When being present is not enough

A study on the influence of companies´ Facebook activities on negative user-generated inputs and response strategies

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Abstract

This study revolves around the influence of companies´ Facebook activity level on their response strategies to negative user-generated inputs. Although in the past, researchers found that the internet increases a company´s crisis potential newer research advised companies to promote an active social presence when using social media. Social media were also discovered to be a useful tool in times of organizational crises and for crisis communication due to their unique channel characteristics. However, neither the differences in companies' activities were discovered nor the ways different levels of activity influence the occurrence of negative user-generated input and crisis communication. To shed light on the influence of the level of activity of companies on Facebook on the crisis response strategy to negative user-generated input a content-analysis including qualitative and quantitative variables was performed on 44 German Facebook brand profiles over a four-week period. The findings suggest that a company´s level of activity is defined by the amount of information-sharing and interactivity with the users. Only companies with a high level of activity made frequent use of interactivity. Interactivity in turn was found to be a strong predictor for the number of negative user-generated input on a profile which made high active profiles more susceptible to criticism. Reversely interactivity in the high activity group also correlated with the number of fans and fan activity as a more favorable outcome for companies. It was found that the response strategies to negative input differed based on the companies´ level of activity and depending on the nature of criticism (product, service, general business). The study revealed that in more that 50% of the cases the response to product- and service-related criticism included redirecting users to another channel (e-mail, phone) whereas 90% of the general-business-related criticism was ignored. The findings imply that companies need to strategically address their level of activity based on the goal of their social media presence. It seems that social media may not be a very suitable channel to respond to certain complaints.

Samenvatting

Deze studie verheldert de invloed van Facebook activiteiten van bedrijven op hun responsstrategieën op negatief gebruiker gegenereerde input. Uit onderzoek in het verleden blijkt dat het internet het crisis potentiaal van bedrijven verhoogd. In nieuwer onderzoek worden bedrijven juist geadviseerd om actief gebruik te maken van sociale media. Sociale media worden ook beschouwd als een nuttig instrument tijdens organisatorische crises en voor crisiscommunicatie op grond van unieke kanaalkenmerken. Er is echter weinig bekend over de verschillen in activiteiten van bedrijven en hoe de verschillende niveaus van activiteiten het optreden van negatieve gebruiker gegenereerde input en crisiscommunicatie beïnvloeden. Om licht te werpen op de invloed van het niveau van activiteiten van bedrijven op negatief Facebook input werd een inhoudsanalyse met kwalitatieve en kwantitatieve variabelen uitgevoerd op 44 Duitse Facebook merk profielen over een periode van vier weken. De focus hierbij lag op crisis responsstrategieën betrekkelijk negatief gebruiker gegenereerde input. De bevindingen suggereren dat het niveau van activiteiten van bedrijven wordt bepaald door de hoeveelheid informatie-uitwisseling en interactie met gebruikers. Alleen bedrijven met een hoog niveau van activiteiten maakten veelvuldig gebruik van interactiviteit. Interactiviteit lijkt een sterke voorspeller voor het aantal gebruiker gegenereerde negatieve input op een profiel te zijn. Hierdoor blijken hoogactieve profielen gevoeliger te zijn voor negatieve input. Anderzijds correleerde interactie in de groep met hoge activiteit ook met het aantal fans en fan activiteiten en vertoond een positief uitkomst voor bedrijven. Het blijkt dat ook de responsstrategieën voor negatieve input verschillen op basis van de mate van activiteit en afhankelijk van de manier van kritiek (product, dienst, algemene gang van zaken). Uit het onderzoek blijkt dat in meer dan 50% van de gevallen, de reactie op product- en servicegerelateerde kritiek hield in dat gebruikers naar een ander kanaal (e-mail, telefoon) werden gestuurd, terwijl 90% van de algemene zakelijke kritiek werd genegeerd. De bevindingen impliceren dat bedrijven hun eigen strategische invulling aan het niveau van hun activiteiten moeten geven voor een gepast sociale media beleid. Verder bleek dat sociale media in sommige situaties een minder geschikt kanaal blijken te zijn om op klachten te reageren.

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1. Introduction

The term *social media* has been omnipresent for many years. There should hardly be any person within the civilized population who has never heard of Facebook, Twitter, Wikipedia, YouTube and such. For many people, social media have become a natural part of life, used for connecting with others and sharing information with the world. Whereas only a decade ago contents and sites on the internet could only be created and edited by specialists and companies, social media now allows the whole internet-community to do so. By definition social media is "a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content" (Kaplan & Haenlein, 2010, p.61). They empower every individual with internet-access to share texts, photos and videos with either a specific group of people or publicly with everyone.

In communication research, several topics have been studied with regard to social media. One of them is the role of social media within organizational crises and crisis communication. An organizational crisis is defined as "the perception of an unpredictable event that threatens important expectancies of stakeholders and can seriously impact an organization's performance and generate negative outcomes" (Coombs, 2012, p. 2–3). Examples of organizational crises which have gotten worldwide attention over the last years are the BP oil spill in 2006 at the Gulf of Mexico causing enormous environmental pollution, the Costa Concordia disaster in Italy 2012 in which 32 people were killed, the Sony data theft in 2011 in which the credit card details of thousands of customers were spied out and the product recall of Toyota due to safety issues regarding the gas pedals in 2011. To prevent major image loss, the reaction of companies to those crises, which is also regarded as crisis communication, becomes very important. Crisis communication is "broadly [defined] as the collection, processing, and dissemination of information required to address a crisis situation" (Coombs, 2010, p.20). Every reaction of a company to their crisis situation can be considered crisis communication.

The relevance of linking social media to crises (communication) is due to the unique characteristics which distinguishes it from other communication channels. Landau (2011) describes three characteristics making social media a very powerful tool: it is immediate, ubiquitous and available. Immediacy refers to the speed of a conversation. According to a survey of Rainie, Purcell and Smith (2011) social media facilitate the process of information sharing. This increase in speed lets presume that reactions to crises on social media are expected within a shorter timeframe than usual. Social media are ubiquitous because a great amount of websites are linked to platforms as Facebook, Twitter and Google+ via "Like-buttons" and many services already offer to log in to their sites with social media accounts. Availability refers to the fact that everyone with an internet connection can instantly make use of social media platforms.

The channel characteristics described by Landau (2011) leave companies with quite a few challenges. The increase in speed is one of them because not only the great new product information spreads fast but also organizational errors or even rumors. Another challenge is to communicate with stakeholders on eye level since company and stakeholder have equal possibilities to generate content which asks for more interactive communication. Companies, therefore, need to accept the fact that they do not have the same control over their social media channels as they have over their other communication channels because contents can be published by all users.

The immediacy of social media, its networking powers and the possibilities of user-generated content makes it interesting for research on organizational crises and crisis communication. Kerkhof, Schultz and Utz (2011) regarded social media as both a catalyst for and a weapon against crises. Hence, because stakeholders and companies alike can make use of spreading information fast and in various forms (videos, photos, links) without gate-keeping journalists social media can either facilitate the occurrence of crises or be of assistance for crisis communication to prevent/solve them.

The reason for companies to use social media in the first place, is because it provides them with new opportunities to interact with relevant publics, attract them to their goods and use it for recruitment. A survey by the Bundesverband Digitale Wirtschaft (2011) found that 73% of the companies in Germany are active in social networks (the sample consisted of 188 companies of all branches and sizes). The companies' activities on those sites are amongst others to build long-term relationships with stakeholders, to create trust and loyalty, and to sustainably improve image and brand awareness (Kreutzer & Hinz, 2010). The number of stakeholders on social media is growing. By now, millions of users worldwide have been attracted to platforms such as Facebook, Twitter, YouTube and similar social media sites. According to the German Federal Statistical Office (2012) 53% of the internet users in Germany (at the age of 10 and older) are active on social networking sites. Though the German Federal Statistical Office found that social media use decreases with increasing age, also older people have also found their way into social networks over the last years. More than half the internet users (57%) aged between 25 and 44 use social media sites and even 33% of those aged between 45 and 64. In comparison, 91% of internet users between the age of 16 and 24 use social media. Facebook is the most popular site with about 24 million active users in Germany (All Facebook, September 13, 2012). A survey of PricewaterhouseCoopers (February 29, 2012) with 1000 respondents using social networking sites indicates that about 82% use Facebook on a daily basis. Twitter follows with 46%. It shows that many users integrate social media into their daily life. Within the next years this might be even more encouraged through mobile devices such as smart phones and tablet computers, which have entered the market a few years ago and are gaining popularity.

