total reach of campaign.

4.2.3 A Detailed Analysis of Successful Campaigns

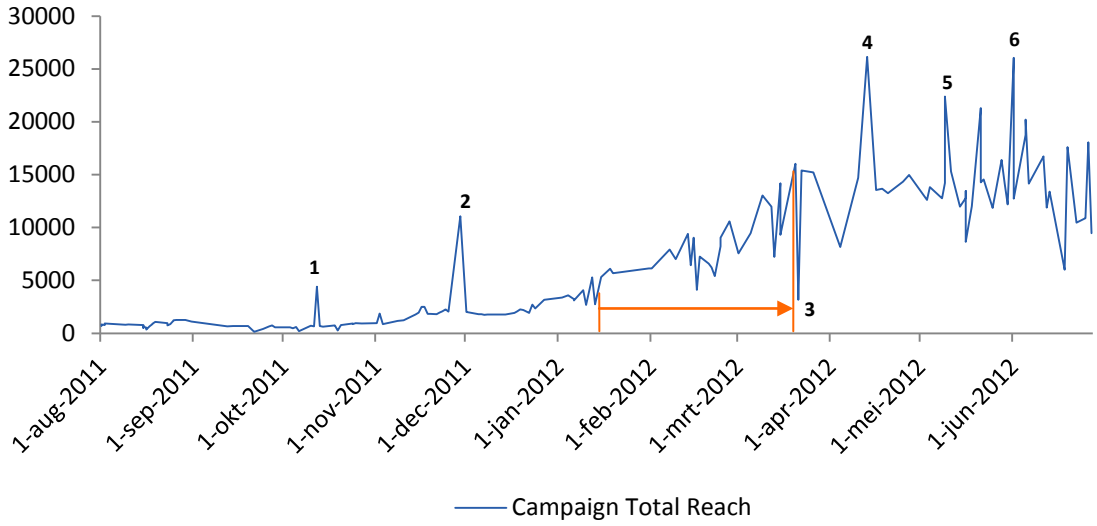

Figure 13: Analysis of Successful Campaigns (Company B)

In this figure the development of the Facebook page of company B is shown for the period August 1st, 2011 until June 26th, 2012. The highlights will be described in this section to validate the success factors that were identified in the regression analysis. A success factor in the category "Number of Characters" was identified if the campaign had 0-150 characters. For "Number of Campaigns", a success factor was identified if there was more than 1 campaign posted on a day.

Campaign	# of Characters	# of Campaigns	09:00-10:00	01:00-00:00	Contest	Announcement Winner
1	√	X	X	X	X	X
2	√	X	X	X	X	X
3	√	√	X	X	X	X
4	X	X	X	X	X	X
5	√	√	X	X	X	X
6	X	√	√	X	X	X

√= success factor identified X = success factor not identified

Table 11: The identified success factors of the campaign

The table shows some remarkable insights in combination with the regression analysis. Although the regression showed that campaigns posted between 01:00-00:00 and categorized as "Contest" or "Announcement Winner" increased the total reach compared with the respective base cases, this was not a guarantee to show up as most successful campaign. In the following paragraphs the factors that did cause the high total reach for these campaigns are identified, these could be used next to the regression analysis, as an input for future campaigns for company B.

1. *Use a Poll for Engagement.*

In the first two months of the dataset, the development of the fan base and the campaign total reach was quite steady. The first interesting case was on October 12th, and included a campaign with a poll. Fans were able to vote on a poll about the use of iDeal, a Dutch mobile payment initiative. The total reach of the campaign (4,405) was high compared to the means of the other campaigns in that period (around 700-800). This was probably due to the huge viral reach of the campaign (3,983), showing that it was important to compose a campaign that your fans are willing to share with their friends. Referring back to the regression analysis it was interesting to note that the campaign was very concise and only counted 107 characters

2. *Use a Poll for Product Development.*

The second interesting case was on November 29th, and the campaign included again a poll. The question in the poll was : "Which type of phone do you use for mobile banking?", fans were able to choose one of the prefilled options or create their own answer. Most remarkable about the post was the very high viral reach (9,978), and the 405 fans who voted on the poll. Again, the campaign was very concise and to the point (108 characters) which could be a reason for high total reach.

Shortly after this campaign, both the total reach and the total number of fans started to grow exponentially. In figure 10 and 11 the "knee of the curve"[12] is clearly visible at December 18th, although this campaign did not necessarily have a high total reach (2073). The number of fans on this day was 3,286 and grew fast to the first milestone of 10,000 fans on January 15th. The huge growth in the total campaign reach and the total number of fans can be partly explained by a successful contest at the end of December in which company B gave away an amount of money to a couple of winners. Another explanation that became clear after discussing the results with company B was the dedicated social media team that had been appointed in December 2011 to take social media more serious.

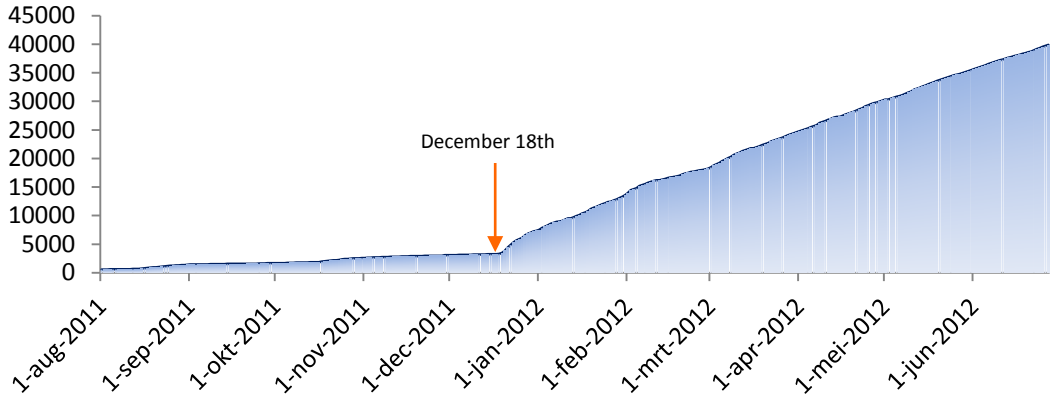

Figure 14: Growth in Total Number of Fans (Company B)

3. *Don't tell them your History.*

The third interesting case for company B was on March 21st, and in comparison to the other cases this was a case with a very low campaign total reach (3,164). The campaigns on this day included videos and pictures of some old commercials that did not attract Facebook fans as the video was watched only 59 times and the pictures was viewed 36 times in total. All

[12] Ray Kurzweill, 1999

the campaigns on this day fell under the category “History”, this category showed a negative relation with total reach in the regression analysis.

4. Are you still a student?

On April 13th another successful case was posted that reached a high campaign total reach (26,136). The campaign featured a poll, asking their users whether they were still students, that attracted 547 voters and 16 followers, which caused a high viral reach (13,963). Despite of its success the campaign did not include characteristics that were indicated as success factors in the regression analysis.

5. Inform your customers.

On May 9th, not one but three campaigns caused a high total reach on that day. These outcomes showed that more campaigns per day can have a positive impact on the total reach, as came out of the regression analysis for company B (β=.189; p=.033). However the analysis of the combined companies showed the opposite. Two campaigns on that day were, more or less, necessary because of downtime from the website. However, company B handled this well, which led to a lot of positive feedback from its fans. The other campaign was a promotion for a new mobile application that was about to release, Facebook fans had the scoop and could download the application first.

6. Relate to sportsmen.

The last successful case was on June 1st, and included two campaigns. Again this related to the outcome of the regression analysis regarding the number of campaigns per day. Furthermore the first campaign on that day was posted between 08.00-09.00, a timeslot that lead to a higher total reach according to the regression analysis. One of the campaigns highlighted the exceptional performance of a sportsman related to company B, the second campaign included a poll in which fans were asked: “how many times did you travel outside Europe?”. The number of voters was again very high (887), as well as the number of followers of the poll (27). The picture of the first campaign was viewed 105 times and 176 users were engaged with the campaign, meaning that they liked, commented or shared the post.

4.3 Case Company C

4.3.1 Descriptive Statistics

Again the descriptive statistics table is presented first to gain a better understanding of the dataset. The dataset of Company C contained 351 campaigns, excluding outliers, which was more than the number of campaigns in the dataset of Company A, B and D.

Variable	N	Mean	SD	Minimum	Maximum
Total Reach	351	415.55	72.49	107.03	659.33
Number of Characters	351	165.25	118.57	0	778
Number of Campaigns on a Day	351	1.87	1.21	1	16
Photo View	184	1087.7	1049.72	1	10253
Link Clicks	257	116.52	162.48	1	946
Video Play	7	457.57	77.234	3	1055

Table 12: Descriptive Statistics Company C

Some interesting findings were derived from the descriptive statistics table. The standard deviation for Total Reach indicated a small spread, which was further strengthened by the mean that was almost in the middle between the minimum and the maximum. The maximum total reach of 659.33 indicated that the campaign with the highest total reach, reached almost 66% of its total number of fans on that day. The mean of the Number of Characters was relatively low, indicating that the campaigns of Company C were concise. The spread however is large which meant that there was a high differentiation in the length of the campaigns. On average there were 1,87 campaigns posted per day by Company C, this held true for days on which at least one campaign was posted. The total number of campaigns is 351 on 342 days, Company C thus posted approximately 1.03 campaigns per day. This was far more than Company A (0.65) and Company B (0.54). More than half of the campaigns posted included a photo, these photos were viewed 1087 times on average. The spread is very large, which was indicated by the large standard deviation and the minimum (1) and maximum (10253) of Photo Views. Even more campaigns posted by Company C included links (257), these links were clicked less often than photos were viewed (116.52). This was also shown by the maximum of 946 clicks on one campaign. Last, only 7 videos included a video that were viewed by a lot of users as shown by the mean of 457.57 video plays per campaign.

4.3.1 Regression Analysis

Also for Company C a regression analysis was conducted. The results of the regression analysis were in line with those from the two previous regression analyses. The dataset used for the regression contained 37 outliers, which was probably caused by the transformation from the old page to the new “Timeline design”, the dataset did not have missing values whereby the total number of cases analyzed is 351.

The method for data gathering and analyzing was the same as for Company A and B. The Durbin-Watson statistic for the regression analysis was 1.422 and the backward method was used to find the best fit of the regression model. SPSS created 28 models and the results of the regression analyses are described below.

Model	F	R^2	Sig.
28	14.431	.298	.000

Table 13: Overview of the Regression Analysis

Now a more in-depth analysis is conducted to compare and identify success factors of Company B, thereby determining the validity of the constructed hypotheses. The regression

model predicted approximately 29.8% of the total variation in total reach and was found to be useful (F=14.431; p=.000). In table 14 the coefficients that showed a statistical significant relation with total reach are depicted, these variables will be input for section 4.3.3 a detailed analysis of successful campaigns.

Variable	β	Sig. F Change
(Constant)		.000
Multimedia: Link Clicks	.216	.000
Multimedia: Photo View	.319	.000
Date and Time: 09:00-10:00	-.153	.001
Date and Time: Monday	.098	.041
Date and Time: Friday	-.121	.012
Date and Time: Saturday	-.106	.067
Category: History	-.194	.000
Category: Photo Album	-.115	.015
Category: Poll	-.189	.001
Category: Contest	.077	.094

Table 14: Significant Variables from the Regression Analysis

The variables in table 14 showed somewhat resemblance with the outcomes of Company A. Link Clicks (β=.216; p=.000) and Photo View (β=.319; p=.000) showed a strong statistical relation with total reach. Every link clicked or photo viewed, increased the total reach for a campaign posted by Company C. The results indicated that hypothesis 1a and 1b should be accepted, and that hypothesis 1c should be rejected again. Although no proof was found for the relationship between Video Play and total reach, this did not mean that company C should not post campaigns containing a video anymore. The results from the descriptive analytics showed that on average movies were played 457 times, which was far more than the average of links clicked (116).

The category Date and Time has been subdivided into two categories, for which dummy variables have been created. For timeslot 19 variables were created. One dummy variable showed a negative statistical significant relationship with total reach, 09:00-10:00 (β =-.153; p=.001). The base case for this category was 11:00-12:00, because of its high frequency and low total reach. Remarkable was that the time slot 09:00-10:00 did show a comparable negative relationship with total reach for Company A. The results indicated that hypothesis 4a should be accepted; time had an influence on the total reach. Posting a campaign between 09:00-10:00 had a negative influence on total reach compared with the base case 11:00-12:00.