Over the years, various studies have focused on the role of (1) the internet (in earlier days) and (2) social media (due to the gaining popularity and its unique characteristics) for crises communication. DiNardo (2002) already addressed the internet as a crisis management tool ten years ago. He criticized that the internet was only used

for spreading information but not to learn about stakeholders´ concerns which would have helped companies to effectively make use of crisis communication. Today, monitoring stakeholders´ concerns and needs on the internet and on social media platforms is a normal business practice. In contrast, Conway, Ward, Lewis and Bernhardt (2007) studied the internet's crisis potential for corporations. They state that online channels always bear the risk that stakeholders with relatively low power and impact become very influential due to the internet's networking power and information distribution without gatekeepers. Their conclusion is that corporations need a strategic approach on how to use the internet to reduce the probability of a crisis. Since social networking sites, as the name already suggests, primary have networking goals, this conclusion can be generally projected to social media use because social networking sites such as Facebook are a specific type of them. Kaplan & Heanlein (2010), therefore, took a closer look into the opportunities and threats of social media to be able to give companies advice whether they should add social media to their communication channels or not. They advise companies to be active when using social media to make a social appearance. This will facilitate the development of relationships with stakeholders. Activity for them means sharing information and interacting with stakeholders. The interaction part has, however, also been studied by other researchers such as Rafaeli and Ariel (2007) who found that there are really two types of interaction. On the one hand, there is functional interactivity which is more about promoting an appearance of interactivity. On the other hand, there is emphasizing contingency interactivity which is more a two-way communication through a conversational human voice. This makes interactivity more seem like a strategic tool rather than a basic prerequisite when using social media. It is questionable whether companies really approach it strategically or whether companies assume that just the engagement in social media makes them look interactive. A non-strategic approach could raise the crisis potential because companies might not be prepared sufficiently for the reactions of stakeholders to their activity. It could also rapidly fuel the crisis if stakeholders are unsatisfied with the reaction/response to it. Taylor & Perry (2005) state for example that on social media no reaction fast becomes synonymous with *no comment*.

Towards a new research

The previous findings show the need to shed light on the effect of social media activity (sharing information and interacting with stakeholders) on crisis communication. More knowledge on the correlation between activity and crisis communication will make it easier for companies to strategically approach which level of activity serves best for them. Until now especially the sector of NGO´s has received attention in studies about activity on social media, although, with regard to fund raising. The studies of Muralidharan, Rasmussen, Patterson, & Shin (2011) and Waters, Burnett, Lamm & Lucas (2009) found that in the social media use of NGO´s particularly the two-way communication is missing out. Waters et al. (2009) found that mostly links were shared which are leading to news stories and pictures but there was barely any interactivity. The next step is now to take a closer look on the behavior of profit organizations on social media platforms with regard to crises and crisis communication. A fitted platform for this research is Facebook because it is the most popular social network site within the German population. A combined study of three German institutions

found that Facebook is also the platform which is used the most by companies (Universität Leipzig, pressesprecher & Fink & Fuchs Public Relations, 2011).

This study aims to identify different levels of activity (low, medium, high) based on the companies´ frequency of information sharing and interactions on Facebook to relate it to the number of criticism those companies receive and their response strategies. This will provide knowledge on whether a certain level of activity on a profile statistically causes more negative user-generated content and what kind of negative input (product, service, and general-business) is addressed more or less frequent. The goal of the study is also to get insight in the response of companies to negative input and whether it differs by level of activity and the nature of criticism. Based on this, conclusions may be drawn about the influence of a companies´ level of activity on response strategies to negative user-generated input. This will allow companies to strategically approach their level of activity based on the goal of their social media appearance and prepare them for the issues they might face with a certain level of activity.

2. Theoretical framework

2.1. Crisis communication

From a company perspective, crisis communication is characterized by "the use of public relations to minimize harm to the organization in emergency situations that could cause the organization irreparable damage" (Kreps, 1986, p.247). Simultaneously, it prevents publics from encountering harm. Due to extensive research on crisis communication over the past decades it became obvious that organizations need to take many factors into consideration when responding to a crisis. Hence, a strategic approach to crisis communication is indispensable. Research mainly focuses on two areas: (1) crisis knowledge management and (2) stakeholder reactions management (Coombs, 2010). Whereas crisis knowledge management aims to analyze the actions taken by the ones responding to the crisis, stakeholder reactions management aims to understand the outcomes of the response by those addressed. Results of studies from both areas form a foundation for organizations to develop crisis response strategies.

To predict an effective crisis communication response Coombs (2007a) developed the situational crisis communication theory (SCCT). It postulates that the type of crisis, crisis responsibility, crisis history and the prior reputation influence the way companies should respond to crises to prevent harm to the organizational image. Prior to using response options, Coombs (2010) advises to provide instructions and to adjust information to also prevent causing harm to members of the public. According to him instructing information is to inform people how they can protect themselves against danger whereas adjusting information copes with psychological threats. The SCCT identifies four types of crisis responses: deny, diminish, rebuild and reinforce (Coombs, 2012). Deny refers to either attacking the accuser, denying that there is a crisis or making someone else responsible for the crisis. Diminish means either to have an excuse for the crisis and to affirm that it happened unintentionally or to justify it by minimizing the damage. Rebuild refers to either (financially) compensating victims or apologizing by expressing regret. Finally the reinforce response may use three strategies: bolstering (highlighting past good deeds), ingratiation (praising stakeholders) or victimage (claiming to be the victim of the crisis) (Fisher Liu, Austin & Jin, 2011).

Just as important as choosing the right response strategy is deciding how the response should be communicated. Coombs (2007b) states that responses need to be quick, accurate, and consistent. This suggests that the communicated information needs to be well researched and consistently communicated - similar to the notion of "speaking with one voice" (p.6). This does not imply that only one person responds to a crisis but that all spokespersons communicate the same message. The message can be transmitted through a variety of channels. One of them is social media. Yang, Kang, & Johnson (2010) argue that "the same crisis response content, depending on different forms of communication, can bring out a completely different individual interpretation – and in turn, various […] attitudinal and behavioral outcomes" (p.474). This gives

reason to assume that social media as a channel and its characteristics have an impact on the outcomes of crisis communication.

2.2. Social media

2.2.1 Disambiguation

Social media is "an umbrella term that is used to refer to a new era of Web-enabled applications [Web 2.0] that are built around user-generated or user-manipulated content, such as wikis, blogs, podcasts, and social networking sites" (Pew Internet & American Life, 2010). The definition contains two terms which converge with social media: Web 2.0 and user-generated content (UGC). Web 2.0 refers to a new way of using the World Wide Web. That is, "as a platform whereby content and applications are no longer created and published by individuals, but instead are continuously modified by all users in a participatory and collaborative fashion" (Kaplan & Haenlein, 2010, p.61). The "various forms of media content that are publicly available and created by end-users" in Web 2.0 are called user-generated content (Kaplan & Haenlein, 2010, p.61). According to Vickery and Wunsch-Vincent (2007), UGC needs to fulfill three requirements: (1) it is published on a publicly accessible website or a social networking site where it can be accessed by a certain group of people, (2) the content is at least somewhat creative, and (3) it is created outside professional practices. According to them this distinguishes UGC from input on other channels and excludes all kinds of commercial input.

2.2.2. Social media types and functions

Kreutzer and Hinz (2010) identified various social media platform types: blogs, microblogging sites (e.g. Twitter), media sharing sites (e.g. YouTube), social bookmarking sites (e.g.StumbleUpon), bulletin boards and social networking sites (e.g. Facebook). Kaplan and Haenlein (2010) also add virtual social worlds (e.g. Second Life), virtual game worlds (e.g. World of Warcraft) and collaborative projects (e.g. Wikipedia) to that list. According to them, the differences among these different types of media lie in (1) the degree of *social presence* (the acoustic, visual and psychological contact that can be achieved), (2) the degree of *media richness* (the amount of information they allow to be transmitted in a given time), and (3) the degree of *self-presentation/self-disclosure* (to control the impressions other people have of the user through the revelation of personal information). Facebook is classified as a social media platform with a high level of self-presentation and a medium level of social presence and media richness (only virtual social worlds have a higher level) (Kaplan & Haenlein, 2010). Therefore, it can be concluded that Facebook has great potential for companies and their crisis communication because the high level of self-presentation offers chances to control the impressions of others as it allows acoustic, visual and psychological contact to stakeholders and the transmission of a great amount of information

The different degrees of social presence, media richness and self-presentation are accomplished by the different functionalities of social media. Kietzmann, Hermkens, McCarthy and Silvestre (2011) describe seven building blocks of social media: *identity* (the extent to which users reveal themselves), p*resence* (the

extent to which other user know if others are available), s*haring* (the extent to which users exchange, distribute and receive content), conversations (the extent to which users communicate with each other), g*roups* (the extent to which users are ordered or form communities), *reputation* (the extent to which users know the social standing of others and of content) and last but not least r*elationships* (the extent to which users relate to each other). Due to the different functionalities of the various types of social media, the presence of those building blocks differ which causes the different degrees of social presence, media richness and self-presentation/self-disclosure. The building block that is represented the most on Facebook is that of relationships since it focuses especially on networking. But also the building blocks of presence, identity, conversation and reputation are well represented on Facebook (Kietzmann et al., 2011) which makes it interesting for further research on company use and crisis communication.

2.3. The role of social media in organizational crisis communication

2.3.1 Social media as weapon or threat

Whether social media favors the occurrence of crises or works as an effective tool against them has been addressed from different perspectives in the past. On the one hand, it may be a catalyst for crises because information spreads very fast on and through social media and everyone is able to publish contents. On the other hand, it can also be a weapon against crises because social media have unique characteristics which strongly distinguish them from other communication channels and could have a positive impact on the crisis perception. Kerkhof et al. (2011) combined the results of two studies indicating that for crisis communication the medium matters more than the message. One of the studies was that of Schultz, Utz and Göritz (2011). They focused on how different channels affect crisis response strategies. The study showed that respondents reading a tweet (messages of up to 140 characters on Twitter) which responded to a crisis were less likely to boycott the brand than respondents who read a newspaper article or blog. Kerkhof et al. (2011) argue that the reason for this finding might be that Twitter is associated with open and dialogic communication that signals openness for concern and willingness to solve the problem. The inducement for this research was also that previous studies found that social media are regarded as more interactive, dialogic, authentic and credible (e.g., Pleil, 2007; Seltzer & Mitrook, 2007). Those attributes in combination with crisis communication could be the reason why respondents were less likely to boycott the brand because communication on Twitter might promote the impression to have a direct line to the company to express their opinions and concerns.

Additionally, the research of Kelleher (2009) found that respondents see an organization as more human and more committed in maintaining a good relationship with stakeholders when responding to a crisis using an organizational blog rather than responding through the corporate website. Kelleher (2009) explains these results by arguing that the perception of the organization as more human and more committed helped stakeholders built trust in the company which in turn favored positive outcomes of the crisis for an organization. Researchers find it questionable whether social media alone is sufficient to paint a more human and more committed picture of the organizations. These studies indicate, however, that social media may have

the potential to fulfill different needs of stakeholders in times of crisis. The source of those needs seem to be primarily emotional. Jin and Fisher Liu (2010) for example developed a blog-mediated crisis communications model where they defined emotional venting and support as motivators for people to follow blogs during crises. It seems that sharing positive and negative experiences regarding a crisis in online discussion boards, creates a sense of compassion, understanding, comfort and excitement. As a second outcome, they found that people turn to blogs to obtain insider information because social media often provide it faster than broadcasted news. This is because people affected by the crisis are empowered by social media to publish information on their own. The third finding was that traditional media are still seen as more credible than social media.

The possibility to provide unfiltered information (without gatekeepers) on social media caused researchers to take a closer look into the differences in the perceived credibility of traditional media and social media. Fisher Liu, Austin and Jin (2010) and Schultz et al. (2011) found that social media are seen as less credible than traditional media. Other studies suggest, however, that information especially on blogs are considered to be very credible. Johnson & Kaye (2004) state that blog users rate blogs to be a highly credible information source. Sweetser, Porter, Chung and Kim (2008) found that the perception of blog credibility increases when blog reading increases. Contrary, results from Schultz et al. (2011) indicate that Twitter users rather share and discuss newspaper articles than blogs. Sweetser and Metzgar (2007) argue that nonetheless social media are held more or less credible by people; the advantage for companies using social media, blogs in particular, additionally to traditional media during organizational crises is the conversational human voice and the response possibilities which improve the relationship between company and stakeholder. The importance of social media as a communication tool in crisis situations lies according to White and Fu (2012) in the degree of social presence. According to them face-to-face human interaction is essential during crises but not always possible, in which case it can be mediated by social media.

In summary, social media can be seen as weapon or threat for crisis communication because of the unique channel characteristics which have an impact on how the organization is seen. In the best case it causes the impression to be more human, more committed, and more trustworthy. The functions of social media can provide opportunities during crisis communication due to the ability of sharing thoughts which can be responded to by others which in turn covers emotional needs of stakeholders. Because everyone is able to publish information they are also faster than broadcasted news and are in some cases seen as more credible than traditional media. The speed and credibility of messages on social media can also be a threat because negative information travels fast as well and rumors can easily be regarded credible.

2.3.2 Challenges and opportunities of social media characteristics for crisis communication

One of the first studies on social media and its use for crisis communication was that of Palen, Vieweg, Liu and Hughes (2009). Their research examined computer-mediated communication during the Virginia Tech shooting

in 2007 in which 32 people were killed. The first entry on Facebook about the shooting was found only 50 minutes after students called 911. Within the second hour an entry was made on Wikipedia and two groups were formed on Facebook, one to pay tribute to the victims and the other to let peers know that they were fine. Palen et al. (2009) reached the conclusion that as a result of online social networking "people are able to work in advance of conventional forms of news communication" (p.476). Due to the increased number of social network site users since 2007 and the use of mobile devices it may be assumed that today the speed and amount of information covering a crisis increased. Although their research rather addresses a disaster than an organizational crisis, their research indicates three important characteristics of social media which have a strong impact on crisis communication. One is the immediacy at which information is transmitted, second, the networking power of those using them and third, the ability of interactive communication.

Wright and Hinson (2008) argue that social media have made communication more instantaneous. Therefore, organizations are challenged by the need to respond more quickly to criticism. The immediacy led researchers to study the impact of time on crisis communication on social media. Several researchers indicate that it can work as a trigger and a facilitator for crises (Conway et al., 2007; González-Herrero & Smith, 2008; Kerkhof et al., 2011). It might work as a trigger for crises because rumors can easily spread to millions of people within a very short time frame (González-Herrero & Smith, 2008). Social media connects people and allows them to share whatever information they are interested in and not necessarily paying attention to the accuracy of the information. This in turn, also makes it a facilitator of crises. It accelerates the crises news cycle making the discussion about a topic much faster (González-Herrero & Smith, 2008). In this case, social media give people a platform for discussion which would make the crisis at one point in time seem very intense but it may already be over after few days.