The other subcategory was Day of the Week, for which 7 dummy variables were created. Three dummy variables showed a statistical significant relation with total reach, Monday (β=.098; p=.041), Friday (β =-.121; p=.012) and Saturday (β =-.106; p=.067). The base case was Wednesday, because of the high frequency of campaigns posted on that day. This meant that hypothesis 4b should be accepted because the day of the week on which a campaign has been posted, has an influence on total reach. Campaigns posted on Monday had a significantly higher total reach than the base case, while campaigns that were posted on Friday or Saturday had a significantly lower total reach.
For Category, 11 dummy variables have been created. Four of the created dummy variables showed a statistical significant relationship with total reach, History (β =-.194; p=.000),

Photo Album (β =-.115; p=.015), Poll (β =-.189; p=.001) and Contest (β =.077; p=.094). The base case for this category was Promotion and all other cases within this category were tested against this base category. The results showed that the total reach increased significantly more for Contest than for the base case Promotion, while the total reach decreased for categories Photo Album, Poll and History. These results indicated that hypothesis 2 should be accepted, as the category of campaign had a significant influence on the total reach of a campaign.

4.3.4 A Detailed Analysis of Successful Campaigns

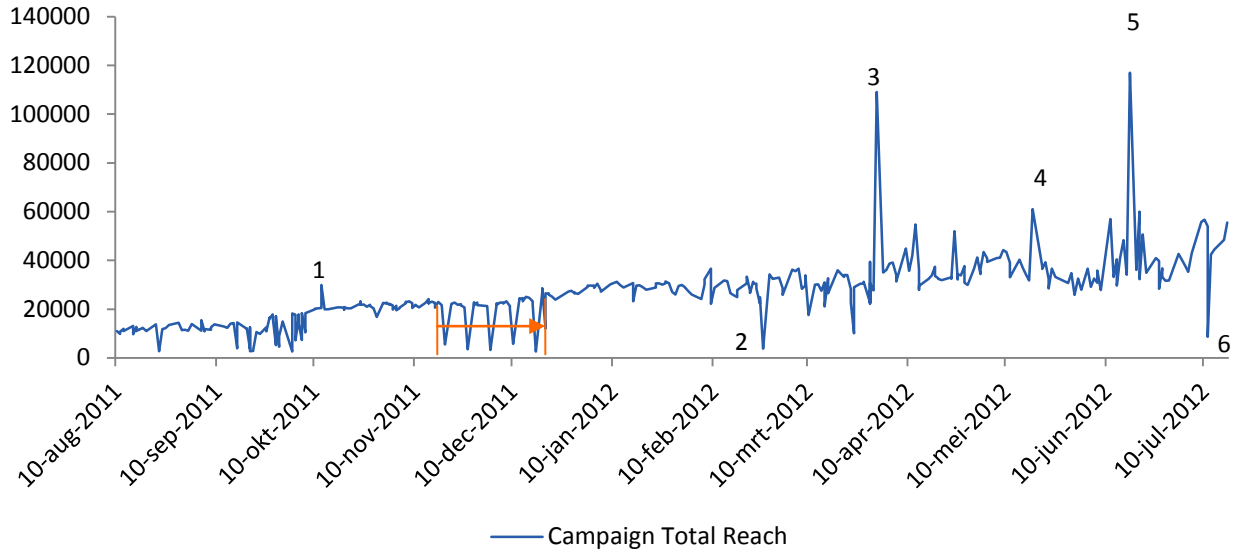

Figure 15: Analysis of successful campaigns (Company C)

The figure depicted above shows some remarkable highlights, both successful as unsuccessful campaigns. The successful campaigns are used to validate the outcomes of the regression analysis, the unsuccessful campaigns are analyzed as well because these campaigns can be a good learning point for Company C.

Campaign	Link Clicks	Photo View	Monday	Saturday*	Contest
1	X	√	X	X	√
2	X	X	X	√	X
3	√	√	X	√	√
4	√	√	X	X	X
5	√	√	X	X	X
6	X	√	X	X	X

√= success factor identified X = success factor not identified; *Indication of an unsuccessful campaign

Table 15: The identified success factors of the campaigns

The table above shows three successful campaigns as well as three unsuccessful campaigns and whether these campaigns included one of the identified success factors. Although the regression showed that campaigns posted on a Monday had a significantly higher total reach than the base case, none of the three identified success factors were posted on a Monday.

1. Combine a Contest with a Poll.

The first identified successful campaign in the dataset existed out of two campaigns based on the same event. On this day one other, moderately successful campaign was posted as

well. One campaign included a Contest and the other campaign included a Poll, asking its users whether they took part in the contest mentioned in the first campaign. The campaign categorized as Contest included a photo to engage the users with the event.

2. Don't post about work on Saturday.

The second campaign that was identified, is an unsuccessful campaign with a very low total reach (3,834) compared with the other campaigns posted around that time. The campaign did not included any of the identified success factors but rather that the campaign was posted on a Saturday which was an indication of an unsuccessful campaign. The campaign included a Poll that asked users how they were about to spend their day off, however only 41 people (out of 69,000 fans) voted on the poll.

3. Engage your customers to develop new products.

The third campaign was one of the two most successful campaigns that were posted by company C. This campaign included all the success factors that were identified in the regression analysis, as the campaign was categorized as Contest, posted on a Saturday and included both a link and a photo. Users were asked to come up with a creative name for a variation on an existing product, and could win a coupon. The campaign was very engaging because of its simplicity and the use of the photo. Many users liked (978) and commented (5,591) on the campaign and another 85 users shared the campaign with their own friends.

4. What do your customers think?

Fourth, was another successful campaign that included two of the identified success factors from the regression analysis. The campaign included a simple question that asked users how they liked a certain product. A link and a photo were included in the campaign to make it more engaging. The simplicity and the fun factor of the campaign led to a very high viral reach (17,229) and ultimately to the high total reach. This campaign was liked by 1,386 users, commented by 1066 users and shared by another 277.

5. Focus on actualities.

The fifth campaign was the second of the two most successful campaigns posted by Company C and has been categorised as "News". The power of this campaign was the ability to involve the actualities in a fun and engaging way. The campaign was focused on the dramatic European championship for the Dutch national football team. This campaign was liked by 9,917 (!) users and 273 users commented on the campaign. Very impressive was that the campaign was shared by 1,680 users, showing the power of viral reach in social media.

6. A Photo Album does not engage your customers.

The last remarkable campaign was posted on July 11th and was a very unsuccessful campaign compared with all the other campaigns posted around that time. The campaign did include one of the identified success factors, a photo, but had a total reach of only 8,687. This campaign included a photo album of company C with some pictures, a possible reason for the low total reach was Facebook itself. Company C added some new pictures to an existing album, which over time received 1,263 likes, and did not post a real "campaign". However, the Facebook software indicated this as an event and a campaign was placed on the company's timeline.

4.4 Case Company D

4.4.1 Descriptive Statistics

The last case in the analysis is Company D, and again the same methodology was used to conduct the analysis. First, the descriptive statistics table is presented to get more insight in the dataset.

Variable	N	Mean	SD	Minimum	Maximum
Total Reach	336	227.14	79.77	11	466.43
Number of Characters	336	215.07	153.357	6	1,196
Number of Campaigns on a Day	336	2.16	1.323	1	6
Photo View	96	970.53	1711.65	66	14,494
Link Clicks	231	33.76	53.998	1	443
Video Play	79	119.11	150.11	1	843

Table 16: Descriptive Statistics Company D

The first insights can be gained when looking at the descriptive statistics table, which provides a good overview of some of the variables in the dataset. Total reach showed a relatively small spread, as can be seen by the low standard deviation. Furthermore, the mean was almost in the middle between the minimum and the maximum. The most interesting however was the mean of the total reach (227), which was almost 50% lower than the other companies that have been analyzed.

Campaigns posted by Company D had an average of 215 characters, which was a bit higher than for Company A and B, but lower than the campaigns from Company C. The maximum number of characters was very high (1196) compared to the mean (215.07), and the standard deviation indicated a relatively large spread. On average, Company D posted 1,16 campaigns per day. When only the days on which at least one campaign was posted are taken into account, the average was even higher (2.16). Most campaigns in the dataset included one or more multimedia components, as was shown in the table. Photos were viewed 970 times on average, with a maximum of 14,494 and a relatively large spread. Almost 70% of the campaigns in the dataset included a link. However, on average links were only clicked 34 times with a maximum of 443, which is far less than photos were viewed. Last, 79 campaigns included a video that on average were viewed 119 times with a maximum of 843.

4.4.2 Regression Analysis

A regression analysis was also conducted for Company D, interesting was that the outcomes of the analysis showed resemblance with the other companies indicating the strength of the proposed framework in the literature review. The dataset used for the regression analysis contained 336, excluding 11 outliers. The dataset did not include any missing values.

The methodology used to conduct the analysis was again the same as for the companies discussed before. The Durbin-Watson Statistic, indicated that there is no correlation between residuals; 1.292. The backward method was chosen to find the best fit of the regression model and the corresponding coefficients. The 26th model created by SPSS showed the best fit. An overview of the regression analysis is shown in the table below.

Model	F	R^2	Sig.
26	7.207	.225	.000

Table 17: Overview of the Regression Analysis

The outcomes of the regression analysis are used to determine the validity of the hypotheses constructed in the literature review. The regression model predicted approximately 22.5% of the total variation in total reach and is found to be useful (F=7.207; p=.000). Table 18 showed the coefficients that had a statistical significant relation with total reach.

Variable	β	Sig. F Change
(Constant)		.000
Number of Characters	.098	.067
Multimedia: Photo View	.319	.002
Date and Time: 09:00-10:00	-.101	.046
Date and Time: 17:00-18:00	.109	.032
Date and Time: Monday	.146	.006
Date and Time: Tuesday	-.199	.000
Date and Time: Wednesday	-.106	.067
Date and Time: Thursday	.168	.002
Category: Promotion	-.198	.000
Category: Question	.107	.052
Category: Poll	.096	.055
Category: Contest	-.123	.018
Category: CSR	-.139	.006

Table 18: Significant Variables from the Regression Analysis

Although the coefficients in table 18 showed resemblance with the outcomes of the other companies, there were also some interesting differences. First, the number of characters (β=.098; p=.067) showed a positive statistical significant relation with total reach where a negative relation was expected. Looking at the frequencies graph[13], the positive relation between number of characters and total reach was clearly visible. The graph showed a declining line first, indicating that short campaigns have a higher total reach, but a turning point occurs at campaigns between 251-300 characters. These results indicated that hypothesis 3b should be rejected. Photo views (β=.319; p=.002) was in accordance with the findings from the other analyses and showed a strong positive statistical significant relationship with total reach. Every photo viewed, increased the total reach for a campaign, which indicated that hypothesis 1a should be accepted. No proof was found for a positive relation between link clicks or video play and total reach, thus hypotheses 1b and 1c should be rejected.

Date and Time were subdivided into two categories; Time placed and Day of the Week. For the first category, Time Placed, 19 dummy variables were created. Two dummy variables showed a statistical significant relation with total reach, 09:00-10:00 (β=-.101; p=.046) and 17:00-18:00 (β=.109; p=.032). The base case for this category was 14:00-15:00, because of its high frequency of campaigns posted. Another 7 dummy variables were created for the variable "Day of the Week". Four dummy variables showed a statistical significant relation with total reach, Monday (β=.146; p=.006), Tuesday (β=-.199; p=.000), Wednesday (β=-.106; p=.067) and Thursday (β=.168; p=.002). Both Monday and Thursday seemed to be good days to post a campaign for Company D, while Tuesday and Wednesday will be worse for

[13] Appendix C: Graphs and Tables (Company D)

Company D in terms of campaign total reach. These results indicated that hypothesis 4a and 4b should be accepted, the time and the day of the week that a campaign was posted, had a significant influence on the total reach of a campaign.

Last, for Category 12 dummy variables were created to test for the significant relation between total reach and the different categories. Five dummy variables showed a statistical significant relation with total reach, Promotion (β=-.198; p=.000), Question (β=.107; p=.052), Poll (β=.096; p=.055), Contest (β=-.123; p=.018) and CSR (β=-.139; p=.006). The base case for this category was News, as this category had the highest frequency. Poll and Question increased the total reach for a campaign compared with News, indicating that engaging users in the conversation had a significant positive influence on total reach. These results further indicated that hypothesis 2 should be accepted, as the category of a campaign had a significant influence on the total reach.