One of the reasons that information spreads so fast on social media is its networking power and the fact that everyone can engage in a discussion over a specific topic. Therefore, it is necessary to take a closer look at the users of social media, hence, the companies' stakeholders. According to Kreutzer and Hinz (2010) users of social networks can be divided into two groups: influencers and average users. Influencers are those who have a high number of friends within the network, communicate more than the average user and are able to convince others of their opinion. As stated earlier in this article Conway et al. (2007) found that online channels always bear the risk that stakeholders with usually relatively low power and impact become very influential due to the internet's networking power and information distribution without gatekeepers. This makes influencers very interesting but also dangerous for companies because their opinion can influence that of a great public. This means that the networking power of social media has an impact on the power of stakeholders using them.

With regard to online public opinion, the study of Liyong, Baoyan and Liangfu (2010) researched crisis communication issue discussion. The research showed that the online public opinion sometimes shows irrational factors which make stakeholders less predictable. They argue that cyberspace behavior may not always be consistent with real social behavior leading people to make irresponsible comments about a crisis.

This could also be due to the anonymity on the internet. Often users use nicknames and photos which do not identify the person. It may reduce restraints which could lead to input that is not true or exaggerated and bad language respectively.

Opinions can be formed through discussions on social media. The interactivity of communication on social media is a characteristic which distinguishes it from other channels. Especially interactivity proved to be helpful to assess the situation during a crisis. A study by Procopio and Procopio (2007) found that in crisis situations internet users seek for interactive fora to activate ties in their social network. The reason for this was found in the reduction of uncertainty. Their research addressed the internet communication and internet use during Hurricane Katrina. Paul (2001) also found that in crises situations internet users prefer interactive information sources over static ones because the receiver of the information has the ability to respond to it and discuss it with others. Remarkably the result of her study was found even before social media platforms such as Facebook and Twitter existed and the internet was just starting to add interactive functions. The interactions with others, whether known or not, seems to reduce uncertainty in crisis situations. In terms of interaction, social media can thus be a very good channel for crisis communication.

Social media offer several possibilities to express crisis communication in a new way. Taylor and Perry (2005) therefore compared traditional and innovative media tactics. In a pilot study they identified five new media tactics: (1) dialogic communication when visitors are encouraged to respond to the issue at hand; (2) connecting links allow organizations to connect visitors to relevant site;. (3) real-time monitoring for updated information;. (4) multi-media effects offer images, videos and audio effect; (5) online chat to get people involved in the situation. Taylor and Perry (2005) focused on the internet in general when identifying these tactics but it shows that social media form a perfect platform to perform them. Results of their research found that even though these new tactics existed, 98% relied on traditional media tactics online, making for example Q&A´s and press releases available on the internet. While many organizations engaged in at least one of the new media tactics, 34% relied exclusively on traditional media tactics online. Their research showed that seven years ago many organizations already used the internet for their crisis response. Here again, social media were to that time still on the starting blocks but now shows to be a suited platform performing those new tactics which might also have a positive impact on crisis communication.

In summary, social media seem to have an impact on crisis communication through the possibility of interactivity, the immediacy, the networking power and opportunities as the new media tactics identified by Taylor and Perry (2005). Interactivity seems to reduce uncertainty. Immediacy changes crisis communication because rumors spread easier and therefore faster but on the other hand accelerate the crisis news cycle so that they are over sooner. And the networking power possibly empowers certain stakeholders who become influencers of the opinion of others. Researchers highlighted, though, that all these characteristics of social media can be an opportunity or a threat depending on the companies' actions.

2.3. Conclusion and research questions

The main purpose of this research is to find out which impact the company activity on Facebook has on their crisis communication. Although companies are advised to be active when using social media as communication channels, strategic approaches on the outcomes are unknown. The literature review revealed various opportunities and threats of social media when used as a tool for crisis communication. Especially the possibility of interactivity was found to have an impact on crisis communication. The study will, therefore, focus on the way companies make use of this possibility and how it effects companies' crisis communication. Because companies are usually represented through their brands on Facebook (e.g. Nivea is a brand of Beiersdorf AG) the term brand is used to refer to companies and vice versa. The research questions which result from this are:

What influence has the level of activity of German top brands on Facebook on the crisis response strategy to negative user-generated input?

Four sub-questions will help to get a well-founded answer to the main research question:

- To what extent do information sharing and interactivity define a brand's level of activity as low, medium or high?

It showed that companies can be active by only providing information as well as by communicating interactively with their stakeholders (Kaplan & Heanlein, 2010; Rafaeli & Ariel, 2007). Especially interactivity was found to have an impact on crisis communication. This sub-question will take a closer look at which kind of activity is used more often and how it creates differences between the profiles.

- To what extent does the difference of interactivity between low, medium and high activity profiles correlate with the number of negative user-generated input on them?

Besides a good tool for crisis communication, several researchers regarded social media also as a reason for the occurrence of crises. Therefore the question will be addressed whether more interactivity will favor the occurrence of criticism and which implications this has for companies in choosing their level of activity.

- To what extent do brands with a higher level of activity approach their response strategy to negative user-generated input differently than those with a medium or low level?
- What influence has the nature of criticism (product, service, and general-business) on the response strategy?

The theoretical framework discussed several opportunities for companies' crisis communication using social media. This included for example new media tactics, immediacy and communication on eye-level whereas the prevalent response strategies seem also to be applicable on social media. It could be assumed that companies which are more frequently interacting with their stakeholders on social media use different tactics and strategies to respond to stakeholders' criticism than those who are less interactive. The strategy could also be related to the topic of the criticism since everything is discussed publicly on Facebook, which might not always be advantageous for the company.

3. Method

To study the correlation of companies' Facebook activities on the occurrence of crises and the crisis communication, a comprehensive content-analysis was conducted. During a four-week period (01/05/2012 – 28/05/2012) the Facebook profiles of German top brands were analyzed. The study was limited to top brands to avoid differences in activity based on financial reasons. Though this risk could not be eliminated, it was minimized by choosing companies with a certain brand value. The limitation to German brands was due to linguistic reasons of the researcher because content on social media is often colloquially expressed. It was chosen to observe the current activities of companies rather than past ones because of a better understanding of environmental influences for activities to that time (e.g. political discussions, international events).To achieve as much possible insight, the content-analysis contained both qualitative and quantitative codes. Quantitative codes addressed the activity on profiles such as company posts and comments and fan post and comments. Qualitative codes addressed the type of criticism, user-characteristics and response strategies. Facebook was chosen for this research for various reasons. First, it was found to be the platform that is used the most by companies and the public in Germany (Bundesverband Digitale Wirtschaft, 2011; PricewaterhouseCoopers, 2012). This ensured a certain degree of activity which was needed for this research but did not imply an equal level of it. Second reason was the design of Facebook. The so called "wall" on Facebook profiles, where posts of the companies and others are presented, is very practical to reconstruct the dialogue between company and stakeholder through the ability to comment on each other. The third reason was that the timeline function on Facebook which allowed easy access to the input that was made during a certain week, month or year since the start up of a profile. This made it possible to take a look back into the history of a crisis or the crisis communication with stakeholders if necessary.

3.1. Sampling

The research sample consisted of 44 German brands. Those derived from a Top 100 list of German brands published by MPP Consulting in 2011. The list was considered to be a good foundation for sampling because it included well-known brands which were from various industrial sectors. From the list, the brands without Facebook profile and profiles which had less than 10,000 fans were deleted (n=36). Even though the number of fans was not necessarily assumed to affect the activity on the profiles, a statistic connection could have been possible. Within the sample were profiles with more than seven million fans which is why it was chosen to set a minimum and exclude profile with less than those 10,000 fans. Afterwards the brands were classified according to sectors. It showed that there was a bias towards the automobile industry (n=10) and the sector of clothing retail (n=6) whereas other sectors were represented by only one to five brands. Consequently, the number of brands within industrial sectors was cut down to five by randomly deleting brands from those two sectors affected. Further, two soccer clubs were excluded because they did not fit the criterion of organizations that sell and offer goods or services. During the research two more brands had to be excluded due to such a high level of fan activity (e.g. several thousand fan comments per company post) on the profiles that they were not

manually analyzable. This left a total of 44 brands used for analysis. The 100 list which was used for sampling was established based on a vast brand value calculation formula consisting out of values of several indices (investment index, composite financial index etc.). Though the reliability of list and formula is unknown, this may not have had an influence on the results of this study.

After coding the profiles, the sample was split up into three equally sized groups according to their level of activity (low, medium, high) to measure whether the level of activity correlated with the number of crises and crisis communication. To do so, the number of company posts and company comments of all four weeks of analysis were added up. This sum was labeled *company activity*. The number of company activities ranged from 6 to 705. The sample was split at the cumulative percentage closest to 33,3% and 66,6% to guarantee the equal sizing of groups. Consequently, the group with a low level of activity ranged from 0 to 34 activities which accounted for 34,1% of the sample (n=15). Medium active were companies within the range of 35 to 64 (n=14) and high active were all companies with a number of 65 and higher (n=15). A list of the brands in each group can be found in the appendix. One profile disappeared from Facebook after three weeks of coding. It was still taken into the analysis because not the single weeks were analyzed but all four weeks together. The information gathered during three weeks gave almost equal insight in their activity and responsiveness to criticism as that of four weeks. Therefore, it did not affect the analysis of coherence between variables and only had an impact on the group assignment. In comparison to the other brands, this brand was assigned to the medium group because it fitted the activity schema of providing much information (10-12 posts) but being less interactive (*M*= 9 comments). The assignment to a group based on the average values of company posts and comments per group was not possible due to the standard deviations (the average values can be found in the appendix).

3.2. Codebook and procedure

The codebook was developed based on the findings of the theoretical background and the functionalities of Facebook. Inductive coding was used for the development of the codebook, which meant that input on the profiles was grouped into higher order headings to make it more abstract and generally applicable (Thomas, 2003; Elo & Kyngaes, 2007). The codebook consisted of three main categories which each had a number of subcategories. Those categories and their subcategories are summarized in the tables 1.1-1.3. A screenshot of each profile was made at the end of every week and was coded afterwards. The quantitative data in the first category (activity) was therefore collected separately for each week. Additionally, the negative input was checked at two points in time (one week later) to avoid missing late company responses or the further development of the discussion. The reliability of the codebook was tested by recoding 20% (N=9) of the sample 12 weeks after the actual study by the same coder. Rossmann (2005) suggests recoding 10% of the sample and leaving a timeframe of two month between coding and recoding when performing reliability analysis. Both conditions were met and even increased in this research and warranted a proper reliability analysis. Reliability was measured by calculating Cohen´s Kappa (for qualitative variables) and correlation coefficient *r* (for

quantitative variables). All variables were found to be reliable with scores between 1,000 and 0,734. The variable language (formal/informal) was measured by chi-square analysis due to problem reports within SPSS. The chi-square analysis did not reveal significant differences between coding and recoding and was therefore also considered reliable (chi-square=0,023; df=1; p=0,880). The score for each variable can be found in the appendix. The next three paragraphs give further insight in the codebook which was used for this study.

3.2.1 Activity

The first category of the codebook mainly addressed the activity on a profile. The activity of the brand and the stakeholders was being measured. It was found that for companies there were two different types of activity (Kaplan & Haenlein, 2010). The first kind was sharing information, which was measured by the number of posts of the company. The second kind was interactivity, which was measured by the number of comments of the company. Company comments were considered to reflect what Rafaeli and Ariel (2007) call emphasizing contingency interactivity because it established a two-way communication between company and stakeholder. The company posts on the contrary could have been considered as functional interactivity (making an appearance) because users were able to comment on those but they were actually not more than information sharing since two-way communication was not necessarily established. Stakeholder activity in turn was measured related to the profiles, which were the comments to company posts and posts they generated on the companies´ profile. It was assumed that with increasing company activity also the fan activity on the profiles increased. In terms of the occurrence of crises, the number of positive and negative input was measured to see whether significant differences were found regarding the companies´ activity.

Table 1.1: Codebook Profile Characteristics

Category	Subcategory		Description
Activity	**Number of Fans**		The number of users who “liked” the profile.
	Company-generated Input	Number of company posts	Refers to the frequency of information sharing of the company.
		Number of company comments	Refers to the frequency of interaction with the user. Comments are always reactions to user-generated input.
	User-generated Input	Number of user-generated comments on company posts	Refers to the number of comments by users to the information which the company shared.
		Number of user-generated posts	Refers to the number of post by users regarding a self-selected topic.
		Number of positive input	Number of posts and comments putting the brand in general and/or its services and products in a favorable light.
		Number of negative input	Number of posts and comments putting the brand in general and/or its services and products in an unfavorable light.

3.2.2 Criticism

The second category further addressed the negative input on the profiles which were considered as crises because they publicly shed a bad light on the company either regarding general business practices, their products or their services. This was referred to as the *nature of criticism*. Criticism regarding general business practices was for example about CSR practices or investments. Product-related criticism concerned anything that was purchased, for example a broken car. Service-related criticism in contrast referred to the way stakeholders were treated by employees of the company, for example an unfriendly cashier in the supermarket. The code *nature of criticism* was used to closely describe the crisis and to find out which type of criticism a particular brand commonly received.

The language stakeholders used to express their criticism was also analyzed since Liyong et al. (2010) found that in online environments, people are more tempted to make irresponsible comments. Codes therefore referred to the formality of the language and the use of abusive language. It was also investigated to which extent the criticism was visualized by links, photos or videos to use social media to its full potential but also assumingly to attract more attention of the company.

Due to the anonymity on the internet additional information was sampled about the person criticizing the brand. It was assumed that persons who did not use their real name/and or photo were more likely to criticize the brand and potentially make more use of abusive language. It was not possible to find out whether names and photos really belonged to the owner of the profile, however, it was coded whether the name could have been real (Max Mustermann vs. None OfYourBusiness) and whether there was a person on the photo or not.

Table 1.2: Codebook Criticism

Category	Subcategory		Description
Criticism	**Negative user-generated input**	Nature of criticism	Contains codes regarding what is being criticized (general-business related, product-related, service-related)
		Language	Focuses on the formality of the language in which the criticism is expressed and whether abusive language is used.
		Visualization	Contains codes which describe whether the user used links, photos or videos to express the criticism.
	User characteristics	Name	Refers to the name of the criticizing user and whether it seems to be real or a nickname.
		Photo	Refers to the photo of the criticizing user and whether there is a person on it or not.

3.2.3 Crisis communication

The third category addressed the crisis communication with regard to the negative input. In this category several theories and findings of Coombs (2007b; 2010; 2012) regarding crisis communication were applied. It included codes concerning the response strategies deny, diminish, rebuild and reinforce but were expanded with the addition of two options: *no comment* (if the company did not reply) and indistinctive (if the company replied but the response could not be assigned to one of the four strategies). Furthermore, the question on whether the responses included adjusting and/or instructing information, on how immediate the organization replied to the criticism, and on whether the person who responded was indicated or not were also addressed. Codes concerning the formality of the response and the use of new media tactics (links, photos, videos) as described by Taylor and Perry (2005), were also added. Yang et al. (2010) argued that the form of the response plays a crucial role in the interpretation process of individuals. The new media tactics as well as the formality of the language (communication on Facebook is rather informal) were assumed to be two options for companies to alter their form of crisis communication. The last code concerned the consistency in channel use. It referred to the continuance on Facebook. The motivation for this last code was that because every discussion is public, companies might rather switch to another channel to solve problems more privately to prevent others from jumping on the bandwagon. This study was not only interested in how companies perform crisis communication but also the ways different levels of activity on Facebook change those factors of crisis communication.