4.4.3 A Detailed Analysis of Successful Campaigns

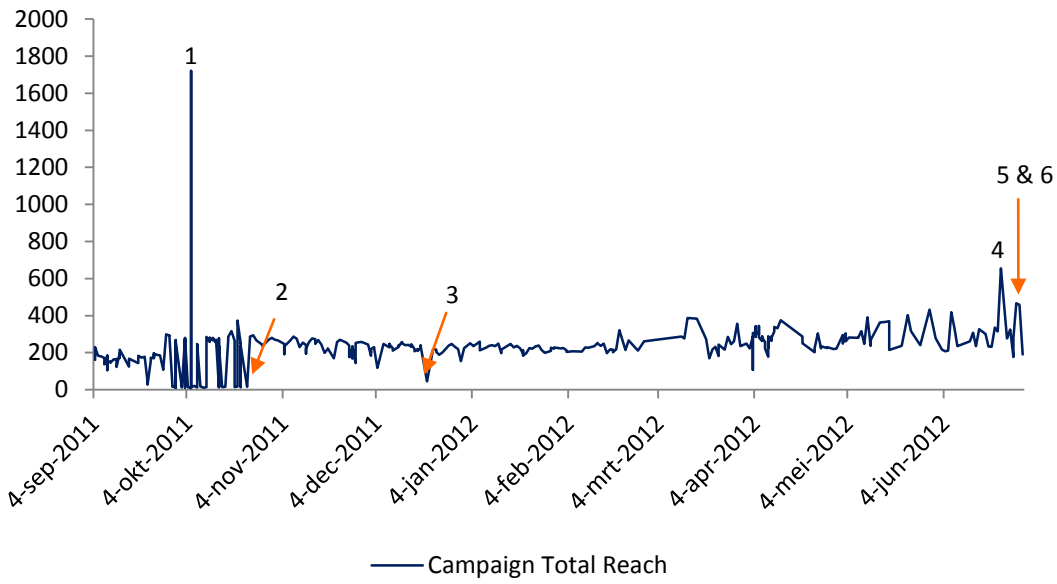

Figure 16: Analysis of Successful campaigns (Company D)

Above depicted is a graph that shows an analysis of the successful campaigns for Company D, below the campaigns and its characteristics are described and compared with the findings from the regression analysis. Looking at the graph it is noteworthy to see that there was, obviously, one very successful campaign. However, the other successful campaigns showed noticeable insights as well.

Campaign	# of characters	Photo View	Monday	Thursday	Question	Poll	17:00-18:00
1	√	X	X	X	X	√	X
2	X	X	X	X	X	X	X
3	√	X	X	X	X	√	X
4	√	X	X	X	X	√	X
5	√	X	X	X	X	X	√
6	√	√	X	√	√	X	X

Table 19: The identified success factors of the campaign

1. *Any news in the industry?*

On October 5th, the day of the announcement of the long expected new iPhone, Company D posted a campaign including a poll, asking its users what they thought of the just announced iPhone 4S. The campaign was the most successful for Company D until now and included some of the identified success factors from the regression analysis. The poll was filled in by 4,445 people, which was far more than the average response for polls around that time for Company D. The campaign was very concise and to the point and the question was clear and led to a discussion.

2. *No engagement means a low total reach.*

Although the most successful campaign for Company D was posted around this time, a lot of campaigns did not have a high total reach. One of the worst performing campaigns in terms of total reach was the campaign on this date, including an invitation for users to participate in a contest. The campaign only received 9 likes and no comments at all. Remarkable was that the number of characters of this campaign (299) exactly fell in the category with the lowest average total reach[14].

3. *Use engaging questions for your polls.*

Another campaign that did not turn out to be successful was a campaign posted on the 20th of December. This campaign included a poll that asked users whether they held their phone right or left handed. Only 96 users filled in their preference in the poll, compared to 4,445 users who filled in their preference on the poll about the iPhone 4S. A possible explanation for the bad performance was the lack of originality of the campaign and a question that did not engage users to fill in. An current theme, such as the announcement of the new iPhone, was more engaging and could initiate a discussion. It was difficult to start a discussion about the way to hold a phone.

4. *An engaging question really works.*

The campaign posted on June 22nd was most interesting because its characteristics were almost identical to the bad performing campaign that was posted on December. The campaign also included a poll that asked customers what they would do when their phone rang in the silent compartment of a train. Although the question did not directly relate to company D, the question was engaging and did start a discussion. Around 1,700 users filled in their preference and thereby made the campaign a success.

5. *Creativity and humour are important ingredients.*

The last two successful campaigns analyzed in this section were posted successive of each other but did not show many similarities. The campaign posted on this day was very short and showed that, just as company C showed, humour and creativity can be of great importance to increase the total reach. The campaign contained a simple message that a user who read the post at that moment was probably holding his mobile device, users did like the campaign considering the 1,149 likes and 194 comments.

6. *Do you LIKE the picture?*

The last successful campaign in the dataset did on the one hand show not many similarities with the campaign posted on June 27th, but on the other hand it did. The campaign used some creativity and humour, but did also include a photo that showed some varieties on the default Facebook “Like” button. Furthermore the campaign did include a lot of the success factors that had been identified in the regression analysis. This campaign was concise, included a picture, an engaging open question (not a poll) and had been posted on a Thursday. Around 880 users liked the post and 240 left a comment.

[14] Appendix C: Graphs and Tables (Company D)

4.5 Hypotheses Overview & Synthesis

In this section an overview of the hypotheses that have been developed in the literature review and were accepted or rejected based on the analyses of the data of the four case companies will be depicted, thereafter a synthesis of the datasets is presented. The synthesis is used to determine which of the hypotheses should be accepted or rejected based on all cases available. In the table below, an overview is provided of the hypotheses that were rejected or accepted based on the findings of the separate analysis of the companies.

Hypothesis	Variable	Company A	Company B	Company C	Company D
1a	Photo View	√	X	√	√
1b	Link Clicks	√	X	√	X
1c	Video Play	X	X	X	X
2	Category	√	√	√	√
3a	Number of Campaigns	X	X	X	X
3b	Number of Characters	X	√	X	X
4a	Time Placed	√	√	√	√
4b	Day of the Week	√	X	√	√

√=Hypothesis Accepted X =Hypothesis Rejected

Table 20: Overview of Hypotheses Accepted and Rejected

The table shows that variables Category and Time Placed should be accepted, based on the findings from the regression analysis. However, not for every variable the regression analysis showed the same outcomes. Therefore the synthesis analysis is used to determine which hypotheses should be accepted or rejected and form the basis of the discussion and conclusions in the next chapters. The outcome of the regression analyses for the separate companies can function as interesting input for the discussion section, because the differentiation among the companies was very interesting. The companies analyzed, do not act in the same industry and an explanation of the differentiation could be that different industries require a different approach on Facebook. Therefore the synthesis is very interesting and important as the synthesis can provide an overview of the variables that are important to include in a campaign.

4.6 Synthesis

In the synthesis the data from the four companies was combined in order to determine which hypotheses should be rejected or accepted overall. The methodology for analyzing the data was in essence the same as for the four companies that have been analyzed. The outcomes of the regression analysis are shortly discussed hereafter. Input for this regression analysis were the combined datasets of the four companies with in total 1,113 cases (excluding outliers). The regression model was found useful (F=1.1101; p=.000) and predicted approximately 10,8% of the total variation in total reach. The Durbin-Watson statistic for the regression analysis was 1.699. The descriptive analysis table can be found in the appendix[15]. The averages for Total Reach found in the separate analysis of the companies showed some remarkable insights. For example, the mean of the total reach per campaign (375), Company A, B and C were above the mean but Company D is almost 50% lower than the average. This was remarkable as Company D had a lot of fans, a high

[15] Appendix C (Companies Combined)

interaction but apparently did not reach as many Facebook users with their campaigns as they should reach.

Although the descriptive statistics showed some interesting insights, the regression analysis was conducted to determine the validity of the hypotheses constructed in the literature review and that are part of the social media framework that was proposed. An overview of the regression analysis can be found in the appendix. The methodology was the same as for the separate analyses of the four companies, with one exception. For the analysis of the combined data the categorical variables for photo, link and video were used. These variables have been used because the findings from the analysis were used to advice companies on their Facebook campaign strategy. However, Companies do not have direct influence on the number of views or clicks but they do have an influence on whether to include photos, links or videos.

Variables	βeta	Sig. F Change*
(Constant)		.000
Number of Campaigns	-.129	.000
Multimedia: Photo	.140	.000
Category: Like	.099	.001
Category: Poll	.092	.002
Date and Time: Monday	.108	.001
Date and Time: Tuesday	.065	.039
Date and Time: Wednesday	.086	.007
Date and Time: Saturday	-.111	.000
Date and Time: Sunday	-.086	.004
Date and Time: 14:00-15:00	-.085	.003

***α<0.05; - Negative Relation, + Positive Relation**

Table 21: Significant Variables from the Regression Analysis

The regression analysis showed some interesting insights. First, the number of campaigns (β=-.129; p=.000) showed a negative statistical significant relation with total reach. More campaigns posted on a day decreased the total reach for subsequent campaigns. This finding was in line with the hypothesis that has been constructed in the literature review, and thus should hypothesis 3a be accepted.

Also in line with the hypotheses constructed was Photo (β=.140; p=.000). Including a photo increased the total reach for a campaign significantly. This was also shown by the analyses of Company A, C and D. However, Video and Link did not show a significant relation with total reach. These results indicated that hypothesis 1a should be accepted, but that hypotheses hypothesis 1b and 1c should be rejected.

Two dummy variables that were created for “Category” showed a statistical significant relation with total reach, indicating that the category of a campaign can have a big impact on the total reach of a campaign. Looking at the graphs from the companies analyzed, the total reach differed a lot per category. Like (β=.099; p=.001) and Poll (β=.092; p=.002) showed a positive significant relation with total reach. The dummy variables were compared with the base case, which was News. Hypothesis 2 should be accepted, as the category had a significant impact on the total reach.

Date and Time were subdivided in the categories “Time Placed” and “Day of the Week” as already shown in the previous analyses. Two dummy variables that were created for Time Placed showed a statistical significant relation with total reach. Campaigns posted between 14:00-15:00 (β=-.066; p=.020) had a significant lower total reach than the base case. The base case for this category, chosen because of the high frequency, was 11:00-12:00. Dummy variables were also created for day of the week; 5 dummy variables showed a statistical significant relation with total reach. Best days to post were Tuesday (β=.086; p=.007) and Monday (β=.065; p=.039) while Wednesday (β=-.111; p=.000), Saturday (β=-.086; p=.004) and Sunday (β=-.085; p=.003) were worse in terms of total reach. Fridays functioned as the base case for this category. Based on these findings, both hypothesis 4a and hypothesis 4b should be accepted.

Hypothesis	Variable	Synthesis
1a	Photo Included	√
1b	Link Included	X
1c	Video Included	X
2	Category	√
3a	Number of Campaigns	√
3b	Number of Characters	X
4a	Time Placed	√
4b	Day of the Week	√

Table 22: Hypotheses overview of the Combined Campaigns Dataset

Last, an overview of the hypotheses that have been accepted or rejected based on the outcomes of the regression analysis is presented. The regression showed some interesting insights, such as the rejection of hypothesis 1b and 1c. Expected was that multimedia aspects, including videos and links, would significantly increase total reach but no proof was found in the regression analysis to accept hypothesis 1b and 1c. Furthermore no proof was found for a relation between campaigns with a small number of characters and a high total reach, therefore hypothesis 3b should be rejected. The other hypotheses were accepted as was expected in the literature review and the results that have been described above, will be discussed in the discussion.

Chapter 5: Discussion

The findings suggest the applicability of the proposed social media framework to measure campaign success. Meaning that the category, number of campaigns, length of the campaign, date and time and multimedia influence the campaign total reach and can therefore be used to measure campaign success on Facebook. In this section the main findings of this study are stated and elaborated upon, these findings are then related to the findings of similar studies. One of the most important findings of this research is that measurement of a social media platform is key, Facebook makes this possible and the proposed social media framework provides even more insights into the accessible data. These findings build upon the work of Hoffman & Fodor (2010) and Sterne (2010) who identify the importance of developing metrics for analysing social media. Another approach is the work of Fisher (2009) who argues that not traditional ROI metrics should be used, but rather awareness or activity. Total Reach, the metric used in this study, can be added to this list as a useful metric for social media analysis. Increasing the total reach is one goal, the design of a social media strategy is another. According to Faust & Householder (2009) companies should design or *be* an authentic brand and act authentic on social media to be successful. Analyzing campaigns is an input for social media strategy, because companies can learn what campaigns work and thereby help build their brand on diverse social media platforms.

5.1 A good category is key

Consistent with the findings of Bernoff & Li (2008) who categorised social media usage, this study founds proof for categorising campaigns on Facebook and the influence of these campaigns on the total reach. Campaigns focused on getting LIKE's and polls increased total reach far more than some other campaign categories such as news or recruitment. Another category identified in the analysis of the data was "product development", and is according to Mangold & Faulds (2009) very useful to engage customers with new products and your brand. This category has not been used by all companies analysed but shows the possibilities of social media for companies. When a larger portion of a company's customers becomes a fan of a company on Facebook, these product development categories get more and more interesting. Several brands, for example Company C, have been using product development campaigns via their social media platforms. The regression analyses showed that for two out of the four companies, contests were found to have a positive influence on campaign total reach. An example, which shows the usage of a contest on social media, is American car manufacturer Ford (Wilson & Guinan, 2011). Ford reintroduced the Ford Fiesta in the USA via a social media campaign in 2009. A carefully selected group of young people that were very active on diverse social media platforms got the chance to drive the brand-new Ford Fiesta for one year. In return they had to post pictures, tweets, Facebook posts and more via social media, thereby engaging their friends and followers. This campaign turned out to be very successful and led to high sales. Ford only spent 5 million dollars in total on the contest, far less than they would have done for traditional advertising.

5.2 Keep it short?

Often Twitter has been subject of research because of its 140 character limit (Jansen & Zhang, 2009), which makes the information depth shallow and the half-life of information short (Weinberg & Pehlivan, 2011), this in contrary to Facebook where the information depth should be richer according to the research of these authors. The findings in this research found no sufficient proof for a significant relation between the number of characters and campaign total reach. Only Company B showed a negative relation between the number of characters and total reach, while the analysis of Company D found proof for a

positive relation between the number of characters and total reach. However, looking at the frequency tables of the case companies combined (Appendix D), the highest total reach for campaigns with a length of approximately 0-150 characters is shown, which is not very different from Twitter. An important difference, which will be elaborated upon later, is the visibility of multimedia in a Facebook campaign compared to Twitter where multimedia is always shown as a hyperlink that has to be clicked to show the content.

5.3 Not too many posts per day

A remarkable finding is that the total reach increases if the number of campaigns posted on a day decreases, indicating that companies should not focus on quantity of their campaigns but rather on quality. Findings from Hemp (2009), who wrote an article with the expressive title "Death by information overload", suggest that in a world where the information supply keeps increasing, information overload is a huge problem. On the other hand, trends show another image. For example, that smart phone users in the USA spend on average more than 400 minutes on their mobile devices visiting the Facebook application or mobile website[16], searching for more and more information. Facebook users are already longer and more often online, and can thus process more posts and campaigns on their newsfeeds. Furthermore, the half-life of information and advertisements has reduced significantly (Prasad, 1999; Weinberg & Pehlivan, 2011), meaning that campaigns wear out quicker and are not effective anymore. The findings suggest that a campaign has to be creative and different to stand out; quality has become the become the norm and not quantity.

5.4 A picture is worth a thousand words

Findings from Tian et al., (2010) show the existence of "Social Multimedia Computing". Interesting are the arguments from the authors about online video advertising: *"Although Web advertising is interactive by nature, hyperlinked videos and video blogs offer a unique and more complex level of engagement with their precise targeting capability"*. The findings from this study did not indicate that videos or links increased total reach or engagement, and only including photos and pictures in promotions showed a positive influence on total reach. Multimedia and social media go hand-in-hand as argued by Boll (2007), and Kaplan & Haenlein (2010) further argue that the media richness is important to make a distinction between different social media platforms, indicating that Facebook is more useful when the information depth is higher. The findings in this thesis did indicate the importance of photos that were included in the campaigns. The total reach increased significantly when campaigns did include these multimedia aspects, also because of Facebook's EdgeRank that ranks campaigns including multimedia higher in user's newsfeeds.

5.5 Keep an eye on the time

Although the topic has not been covered by academic research yet, time scheduling of Facebook campaigns seems fairly important. Findings from the study suggest that companies can better not post between 14:00-15:00. When looking at the frequency tables and the average Total Reach of the different time slots, posting between 12:00-13:00 shows to be most advantageous for companies. Research in the industry[17] suggested that campaigns in the morning hours are most effective, in terms of posts and comments Another research, based on the "Best Time to Post" study, focused on when Facebook users were most active[18]. The findings suggested that usage is highest on weekdays at 11 a.m., 3 p.m. and 8 p.m. which is not really different from the findings in this thesis, where the campaigns with the highest total reach for Company A, B and C were around these time

[16] Comscore Mobile Metrix, March 2012 (http://techcrunch.com/2012/05/11/time-spent-on-Facebook-mobile/)

[17] Best Time to Post (http://www.socialnomics.net/2010/11/29/best-time-to-post/);

[18] When are Facebook users most active? (http://mashable.com/2010/10/28/Facebook-activity-study/)

slots. Furthermore according to the authors of "Best Time to Post" the best days to post a campaign were Tuesday, Wednesday and Thursday . Facebook users were far less active during the weekends and especially on Sunday. Again, this in accordance with some of the findings in this thesis, suggesting that Tuesday and Wednesday are good days to post . The analysis also suggest that Saturday and Sunday are the worst days to post when looking at the total reach for a campaign. The most important findings, supported by the analysis, are that time and day of posting a campaign does make a big difference on the total reach. Revisiting the findings from Drucker (1980) and Huber (1984) who found that markets where time plays an important role are characterised by turbulence. Social Media is characterised as such a market by some researchers (Fournier & Avery, 2011; Majchrzak & Ives, 2009) and managerial decision makers should thus be very responsive and post the right campaigns at the right time.

5.6 The findings from the successful cases

Except for the regression analysis, also the most successful campaigns of the case companies have been studied. These results show the importance of some other factors of a Facebook campaign that will lead to a high total reach. In combination with the identified success factors from the regression analysis, companies can design Facebook campaigns that are more likely to reach a high total reach.

Call-to-Action

Most of the campaigns that were the most successful in terms of total reach for the case companies, contained a *call-to-action (CTA).* A CTA is a popular marketing term for persuading customers to action, such as clicking on an advertisement or visiting a web page. Some of the campaigns that have been analyzed also contained a CTA, such as the campaigns from company A and C: *"LIKE this post, if you like ice"* or *"Think of a new name for this existing product".*

Concise and to the point

The regression analysis found no proof for a relation between the number of characters and the total reach. However, most of the very successful campaigns analyzed, were very concise and to the point. These campaigns could deliver their message in one glance, and consisted often out of only one sentence. Especially company C posted a lot of concise posts such as *"Will they win gold this weekend?",* which referred to the Olympics in London and *"How nice, such a lovely Sunday!",* when good weather forecasts were announced.

Creativity and humour

A couple of the successful campaigns had in common that they included a creative or funny picture, text, video or question that directly engaged its customers and increased total reach. Information flows are enlarging and campaigns posted by companies need to stand out from other posts, including creative or humorous aspects to a campaign will help to achieve this and increase the campaign total reach.

Keep an eye on the news

The successful campaigns that were able to successfully incorporate news facts, had a very high total reach. Customers seem to be interested in news that is related to the company, or campaigns that anticipate on the actualities in their campaigns. All companies know some examples in which they successfully related to the actualities. Company A and D referred to the launch of the new iPhone in October, while Company C used EURO 2012 for some very successful campaigns and company B related to achievements at the London 2012 Olympic games.

Use your customers for product development

Although the regression analysis found no proof for a significant relation between category "Product Development" and total reach, the analysis of the successful campaigns did show that product development could be of great use for companies. Analyses of the successful campaigns showed that customers like to be involved in the process of product development as shown by the high total reach of these campaigns. Company C used their customers a couple of times to design new products, an example of a campaign was: *"Can you design a new sandwich?"* .

5.7 Variables that have not been included in the analysis

Although the proposed framework contained several factors that were analyzed, one factors has not been analyzed in the final regression. The factor that has been excluded from the final conceptual framework is "Negative Feedback". Negative Feedback on Facebook includes users that hid one campaign or multiple campaigns, people that disliked the page or reported a certain campaign as spam. The data can also be analysed on the content of the responses, which is called sentiment analysis (Pang & Lillian, 2008). This variable has been excluded from the dataset later as the negative feedback had been measured only since November and in the following months the data was missing for a number of campaigns. However, the negative feedback is worthwhile mentioning and could be an interesting variable to include in the proposed framework.

In the literature review section, Word of Mouth and in particular positive WOM has been discussed. However, WOM can either be positive or negative. Positive WOM is a powerful marketing instrument; an instrument that companies can use to influence people's thoughts about their products or services. WOM is build upon the network that surrounds most people, people are interested in the opinions and thoughts of their friends, family and acquaintances (Jansen & Zhang, 2009). Negative WOM on the contrary does not necessarily have to be negative for a company. In many cases, negative posts on companies' blogs, websites or social media platforms could provide this platform with more authenticity, instead of customers seeing it as another marketing outlet. Aggarwal & Gopal (2010) found that for blogs, negative posts were not always harmful to a company and under certain circumstances could even create positive influence for a firm. Looking at the analysis of the successful and unsuccessful campaigns, there was a period for Company D when they had technical problems and reported updates on the progress via Facebook. These campaigns did receive a lot of negative feedback, in terms of negative comments and people that reported the campaigns as spam. However, Company D also received positive comments from customers who were delighted with this transparency and all the updates on the situation. The brand image of Company D could possibly have been damaged worse when they had decided not to comment on the situation at all on Facebook.

Another interesting correlation that has been studied but is not included in the final conceptual model, is the correlation between the viral reach of a campaign and the total new likes on that day. The results showed that some of the successful campaigns analyzed had a very high viral reach. This means that the campaigns were viewed by Facebook users who saw the campaigns in their newsfeed through one of their friends . However, no statistical significant relation was found between a high viral reach and new likes on the day.

5.8 How to connect the findings to a social media strategy

Taking into account the development of a social media strategy, the research findings are very useful to determine the scope of the strategy. Building on the findings of Culnan et al.

(2010) who identified four sources of value for virtual customer environments (sales, product development, branding and customer service & support) the findings can be used to determine the scope and focus of the campaigns supporting the overall social media strategy. This study focused on the content of campaigns placed by companies rather than on Facebook advertisement. Recent trends[19] in research done by the industry showed that companies should focus on optimizing their content rather than on Facebook advertisements, of which 83% of Facebook users said that they rarely or never clicked on. This study is not only meant to propose a social media framework but even more to show the importance of social media metrics and measurements, building upon the findings of several authors who already explored the field of social media metrics (Hoffman & Fodor, 2010; Larson & Watson, 2011; Sterne, 2010). Companies are advised to incorporate the findings from this study in their social media strategy, as optimizing the content of the campaigns of Facebook is a very important pillar in a social media strategy.

[19] Top 5 online Marketing Mistakes (http://www.socialnomics.net/2012/07/19/top-5-online-marketing-mistakes/)

Chapter 6: Conclusion

6.1 Theoretical Contribution

This thesis contributes in six manners to the current literature. First, current literature on social media strategy focuses on a more abstract level of strategy development. Research is mainly based on case studies (Hoffman & Fodor, 2010; Wilson & Guinan, 2011) or own experience (Dunn, 2010). These studies show a variety of different social media strategies that companies can aim for. This thesis takes another approach and focuses on strategy development based on a quantitative analysis of Facebook data. The results are based on data from four Dutch companies that served as cases. The analysis of these four companies is different from current literature where companies have been qualitatively analyzed and successful campaigns have only been described.

A second contribution is the focus of this study. The focus lies on the company side of social media and not on consumer behaviour, which has been the main focus of most current literature (Duan, Gu, & Whinston, 2008; Hennig-Thurau et al., 2004). These studies have analyzed consumer motives for engaging in social media, such as retweet behaviour. Although the thesis focuses on "listening to consumers" by analyzing Facebook campaigns, the focus is on developing a framework for companies to increase campaign total reach. The outcomes of this thesis can be seen as a toolkit for companies engaging on Facebook.

A third contribution, which has already been noted shortly in the previous paragraph, is the scope of this thesis, which is on Facebook. Few studies have already analyzed Facebook. Most studies have focused on social media in general (Gallaugher & Ransbotham, 2010; Mangold & Faulds, 2009) or on Twitter (Culnan et al., 2010; Jansen & Zhang, 2009). This thesis takes a narrower approach and does not focus on the definition of social media or what platforms should be included in the definition of social media. Many other studies have explored social media (Boyd & Ellison, 2007; Kaplan & Haenlein, 2010), this thesis contributes in another manner. Although this thesis is also an exploration of social media, the focus lies explicitly on Facebook and other platforms that are mentioned in current literature are not taken into account.

The fourth contribution of this thesis is the analysis of Facebook campaigns. In current literature the campaigns have not been analyzed quantitatively which makes this thesis unique in some ways. The campaigns are analyzed on a very detailed level, and findings and recommendations are based on the outcomes of this detailed analysis. This thesis provides an overview of the success factors of campaigns that companies should apply to increase campaign total reach. Related research has been done for Twitter (Jansen & Zhang, 2009), where the focus lies on electronic word of mouth and the characteristics of Tweets. Other researchers focused on the implementation and usage of Twitter (Barnes & Mattson, 2009), and how Twitter can be used to gain business value (Culnan et al., 2010). However, in current literature the exact factors that determine the success or failure of a social media campaign have not been analyzed yet. This thesis therefore contributes to existing literature in analyzing the characteristics of Facebook campaigns that lead to a high campaign total reach.