Table 1.3: Codebook crisis communication

Category	Subcategory		Description
Crisis communication	**Company Response**	Response strategy	Describes the strategy which is used by the company to respond to the criticism.
		Language	Refers to the formality of the language which is used to respond to the criticism.
		Spokesperson	Describes whether the person of the company who responded is indicated.
		Immediacy	Describes how fast the company reacted to the criticism.
		Information	Indicates whether the company gave adjusting or instructing information when responding to the criticism.
		New media tactic	Describes whether the company used links, photos or videos when responding to the criticism.
	Consistent channel use	Channel change	Describes whether the company stayed on Facebook to solve the problem or whether they move the conversation to another channel

4. Results

Subsequently the results of this research are presented which shed light on the overall values and correlations of constructs used in this research to answer the research questions. First, the profile characteristics are addressed which includes company and fan activity (4.1.). Second, the analysis of criticism on the profiles is presented (4.2.). And at last, findings about the companies´ response strategies to criticism are addressed (4.3). Additional frequency tables of the constructs for each activity group can be found in the appendix.

4.1. Profile characteristics

The number of fans on the profiles ranged from 11 567 to more than 7,6 million when starting analysis. During the month of analysis this number increased by a minimum of 107 (Granini) up to a maximum of 465 603 fans (Porsche). A correlation analysis showed that profiles with a higher number of fans in the beginning of analysis also had a higher increase in the number of fans during the month (r=0,73; p=0,00; n=43[1]). This could be a result of Facebook´s networking power. A strong correlation of the number of fans with activity of the company was only found for the high activity group (r=0,87; p=0,00; n=15). In the medium activity group the number of fans significantly correlated with the number of posts by companies but not with the overall activity, although this correlation was mediocre (r=0,54; p=0,05, n=14). Table 2 below shows that the profiles with the most fans were to be found in the low and medium activity group.

Table 2: Distribution of number of fans by level of activity

	Min	Max	Average	Std. deviation
Low	13700	7663985	809198	2111477,90
Medium	11567	7311445	594144	1934276,63
High	12677	1014492	226977	260529,19

The activity on the profiles (posts and comments of the company) ranged from 6 to 705. The low activity profiles showed low numbers in both posts and comments. The medium and high activity profiles on the contrary only differed in the number of comments. The values are summarized in table 3 below. The medium and high activity group both showed an average of 23 to 24 posts. The means of comments, however, were far apart from each other with 22,86 in the medium group and 114,60 in the high group. The very high average of the high activity group is partly due to one brand (with 651 comments) which caused the enormous standard deviation of 151,89. But even when excluding this brand the average was found to be 76,29 (SD=33,63) which is more than three times higher than that of the medium group. The high activity profiles were, hence, characterized by a lot of interactivity with their fans. They reacted much more to fan input than the other two groups, whereas they were on the same level with the medium group regarding information sharing (posts).

[1] One profile disappeared after the third week of analysis.

The low activity profiles neither shared much information nor did they interact much with their up to 7,6 million fans.

The fan activity (posts and comments by fans) was also highest in the group with high company activity. This was the only time a correlation was found between company and fan activity (r= 0,80; p=0,00; n=15). The fan activity in the low company activity group was on average higher (*M*=679,27; *SD*=1073,82) than in the medium group (*M*=286,07; *SD*=213,59). A connection between the variables in those groups was not found. The standard deviations, however, also show that there were big differences between the profiles within a group.

Table 3: Comparisons of activity type by activity level

		Min	Max	Average	Std. deviation
Post	Low	2	28	11,67	6,58
	Medium	9	46	23,36	11,99
	High	9	54	23,87	11,56
Comment	Low	1	25	9,87	6,78
	Medium	0	39	22,86	12,87
	High	28	651	114,60	151,89

4.2. Criticism

In total, a number of 669 user-generated critical comments were found on all profiles within the four-week period of analysis. Most issues were service- (253) and/or product-related (226). In 182 cases criticism addressed general business topics. The number of critical comments was countered by 10056 positive comments and posts by fans. Table 4 shows the distribution of positive and negative input between the groups.

Table 4: Distribution of positive and negative input between groups

	Negative Input	Positive Input
Low (n=15)	92	4452
Medium (n=14)	60	1021
High (n=15)	517	4583
Total (n=44)	669	10056

The high company activity group had the highest number of both positive and negative input. Only three brand profiles of the high activity group generated 322 negative posts and comments which accounted for 48% of the total. The chi-square analysis did not show a significant difference between groups and negative input (chi-square=43,45; df=40; p=0,33) and positive input (chi-square=83,95; df=78 p=0,30).The correlation analysis, however, showed a strong connection of negative input and company activity for the high activity group (r=0,87, p=0,00; n=15). The driving force for this connection were the company comments (r=0,87; p=0,00; n=15). An additional regression analysis confirmed that the number of company comments were a strong predictor of negative input with 75,7% (p=0,00).The correlation analysis between company posts and negative input was also significant but only mediocre strong (r=0,59; p=0,02; n=15). The correlation analysis for

company activity and positive input, on the contrary, was not significant (r=0,14; p=0,62; n=15). Results of the correlation analysis are shown in table 5 below.

Noticeable was also the high number of positive input in the low company activity group. Here, a significant correlation was found for positive input and company posts (r=,61; p=0,02; n=15) but not for total company activity and comments by company. Within the medium activity group were no significant correlations with negative and positive input.

Table: 5: Correlation coefficients (r) for activity type and positive/negative input

		Negative Input	Positive Input
Low (n=15)	Post	,045	,610*
	Comment	-,328	-,165
Medium (n=14)	Post	,017	,020
	Comment	,123	,001
High (n=15)	Post	,592	,090
	Comment	,870**	,140

*p<0,05; **p<0,01

The criticism itself was in two thirds of the cases expressed in posts rather than comments. Reasons for this could have been that the criticism did not address the topics provided in company posts and/or because a post is better visible than a comment. Company posts sometimes got more than 500 comments in a short amount of time in which criticism could potentially be overseen whereas user-generated posts take more space on a profile which makes it more visible.

The language in which the criticism was expressed was 96,4% informal and abusive language was rarely used (only in 3,9% of the cases). Only few fans made use of the visualization possibilities Facebook provides like sharing links, photos and videos. In only 25 of the 669 cases fans used links, photos or videos to substantiate their complaints. Also, in most cases name and picture appeared to be real. In only 11,8% a nickname was used and in 31,1% the picture did not show a person. No relation could be found between the nature of criticism, abusive language and the absence of the real name and/or picture either.

4.3. Crisis communication

The analysis revealed that the response strategies denial, diminish, rebuild and reinforce altogether were used in 23,6% of all cases. It showed that companies more frequently either ignored criticism (42,5%) or reacted indistinctive from the response strategies (33,9%). Indistinctive responses most often meant either simply asking for more information or telling the fan to contact the company through another channel. To compare the response strategies which were used by each activity group, the four response strategies denial, diminish, rebuild and reinforce were grouped as *prevalent strategies* and compared with *ignore* and *indistinctive* options. A chi-square analysis uncovered a significant difference between those three response strategies (chi-square=37,27; df=4; p=0,00). However, the high activity group was over-represented with 517 of the 669 cases. Table 6 shows the values and percentages of response strategies used in each of the three activity groups. It

showed that the profiles with low activity ignored criticism more often than the other two groups did (67,4% of the cases). The medium group on the contrary made most use of the prevalent strategies (40,0%). The high activity profiles, however, used the prevalent response strategies in only 22,8% of the cases. They made almost equally use of ignoring the criticism (39,7%) or reacting in an *indistinctive* way (37,5%).