Fifth, this thesis contributes on current literature that is focused on measurement of social media (Murdough, 2009). The social media strategy framework is build upon the work of Hoffman & Fodor (2010) who found a framework for social media strategies. This thesis added the level of measurement, which is based on the findings of Murdough (2009) who

analyzed several social media analytics tools. The author's *Holistic Performance Insight* has been added to the social media strategy framework that is introduced in this thesis. Furthermore, the level of measurement is added to this framework, based on early research in more business focused research[20]. The last contribution to current literature is the methodology for analyzing Facebook campaigns. This methodology of enriching and exploring standard Facebook data is introduced in this research and variables used in the research have been based upon research in very diverse fields such as marketing, information and advertising research. The correlation between viral reach and total new likes is interesting as this could also be used as a performance measure for success of a campaign.

[20] socialmediatoday.com

6.2 Managerial Implications

The results found in this thesis are applicable in practice as well. This section provides some recommendations on how the results should be interpreted and how these may be put into practice in a social media strategy that is focused on the long term.

A first implication of this study is that the proposed social media framework can be considered as a useful tool to analyze Facebook campaigns and thereby improve campaign total reach. Some practitioners could argue that total reach is not an appropriate outcome measure and that other metrics should be chosen in order to measure the inevitable ROI of social media. However, the literature review showed that traditional metrics are not useful anymore and that new metrics should be developed and used (Hoffman & Fodor, 2010; Sterne, 2010; Wilson & Guinan, 2011). Campaign Total Reach could be added as a new metric to measure the effectiveness of campaigns on Facebook.

6.2.1 The Campaign Success Factors that Any Company Should Use

A second implication of the research are the variables found in the proposed conceptual framework that had a significant influence on the total reach of a campaign. The following variables will be discussed and can be seen as recommendations to increase campaign total reach for practitioners. These recommendations are based on the analysis of the combined data, important is that the measurement of a company's own Facebook data could lead to other recommendations as was shown in the separate analyses of the companies.

The first recommendation is that practitioners are advised to include photos to their campaigns. These photos can help a campaign *stand out* from other campaigns in the fast moving social media environment. Photos can furthermore help to engage users with a campaign, and showed to be very successful in a number of cases analyzed. Links did not show a significant relation with total reach, although they could have another important function. Links can redirect Facebook users to a company's webpage, which could have an influence on the performance of a company. As was explained by Murdough (2009), links including referrals are very important in measuring the effectiveness of social media. The links function as *campaign tracking codes*, and can help to identify direct relations between Facebook users, link clicks and sales.

A second recommendation entails the category of a campaign. Differences in the effectiveness of campaign categories were found and some of the identified categories showed to be very successful in terms of total campaign reach for a company. Interesting is that "contests" and the "announcement of the winners" of these contests were very successful. Practitioners are advised to use contests to engage users with the brand, and according to Mangold & Faulds (2009) the effectiveness can even further be improved by letting users vote on their favourites. This will give users a sense of ownership and increase engagement. Also the other categories that practitioners are advised to apply, will give users a *call to action*[21]. The other two categories that practitioners are advised to use are "Like" and "Poll", both include a call to action and have a positive effect on the increase in user engagement.

The third recommendation for practitioners is the number of campaigns. Although Prasad (1999) found that half-life of information has reduced significantly since the upcoming of web 2.0, thereby indicating that advertisements *wear out* quickly, this research found the

[21] Users are triggered by for example, a contest, to engage and react to or comment on a campaign.

opposite. Practitioners are advised not to increase the number of campaigns on a day as this will have a negative influence on the total reach. One of the causes, as also explained in the discussion, is information overload of Facebook users. The companies analyzed in this research posted on average one post per day and are advised not to increase this significantly. However, one of the most important aspects of social media is the interaction with customers. Thus in case needed, practitioners should post more than one campaign per day. An example could be problems with products or services, which happened to one of the companies analyzed. Companies have to act quickly then, in order to retain some control in the situation (Fournier & Avery, 2011).

The fourth recommendation entails the right day and time to post campaigns. Practitioners are advised to post campaigns on Monday, Tuesday or Wednesday, in order to have the highest campaign total reach. Posting a campaign in the weekend though, did have a negative influence on the campaign total reach. Furthermore, practitioners are advised not to post a campaign in the afternoon (14:00-15:00).

6.2.2 Two Routes to Success

The results of the analysis show the importance and usefulness of social media monitoring and measuring. Therefore, a third implication of the research is the importance of social media measurement and the lessons that can be learned by practitioners when using measurement and analysis tools. This relates to the proposed social media strategy framework in chapter 2.3, which shows four quadrants companies using social media can be in. Practitioners are advised to strive for the "measure and improve" quadrant. However, two routes are possible to reach this quadrant.

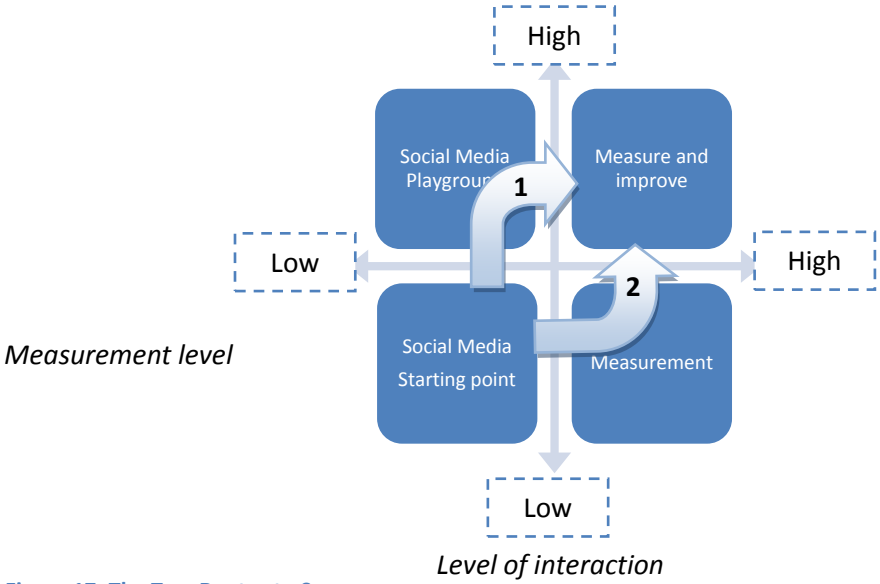

Figure 17: The Two Routes to Success

Both routes start at the *social media starting point,* where the level of measurement and the level of interaction is low. Companies located in this quadrant have just released a Facebook page or haven't put in time and effort yet. Practitioners are on an intersection, and can choose from two different routes. The first route aims at increasing the level of interaction first, thereby moving to the *social media playground* quadrant. Companies that choose this route take a trial-and-error approach and will sometimes quickly reach a high level of interaction that is often based on goodwill from their current, loyal customers. The next step for these companies to move to the *measure and improve* quadrant, is to adopt

social media tools such as the tools described in chapter 2.3. The other route possible aims at building a good platform and analytics tooling first, and increasing the level of interaction gradually. Companies first move to the *measurement* quadrant and measure their campaigns in order to find the best way to interact with their customers on social media. Decisions made by practitioners are based on careful analysis instead of a trial-and-error approach. If companies are successful and the level of interaction increases, they will move to the *measure and improve* quadrant. A last possibility could be to take the direct route, from *social media starting point* to *measure and improve.* However, this route is more difficult to take. Companies can influence the level of measurement, for example by buying diverse tools and hiring experienced mangers. The level of interaction cannot be bought and companies have to be creative in order to achieve a high level of interaction. This route tends to the first route because the success of the campaigns will be more or less based on trial-and-error than on careful analysis. Practitioners can use *enterprise listening platforms* to learn from other companies. Practitioners are thus advised to take the second route, because the success or failure of their social media presence is easily measurable from the moment they start the conversation with their customer on social media. This research showed how practitioners can use and interpret the data available through the Facebook API. Practitioners can make also use of management dashboards, text mining and web analytics captured by the analytics tools of their choice.

Summarizing, practitioners are advised to carefully measure their Facebook activities, as social media offers many possibilities to analyze data that can serve as valuable input for future social media strategies. The proposed social media framework can be seen as a useful tool for these analyses. In addition, the variables that positively influenced the campaign total reach were summarized and explained. Finally, the best route to a *measure and improve* strategy has been drawn.

6.3 Limitations & Suggestions for Further Research

Finally, four important limitations have to be taken into account when interpreting the findings in this thesis. A first limitation is found in the relative small amount of cases analyzed, of just four companies. The final dataset included around 1100 cases, which could be too few to generalize the findings for all companies using social media in the Netherlands. A first suggestion for further research would thus be to increase the dataset and conduct the research for more companies in the Netherlands that are using social media. Findings of an increased dataset with more companies in different industries could lead to interesting insights in the differences in using social media across these different industries.

A second limitation is found in the use of "Campaign Total Reach" as the dependent variable in this thesis. Scholars are not yet in accordance on the metrics that should be used for measuring social media performance, several authors (Hoffman & Fodor, 2010; Sterne, 2010) have opted for a number of different metrics to measure ROI and overall social media performance. The metric chosen in this thesis shows the number of unique visitors that have seen a campaign by a company, which is one of the possible metrics. However, the dependent variable tells nothing about business- or financial performance related to social media usage and campaign success. The dependent variable cannot be used to measure sentiment across a company's social media usage because user's comments are not analyzed textually. A suggestion for further research would be to connect total reach to a business performance metric such as sales or level of customer support. Researchers could examine the impact of high campaign total reach on the four *sources of value* as introduced by Culnan et al. (2010). These sources of value are branding, sales, customer service & support and product development. A recommendation for researchers would be to use software such as *Google Analytics*, which can be used to track visitors and their path that lead to conversion. An interesting development in this web-based software is the inclusion of multi-channel funnels that show the sources of conversion, in other words: where did the customers came from?

Facebook itself can be seen as a third limitation, as the platform caused some restrictions in this thesis. Transparency is one of the problems when analyzing Facebook data, in particular around the algorithm used by Facebook that determines the sequence of campaigns in user's newsfeeds. This algorithm, Facebook's *EdgeRank*, determines the sequence based on a user's affinity with the company and the inclusion of photos, videos, links etc. Although the algorithm is known to be used, the exact algorithm is not revealed by Facebook. Furthermore, Facebook alters this algorithm when they for example introduce a new aspect in their social network. A good example is formed by *Questions,* that were introduced on July 24th, 2011. To promote the use of these questions, in the form of polls, the algorithm was altered in such a way that questions appeared more often and higher on user's newsfeeds.

In the discussion, the variable "Negative Feedback" has been mentioned which has not been included in the final conceptual model because the dataset contained too many missing values. Therefore, a third suggestion for further research is to include this variable in the research. A research setup such as taken by Aggarwal et al. (2010) is recommended. They found that negative posts from employees could lead to positive outcomes for the firm. The impact of negative feedback on campaign total reach is a very interesting research topic and researchers could use this as input for their studies. Another suggestion to enrich the proposed framework in this thesis is to include demographics in the research. Researchers

could examine the impact of gender, age or location on the total reach or number of likes of a page. This thesis focused on some success factors of campaigns but did not take into account the demographics of the users reading these campaigns. The demographics of the companies could differ a lot, therefore researchers are suggested to examine the impact of these characteristics on the performance of social media campaigns.

A final limitation of this thesis could be its scope, the proposed framework has been designed for studying Facebook campaigns and cannot directly be implemented or generalized to other social media platforms such as Twitter or YouTube. Some of the variables used could be taken as input for a similar framework to examine the characteristics and success factors of Tweets or blog posts. These limitations thus also form a suggestion for further research, as the framework can be expanded across different platforms. Researchers could examine the differences in campaigns on Facebook, Tweets and blog posts. Again, a dependent variable that can be used across all platforms should be used. Total reach is a Facebook specific metric and cannot directly be implemented for usage on Twitter or other platforms.

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Appendices

Appendix A: Questionnaire Level of Measurement

The following questionnaire is used to determine the level of measurement of the companies analyzed in the research. Companies can fill in the questions for the measurement tools that they are currently using.

1. *Enterprise Listening Platforms* (ELP), examples of tools are radian[6] and Nielsen Buzz metrics.
2. *Text Mining Partners,* examples of tools are Collective Intellect and Lexalitics.
3. *Platform API (application programming interface);* examples are Facebook's own statistics and tools such as Hootsuite and Sprout Social.
4. *Site Analytics Solutions;* examples of tools are Google Analytics, Omniture Webtrends and Coremetric.

My Company makes use of:	**Yes**	**No**
Enterprise Listening Tools		
Text Mining Partners		
Platform API		
Site Analytics Solutions		

For the tools that have been indicated as being used by the company, please fill in the corresponding questions. When none of the tools are being used in the company it is not necessary to fill in one of the questions below.

Enterprise Listening Platforms	**Don't agree**		**Strongly agree**	
Diverse social media platforms and websites are being monitored.	0	1	2	3
The tool is being used as workflow management application.	0	1	2	3
Output ready for reporting and synthesis.	0	1	2	3
			Total:	

Text Mining Partners	**Don't agree**		**Strongly agree**	
Diverse social media platforms and websites are being monitored.	0	1	2	3
Text mining supplemented with sampling and manual reviews.	0	1	2	3
Outcomes of analysis are used to interact with customers.	0	1	2	3
			Total:	

Platform API Tools	**Don't agree**		**Strongly agree**	
Tools are used on a case-by-case analysis.	0	1	2	3
Metrics are used to analyze the insights from the API tools.	0	1	2	3
Outcomes of analysis are used to interact with customers.	0	1	2	3
			Total:	

Site Analytics Solutions	**Don't agree**		**Strongly agree**	
Referrals are used to tie back site activities to social media.	0	1	2	3
Referrals are detailed and entail campaign tracking codes.	0	1	2	3
Outcomes show the influence of social media on performance.	0	1	2	3
			Total:	

Appendix B: Statistical Analysis

1. Company A:

Descriptive Statistics

Variable	N	Mean	SD	Minimum	Maximum
Total Reach	238	386.44	85.90	152.08	623.96
Number of Characters	238	199.55	100.68	16	486
Number of Campaigns on a Day	238	1.58	.669	1	3
Photo View	128	488.09	609.19	1	2,608
Link Clicks	173	392.13	611.16	1	2,631
Video Play	28	308.46	388.64	23	1,698

Regression Analysis

F	R^2	Sig.	Durbin-Watson
12.88	0.38	.000	1.025

Coefficient Analysis

Variables	βeta	Sig. F Change
(Constant)		.000
Multimedia: Photo View	.393	.000
Multimedia: Link Clicks	.448	.000
Multimedia: Video Play	.234	.000
Category: Announcement Winner	-.133	,002
Category: Promotion	-.119	,000
Category: News	-.131	.016
Date and Time: 08.00-09.00	-.149	.005
Date and Time: 09.00-10.00	-.139	.009
Date and Time: Monday	.127	.025
Date and Time: Tuesday	.117	.037
Date and Time: Thursday	.115	.043
Date and Time: Sunday	.151	.005

2. *Company B:*

Descriptive Statistics

Variable	N	Mean	SD	Minimum	Maximum
Total Reach	167	522.7325	240.83839	1.58	1322.47
Number of Characters	178	249.50	189.384	12	1,692
Number of Campaigns on a Day	178	1.90	1.744	1	7
Photo View	62	173.60	215.565	1	1,359
Link Clicks	101	17.93	23.061	1	130
Video Play	36	50.86	125.605	1	756

Regression Analysis

F	R^2	Sig.	Durbin-Watson
10.164	.34	.000	.862

Coefficients

Variable	β	Sig. F Change
(Constant)		.000
Number of Characters	-.158	.022
Number of Campaigns on a Day	.189	.033
Time Slot: 09:00-10:00	.279	.000
Time Slot: 00:00-01:00	.184	.017
Category: History	-.387	.000
Category: Photo Album	.118	.139
Category: Announcement Winner	.129	.052
Category: Contest	.121	.071

3. Company C:

Descriptive Statistics

Variable	N	Mean	SD	Minimum	Maximum
Total Reach	351	415.55	72.49	107.03	659.33
Number of Characters	351	165.25	118.57	0	778
Number of Campaigns on a Day	351	1.87	1.21	1	16
Photo View	184	1087.7	1049.72	1	10,253
Link Clicks	257	116.52	162.48	1	946
Video Play	7	457.57	77.234	3	1,055

Regression Analysis

F	R^2	Sig.
14.431	.298	.000

Coefficients

Variable	β	Sig. F Change
(Constant)		.000
Multimedia: Link Clicks	.216	.000
Multimedia: Photo View	.319	.000
Date and Time: 09:00-10:00	-.153	.001
Date and Time: Monday	.098	.041
Date and Time: Friday	-.121	.012
Date and Time: Saturday	-.106	.067
Category: History	-.194	.000
Category: Photo Album	-.115	.015
Category: Poll	-.189	.001
Category: Contest	.077	.094

4. *Company D:*

Descriptive Statistics

Variable	N	Mean	SD	Minimum	Maximum
Total Reach	336	227.14	79.77	11.0	466.43
Number of Characters	336	215.07	153.357	6	1196
Number of Campaigns on a Day	336	2.16	1.323	1	6
Photo View	96	970.53	1711.65	66	14,494
Link Clicks	231	33.76	53.998	1	443
Video Play	79	119.11	150.11	1	843

Regression Analysis

F	R^2	Sig.	Durbin-Watson
7.207	.225	.000	1.292

Coefficients

Variable	β	Sig. F Change
(Constant)		.000
Number of Characters	.098	.067
Multimedia: Photo View	.319	.002
Date and Time: 09:00-10:00	-.101	.046
Date and Time: 17:00-18:00	.109	.032
Date and Time: Monday	.146	.006
Date and Time: Tuesday	-.199	.000
Date and Time: Wednesday	-.106	.067
Date and Time: Thursday	.168	.002
Category: Promotion	-.198	.000
Category: Question	.107	.052
Category: Poll	.096	.055
Category: Contest	-.123	.018
Category: CSR	-.139	.006

5. *Companies Combined*

Descriptive Statistics

Variable	N	Mean	SD	Minimum	Maximum
Number of Characters	1113	199.18	142.45	0	1,692
Number of Campaigns on a Day	1113	1.85	2.02	1	6
Total Campaign Reach per Fan	1113	363.33	156.86	9.180	1720.29
Photo View	536	371.81	863.76	1	14,494
Link Clicks	700	512.8	2436.34	1	60,556
Video Play	153	150.9	241.97	1	1,698

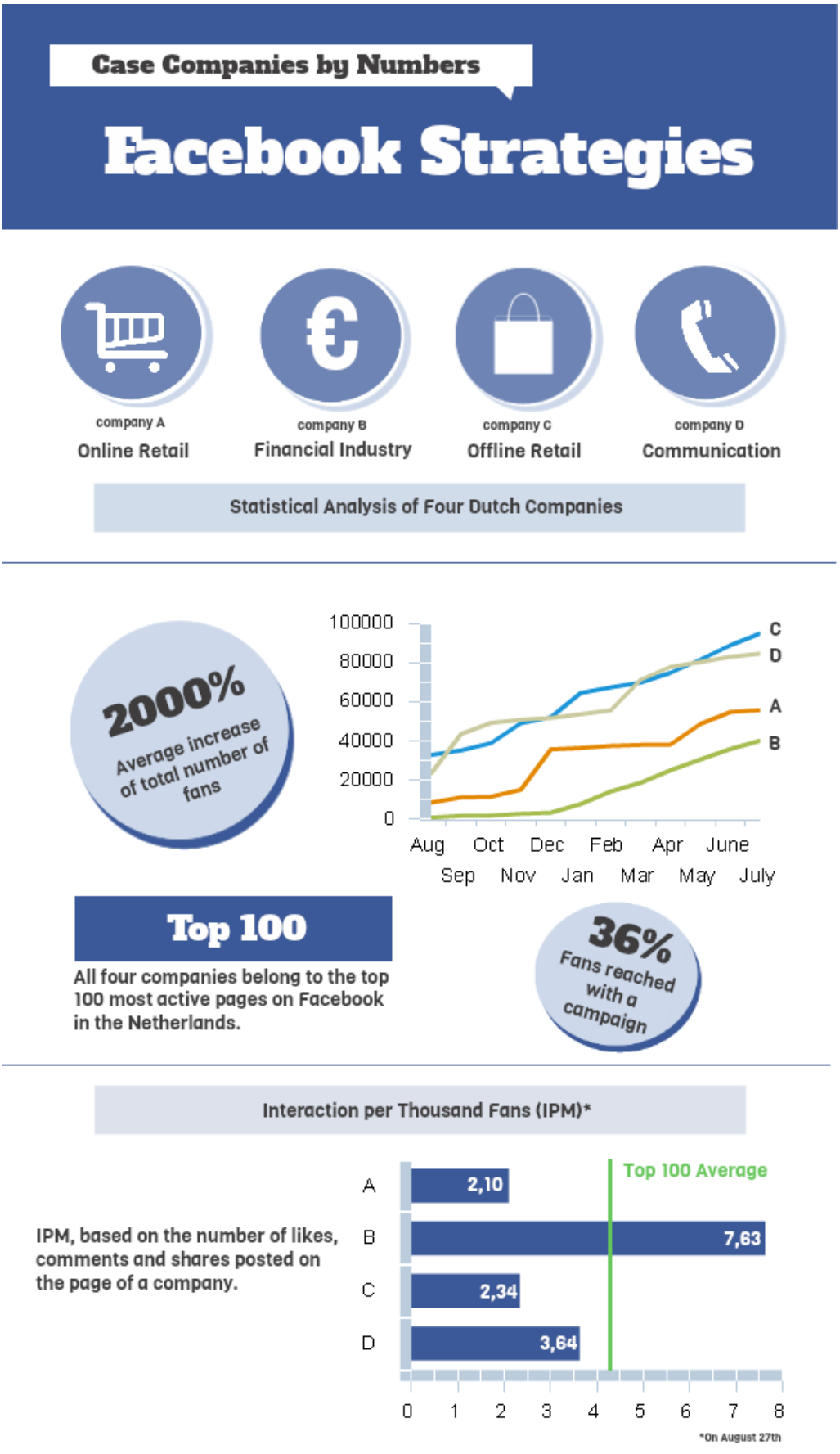
Regression Analysis

F	R^2	Sig.	Durbin-Watson
1.1101	0.108	.000	1.699

Coefficients

Variables	βeta	Sig. F Change*
(Constant)		.000
Number of Campaigns	-.129	.000
Multimedia: Photo Included	.140	.000
Category: Like	.099	.001
Category: Poll	.092	.002
Date and Time: 14:00-15:00	.108	.001
Date and Time: Monday	.065	.039
Date and Time: Tuesday	.086	.007
Date and Time: Wednesday	-.111	.000
Date and Time: Saturday	-.086	.004
Date and Time: Sunday	-.085	.003

Appendix C: Info Graphics



How To Measure Campaign Success

Facebook Strategies

To measure is to know, isn't it?

Measuring social media leads to interesting insights, one campaign is better than another. But why? This study shows the factors that lead to a high total reach, and the ones that don't..

How to Increase Total Reach?

When to post?

12:00-13:00 ✓

14:00-15:00 ✗

Tuesday & Wednesday ✓

Saturday & Sunday ✗

How many campaigns?

1 per day

Do not post too many campaigns per day, this will lead to information overload and a lower total reach.

Include Multimedia?

Photo ✓

Link ✗

Video ✗

Which Category?