Table 6: Differences in response to criticism by activity group

	Level of Company Activity							
	Low (n=15)		**Medium** (n=14)		**High** (n=15)		**Total**	
Prevalent strategies	16	17,3%	24	40,0%	118	22,8%	150	23,6%
Ignore	62	67,4%	17	28,3%	205	39,7%	284	42,5%
Indistinctive	14	15,2%	19	31,7%	194	37,5%	227	33,9%
Total	92	100,0%	60	100,0%	517	100,0%	669	100,0%

The comparison of response strategies by nature of criticism revealed that general business-related criticism was most often ignored (74,2%) and the prevalent strategies were used in only 10,4% of the cases. Regarding the product-related criticism the responses were balanced. Within prevalent strategies denial and rebuild were used the most. The reinforce response on the other hand was used only once. Companies mostly reacted with an indistinctive response (50,2%) to services-related criticism followed by the prevalent response strategies in 26,1% of the cases (which accounts for 16,6% the rebuild response). A chi-square analysis confirmed significant differences between response strategy and nature of criticism (chi-square=127,18; df=10; p=0,00).Table 7 summarizes these findings.

Table 7: Comparison of response strategies by nature of criticism

Response strategies		**Product**		**Service**		**Business**		**Indistinctive**	
		N	%	N	%	N	%	N	%
Prevalent strategies		66	29,1%	66	26,1%	19	10,4%	23	26,8%
	Denial	31	13,7%	15	5,9%	14	7,7%	16	18,6%
	Diminish	7	3,1%	9	3,6%	4	2,2%	4	4,7%
	Rebuild	27	11,9%	42	16,6%	1	0,5%	3	3,5%
	Reinforce	1	0,4%	0	0	0	0	0	0
Ignore		77	34,1%	60	23,7%	135	74,2%	35	40,7%
Indistinctive		83	36,7%	127	50,2%	28	15,4%	28	32,6%
Total		226	100,0%	253	100,0%	182	100,0%	86	100,0%

The language of the response went in line with the language used for criticism and was mostly informal. In 54,8% of the cases a name or nickname of the spokesperson was provided. This number was, however, only accomplished because the brands with most criticism (n=322) indicated a name. Those were all in the high activity group. Divided by groups it showed that in about 90% of the cases in the low and medium activity group no spokesperson was indicated. A connection between the indication of a spokesperson and the number of negative input could, thus, not be found. Regarding the time, it showed that brands usually responded the same day or one day later (86,5%). Longer intervals were rare and occurred noticeably often during weekends so that it was assumed that most sites were not supervised over the weekend.

In 55,2% of the cases the response went along with instructing information. In only 25% of the cases adjusting information was provided. Just as the fans, the brand did not make much use of photos or videos in their response. Merely links were used more often (21,6%). Noticeably, in more than 80% of the cases instructing information came along with a change in channel. This implied that the instructing information that was given by the company instructed criticizers to switch to another channel (e.g. email). Further it provided an explanation for the many indistinctive responses. It seemed that from a company perspective, many times, Facebook was not the suitable channel to solve problems (which could have been the reason for the little use of the prevalent response strategies). This could have been either due to the fact that all input on Facebook is public or because of internal business structures. The comparison of channel change by nature of criticism and level of activity in table 8 indicated it to be both. The channel was more often changed when products or services were criticized rather than general business practices. This might have been due to the fact that the social media teams which supervised the profiles were not simultaneously the customer service, hence, did not have the knowhow to reply to that kind of criticism. This would have urged them to consult customer service. To still be able to respond fast, which is necessary on Facebook, profile administrators might have forwarded the criticizer to another channel (possibly the customer service) where the problem could be solved. This in turn would have had the advantage that the discussion was no longer public and made them win time. Though this reasoning is hypothetical, the strong differences in channel change between general business-related criticism and product- and service-related criticism leads to the assumption that there was an underlying strategy. The business-related criticism might have been rather discussed on Facebook because it did not address individual cases like product- and service-related criticism. Defending the business practices, therefore, might have been easier. A chi-square analysis revealed a strong significance for the differences between nature of criticism and channel change (chi-square=67,394; df=5; p=0,000).

Table 8: Conversation channel change by nature of criticism and level of activity

Nature Criticism	**Level of Activity (n = cases of criticism)**	**Change conversation channel?**			
		No		Yes	
Product	All (n=149)	64	43,0%	85	57,0%
	Low (n=11)	3	27,3%	8	72,7%
	Medium (n=17)	8	47,1%	9	52,9%
	High (n=121)	53	43,8%	68	56,2%
Service	All (n=193)	66	34,2%	127	65,8%
	Low (n=12)	5	41,7%	7	58,3%
	Medium (n=16)	7	43,8%	9	56,3%
	High (n=165)	54	32,7%	111	67,3%
Business	All (n=45)	40	88,9%	5	11,1%
	Low (n=8)	7	87,5%	1	12,5%
	Medium (n=7)	7	100,0%	0	0,0%
	High (n=30)	26	86,7%	4	13,3%

5. Conclusion and Discussion

5.1. Conclusion

The research gives insight into the different levels of activity of companies on Facebook and how it correlated with the number of negative input and crisis communication. The research questions addressed the extent of information sharing and interactivity to define a company´s level of activity, the extent to which the difference in interactivity between the activity groups correlates with the number of negative user-generated input, the difference in response strategies based on the level of activity and the influence of the nature of criticism on the response strategy.

A distinction was made between three different levels of activity. The measurement of activity in terms of information sharing (post) and interactivity (comment) proved to be very valuable in this research as it distinguished companies using a rather functional interactivity approach from those with an emphasizing contingency interactivity approach (as described by Rafaeli & Ariel, 2007). Addressing the first research sub-question, it was found that information sharing and interactivity both play a role to determine a company's level of activity but interactivity showed to be more decisive. Whereas the low activity group was characterized by little information sharing and little interactivity, companies with a medium activity level shared much information but lacked interactivity. The high activity group, on the contrary, made just as much use of information sharing as the medium group but was the only group which made use of interactivity features.

Regarding the number of negative user-generated content on profiles with different company activity (the second research sub-question) this research found that the high activity group, which made frequent use of information sharing as well as interactivity, received more negative input than the other two groups. Especially interactivity was found to be a strong predictor for the number of negative input on a profile. It can therefore be concluded that the level of interactivity statistically influences the number of negative user-generated input, however, only if it is frequently used like in the high activity group of this research. Contrarily to this finding, it was also found that when the level of activity of a company was high, company activity correlated with the number of fans of the profile and fan activity which is a rather positive outcome of interactivity.

Addressing the third research sub-question, the results of the study indicated that the prevalent response strategies denial, diminish, rebuild and reinforce were utilized less often (24%) than ignoring criticism (43%) or responding in an indistinctive way (40%; mainly asking for more information and redirecting to another channel). The study revealed significant differences in the response strategies of companies in the low, medium and high activity group. Companies with low activity reacted accordingly and ignored criticism in most of the cases (67%). The medium group on the contrary reacted to 70% of their criticism with either a prevalent response strategy or in a way that was indistinctive from those. The high activity group used the ignore option and indistinctive response strategies alike and made less use of the prevalent response strategies. The comparison of the response strategy with the nature of criticism, concerning research sub-question four,

revealed that general-business-related criticism was ignored the most, in three of four cases. An explanation for this is not apparent. Reasons could be that they simply did not see the necessity to respond or they wanted to avoid discussions about those topics on Facebook. However, when companies responded to the criticism, they discussed it to 90% publicly without trying to switch to a more private channel. The comparison of response strategy and product- and service-related criticism did not reveal meaningful differences. Contrary to business-related criticism, more than 50% to 60% of the crisis responses regarding product- and service-related criticism requested the user to contact the company through another channel (mostly email or phone). This means that criticism which concerns products or services is rather not discussed or cannot be discussed publicly which suggests that Facebook is less suitable for dealing with this kind of criticism.