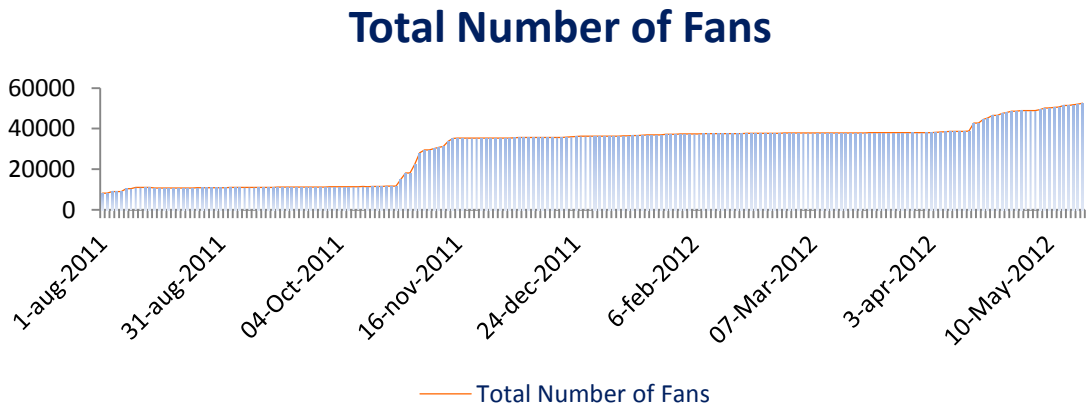
Poll ✓

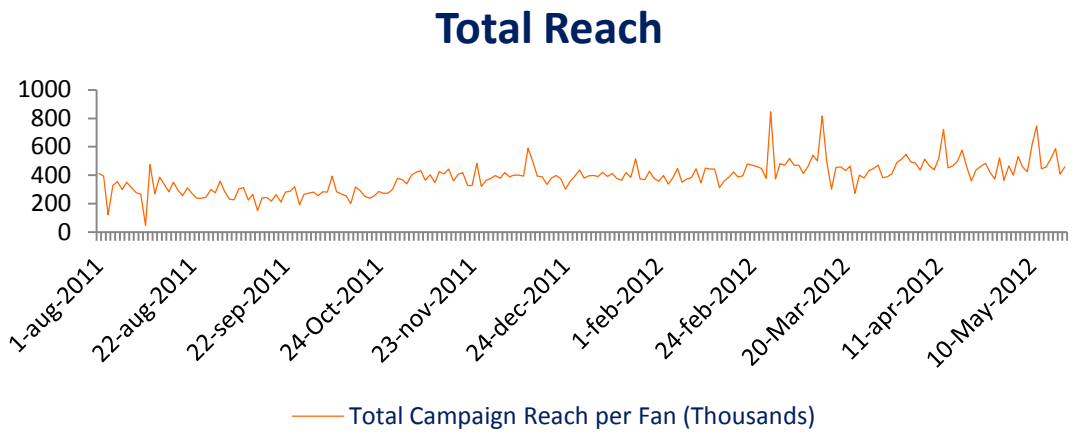
LIKE ✓

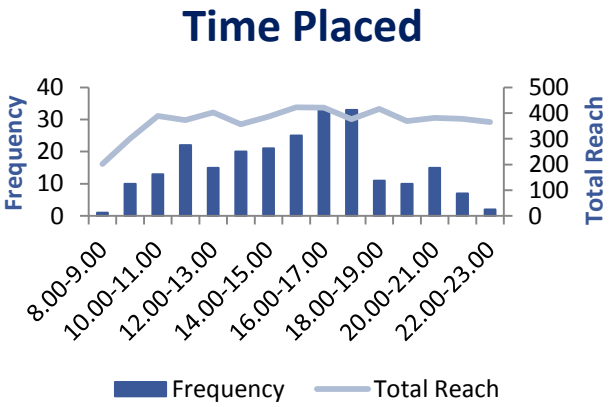
Use categories that engage people, such as the ones above, this will significantly increase total reach.

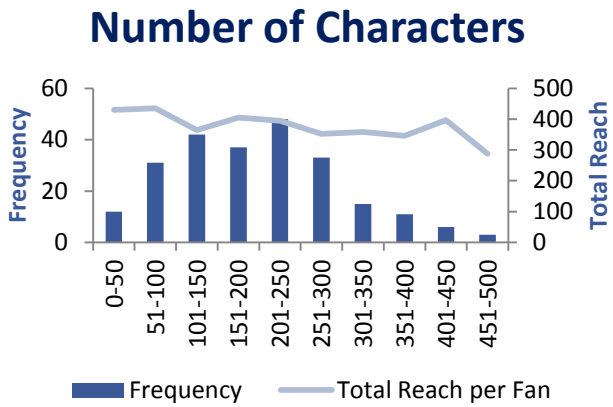
Appendix D: Graphs and Tables

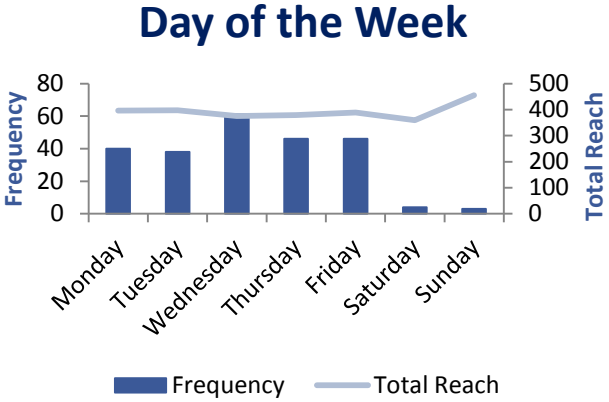
Descriptive Analytics: Company A

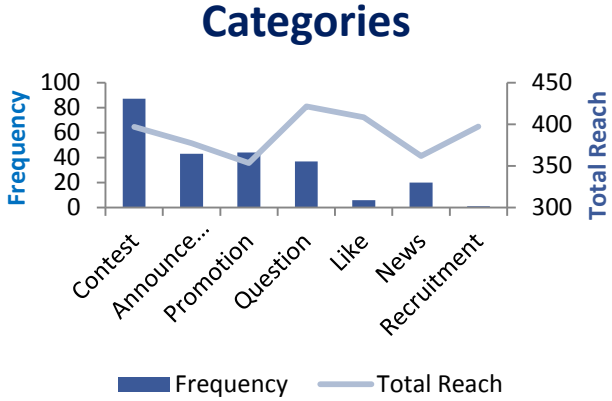




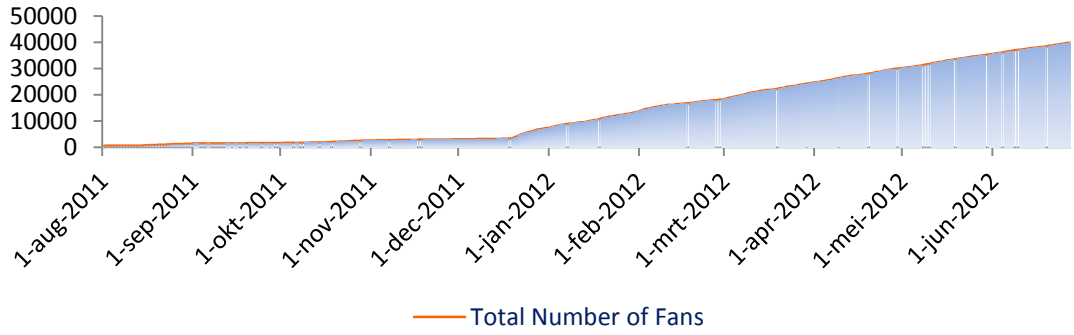




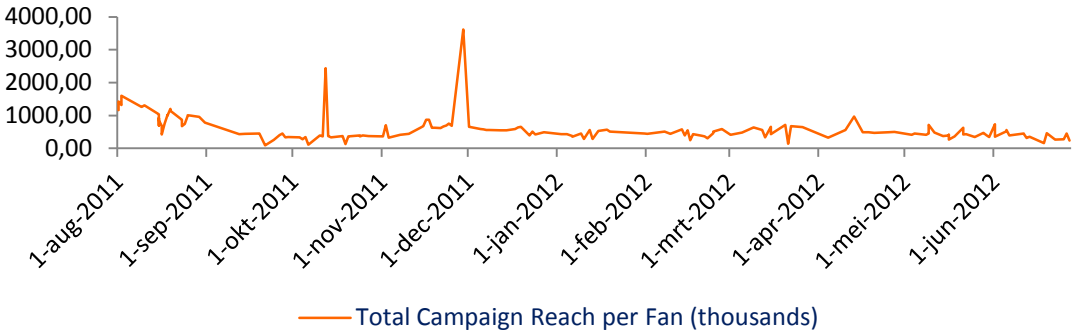




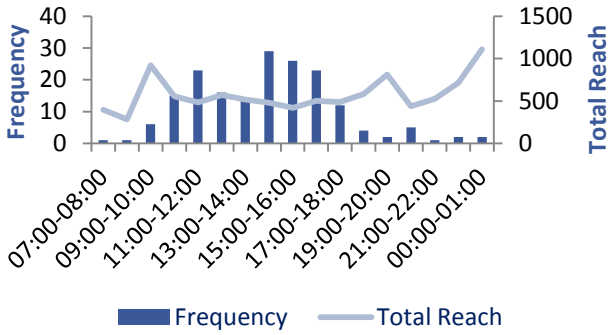
Total Fans



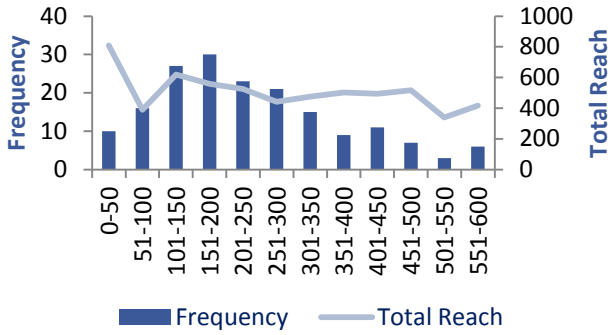
Total Reach



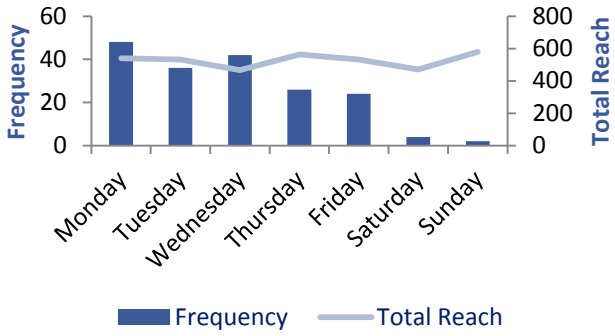
Time Placed



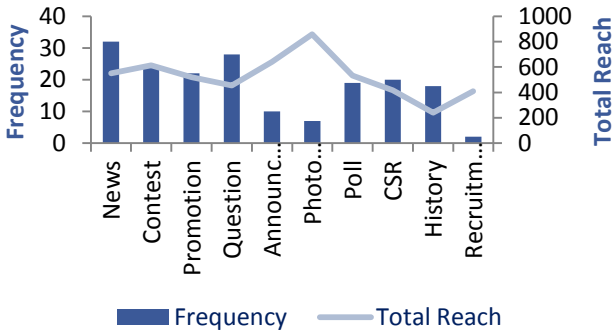
Number of Characters



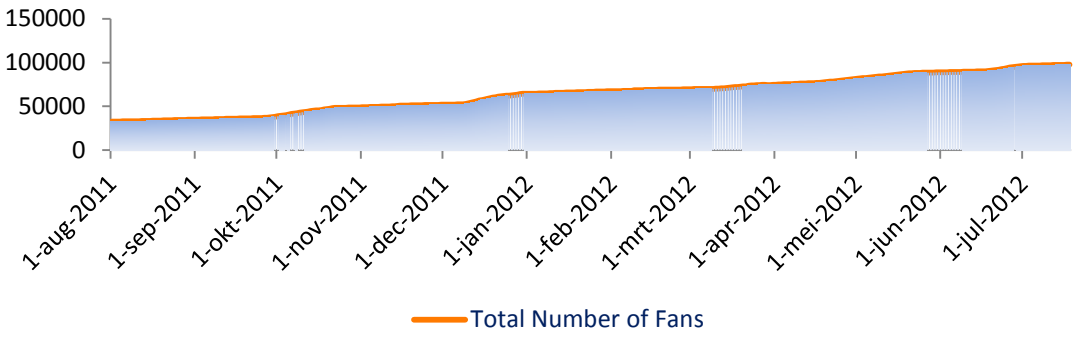
Day of the Week



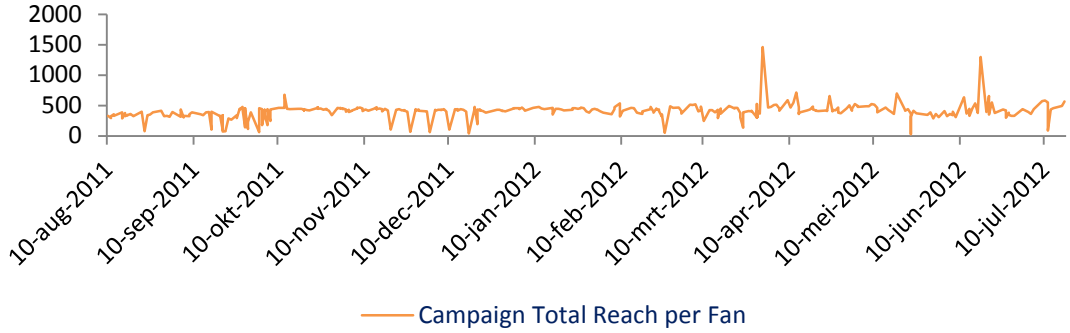
Categories



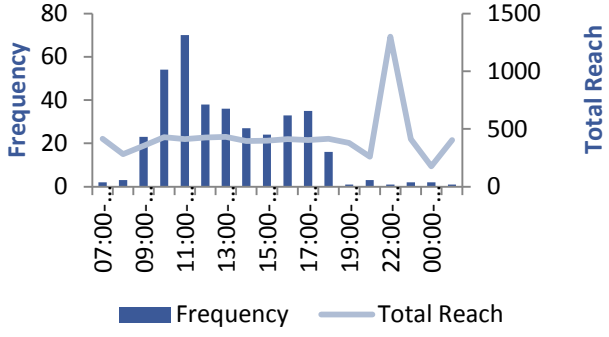
Total Number of Fans



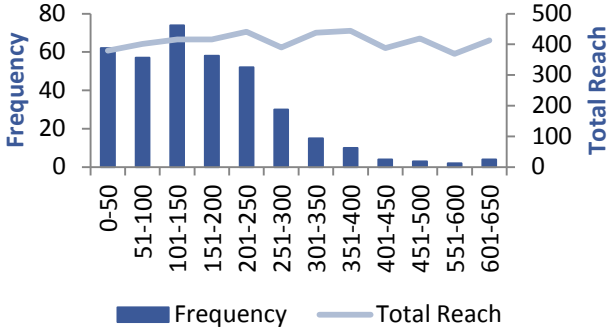
Total Reach



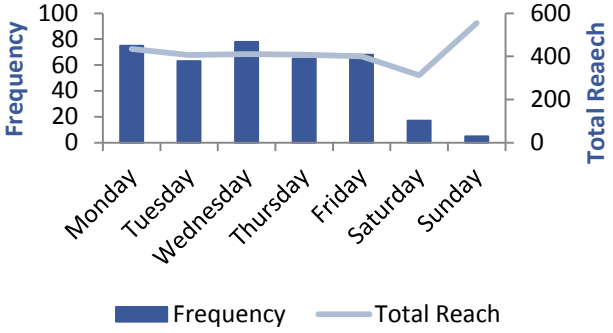
Time Placed



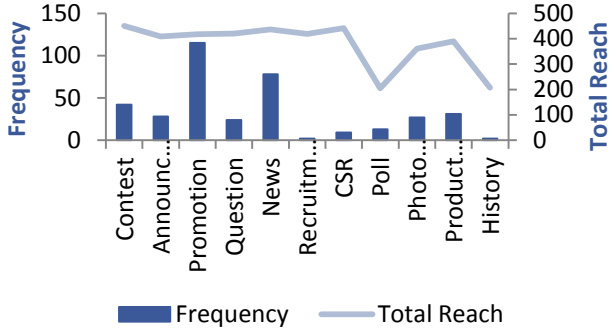
Number of Characters



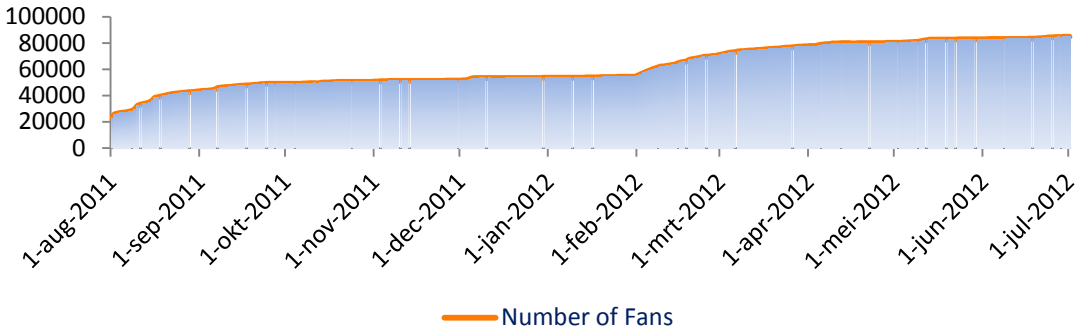
Day of the Week



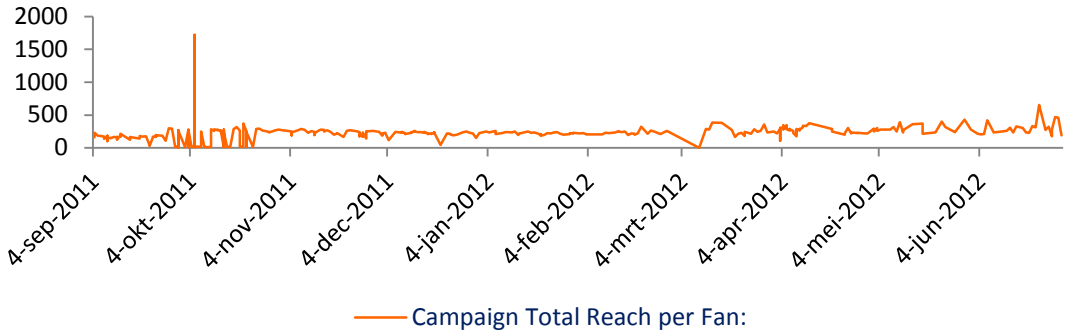
Categories



Number of Fans



Total Reach



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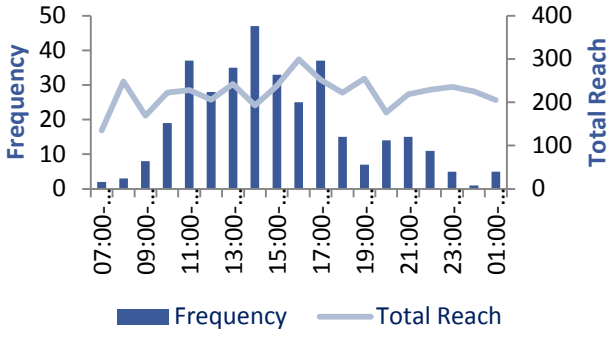

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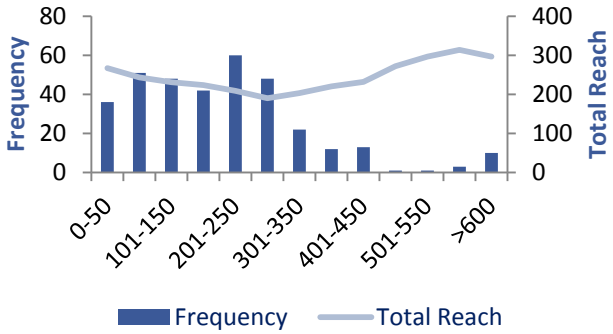
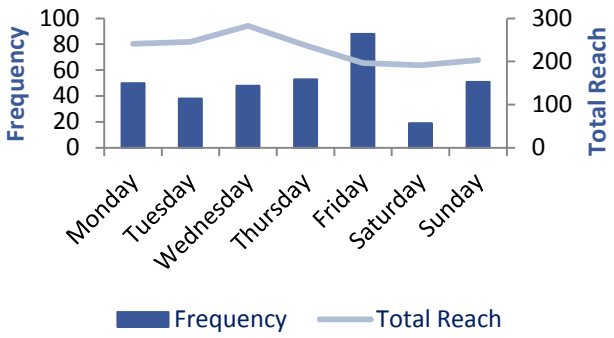


Day of the Week



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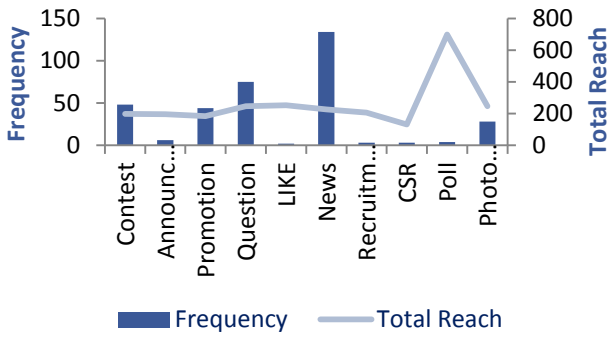

Appendix E: Research Methods

Case studies

Different cases are being used as these are well equipped for exploratory and descriptive research (Bonoma, 1986; Marshan-Piekkari, Welch, & Ghauri, 2004). A case study can be defined as the examination of a phenomenon in its natural setting, employing multiple methods of data collection to gather information from one or a few entities, including people, groups or organisations (Benbasat et al., 1987). Furthermore a case study is a description of a management situation (Ghauri & Gronhaug, 2010), and often involves data collection in the form of interviews and different forms of secondary data. A disadvantage of a case study is that this method is not suitable for every type of research. Case study research is appropriate for situations in which research and theory are at its early, formative stages and practice-based problems where the actors and the context is of great importance (Benbasat et al., 1987). There are different types of case study design as depicted in the figure below.

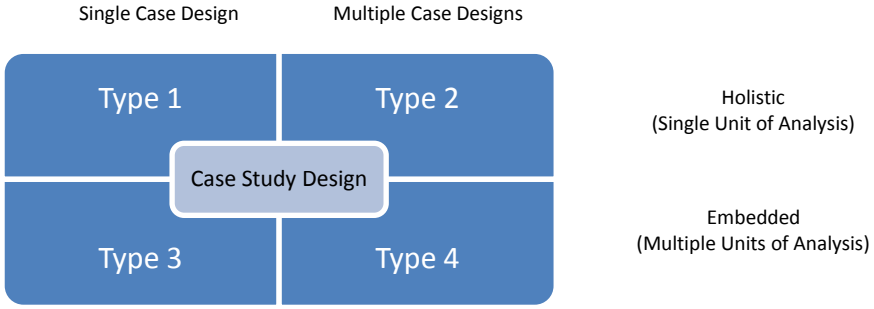

Table 23: Basic Design for Case Studies (Yin, 1994)

Different type of case study designs are available, as shown in the table above. The type of case study chosen for this research is type 2, as multiple cases have been selected, i.e. the different companies selected. However, one single unit of analysis has been observed in these different cases. The overarching unit of analysis is a Facebook campaign, this phenomenon is studied in all the cases.

Secondary Data

Secondary data is collected from several companies that act as case companies for this research; this data is derived from Facebook directly. Facebook keeps track of different metrics for every public page and this data can be derived for free by the administrators of the relevant page. A disadvantage of secondary data is that the information has been collected for a different purpose then that of the research (Ghauri & Gronhaug, 2010), however this is not the case in this research. Facebook statistics are meant for page administrators who want to monitor and measure activities on their page. Secondary data knows multiple advantages, which include reliability, ability to suggest suitable methods or data to handle a particular research problem, a comparison instrument that can be used to validate primary data (Ghauri & Gronhaug, 2010). Several types of secondary data are available; the most common types are depicted in the figure below.

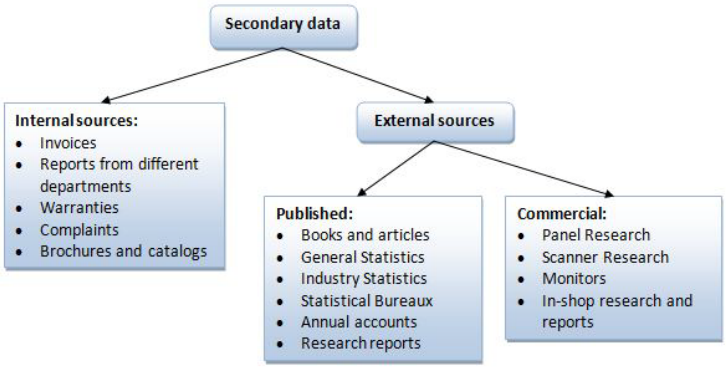

Figure 18: Types of secondary data (Ghauri and Gronhaug, 2010)

Based on the types of secondary data, Facebook statistics can be seen as data from an external source based on a company point-of-view. The statistics are available only to the company and are not published online for the public. Furthermore, the data available has been anonymised already and does not include any names. The data for this research has been obtained from companies in the Dutch retail and banking sector.

Advantages and Limitations of Research Strategies

The quantitative strategy that has been chosen, knows a lot of advantages as well as some limitations. In the table stated in Appendix C the difference in emphasis in qualitative versus quantitative research methods is elaborated (Reichardt & Cook, 1979). This table shows some of the advantages of quantitative research, but also some of its limitations. The overarching purpose of data collection in a case study design is to compare the phenomenon studied, which is social media (Facebook) strategy, in a systematic way. This helps to explore different dimensions of research issues and to examine different levels or research variables (Ghauri & Gronhaug, 2010).

Interesting are the findings of Yin (1994) who compares case studies with experiments, and provides three situations in which a case study design is preferred. These situations also show the applicability of a case study design in several situations. First, the case study method can be used for a critical test of theory and its applicability to the organisation when a firm finds itself in the particular situation that is also point of view of the theory studied. Second, case study methods can be used to compare and contrast specific, rare or extreme situations within an organisation. Last, case studies can be used to study a situation or organisation that has rarely been studied and/or is unique. This is also the case for this thesis, as such an quantitative approach has not been taken in the literature before. Both methods, qualitative and quantitative, as well as the strategies chosen know some limitations, these limitations have been described in the corresponding paragraphs.