In summary and with regard to the main research question it was found that the activity level of companies influenced both, the number of negative user-generated input and companies response strategies to it. Only one group really made use of interactivity and this interactivity also correlated to the number of negative user-generated input. Different approaches to response strategies were used depending on the different activity groups and the nature of criticism.

5.2. Discussion

This study extended the knowledge of earlier research on companies' activities and crisis communication on social media in several ways. It gave actual insight in the statistical influence of companies´ Facebook activities on outcomes concerning crises and crisis communication and was the first research that actually identified different levels of activities of companies on Facebook. Based on the findings of the different levels and their statistical influence it becomes clear that companies should not just be advised to be active when using social media like Kaplan & Haenlein (2010) did, but that companies should approach it strategically. Especially interactivity (which was only frequently used by high activity profiles) was found to be the driving force for positive and negative outcomes. In the sense of interactivity, the statement by Kaplan & Haenlein (2010) that companies need to be active to build relationships to stakeholders can be confirmed. However, information sharing contributes far less to this than interactivity. Interactivity, therefore, deserves extra attention with regard to crises and crisis communication.

The correlation of the number of negative user-generated input with interactivity in the high activity group could have been the result of successful relationship building. This finding reflects Kelleher´s (2009) findings that stakeholders see the organizations as more human and committed in maintaining a good relationship when using social media for a response to crises. A negative outcome which can be concluded based on the findings of this research, is that a more human and committed perception of the company might have encouraged stakeholders to vent their anger more often on sites with more interactivity. This implies that interactivity effects the stakeholders perception of the companies as being open and human but results in

more biased outcomes, namely more negative input on the one hand but also more fans and fan activity on the other hand.

The finding that more criticism is expressed on profiles with a higher degree of interactivity is an indication for social media´s abilities for emotional venting and support described by Jin and Fisher Liu (2010). Against their proposition and measured on the number of negative input, this research showed that the ability to fulfill emotional needs could turn out rather disadvantageous for companies facing crisis situations. The higher the number of negative input, the more difficult will it be for companies to keep track and to respond to it. Yet again it proves interactivity to be a powerful tool.

Considering the usage of social media in times of crises this research confirms the findings of Paul (2001) that people like to turn to interactive media rather than static ones because of their need to discuss the situation at hand with others. This gives also an indication that interactive media are perceived to be more helpful in reducing uncertainty as proposed by Procopio and Procopio (2007). Although the criticism about companies´ products, services or general business strategies is rather negative for companies, stakeholders' complaint on Facebook could still indicate that the overall organization is seen as open for stakeholders' opinions. Additionally, the interactive behavior of companies could have influenced the perception of stakeholders to communicate on eye-level because the company actually reacted to stakeholder input.

Regarding the response strategies and the nature of criticism this research could neither confirm nor deny that the same response strategy can bring out different crisis outcomes depending on the different forms of communication as argued by Yang et al. (2010). However, the findings that the prevalent response strategies were only in 25% applied on Facebook and that the communication channel was very often changed to email or phone suggest that the channel characteristics might constrain the usage of the prevalent response strategies. Landau (2011) described immediacy, availability and ubiquitously as very powerful tools of social media for crisis communication. After this research it could be assumed that these factors make a crisis response more difficult for companies. Availability and ubiquitously make content public to everyone. This restrains the exchange of personal information which might be needed to solve a problem because neither the personal information of stakeholders nor that of employees should be transmitted publicly on Facebook due to privacy protection. Also the availability of this medium attracts criticism which is usually solved at other places as for example the companies´ customer service since most criticism was found to be either product- or service-related. Additionally, even though this research showed that when companies responded to criticism they mostly did so within the same day or one day later, the need for immediacy might not give the company sufficient time to take a detailed look at the situation. Indistinctive response strategies or ignoring criticism might have been the result of this. This indicates that the characteristics of social media theoretically offer promising opportunities but that the practice is rather difficult.

The results of this study connect to the finding that Facebook is a medium with a high level of self-presentation. With regard to this, the use of interactivity on social media in crisis situations seems to be helpful to paint a positive picture of the company in terms of openness. However, it can be concluded that the unique characteristics of social media may also stand in the way of company responses as for example with regard to privacy protection of both criticizers and employees and limited time to address the problem. In dependence of Kerkhof et al. (2011) the results, therefore, indicate that social media should not be considered as a miracle cure to crises and neither as a major threat for their occurrence. It showed to only be effective with a high degree of interactivity which comes with both positive and negative outcomes.

6.2. Future research

Future researchers should identify characteristics of companies which are more or less active on social media. Although this research could identify different levels of activity between organizations it could not give an explanation why some companies use it more than others. There was no indication in this study that a certain branch or company size is more or less active than the other. Even though sampling companies from a variety of branches was a strength of this research, different ways of sampling could be used in which more attention is paid to the characteristics of the companies as for example the position in image-rankings, the transaction volume or even the country of origin. This might give more insight in how different companies approach their level of activity on social media.

The activities of companies on social media should also be further defined. This study was based on the amount of company-generated input. A closer look should be taken at the content of this input because it could closer identify the purpose of the profile which could then also be related to the number of positive and negative user-generated input. Though it was not investigated in this research, company-input addressed a great variety of topics (e.g. raffles, company projects, corporate social responsibility, recruiting, holidays and product commercials). Content-analysis was found to be a very suitable method for this kind of research, however, it should be considered to turn to a more software-based analysis for this as it is very time consuming when done manually.

The research revealed many presumptions about the genesis of the results because quantitative research can only give insight to a certain extend. As a next step a rather qualitative research should reveal the decision-making process of practitioners to respond to criticism in a certain way in order to gain insight whether the matter really is strategically approached and which challenges they face in practice. It should also be addressed where the social media team is located within the companies´ structure and whether the usage of social media channels changed intra-company structures because during this research much criticism was found that would usually have to be solved by customer services.

Another possibility for future research is to further reveal what stakeholders expect from the social media presence of companies and relate it to the questions why they turn to social media to express their criticism and whether they have different expectancies about the companies crisis response compared to

traditional media. This might also give more insight, how social media fulfill emotional needs of stakeholders. For this it might also be considered to compare different types of social media such as Facebook, Twitter, and blogs.

6.3. Practical implications for companies

The results of this research imply that the level of activity on social media, particularly on Facebook, needs to be strategically addressed by companies as it showed to correlate with the number of negative user-generated input. The correlation of high company activity with negative user-generated input should not discourage companies to choose their level of activity based on the goal of their social media presence. Through the results of this research, companies are merely advised to be aware of the risk to face more user-generated criticism and the need to meet basic requirements to handle them which includes workforce to supervise the profiles and know-how regarding the response to criticism. So if the goal contains relationship building with stakeholders a high level of interactivity is needed, whereas pure brand awareness could already be reached with a low level of activity. The research showed that even profiles with more than 7 million fans were assigned to the low company activity group. This could be ascribed to the networking power of Facebook since this study found a correlation between the number of fans and the fan raise. Seemingly, those fans can already be attracted with little company activity.

The group differences regarding the use of response strategies suggest a strategic approach to responsiveness which could depend on both, the nature of criticism and the amount of criticism. The high activity group for example received more than ten times as much criticism as the medium group which might have led them to ignore criticism more often or respond in a standardized (indistinctive) way. Reversely, the medium group received the lowest amount of criticism and responded to most of it with the prevalent response strategies (40%) or alternatively in an indistinctive way (32%).

The majority of the user-generated criticism was nevertheless found to be product- and/or service-related and for those it was found that in more than half the cases the channel was changed. These results imply that Facebook might not be the best channel to reply to criticism of this kind. A reason for this could be that it is closer related to individual experiences so that confidential information would be needed to further address the criticism which cannot be transmitted publicly on Facebook. A second reason could be that the supervisors of the profiles were usually located in the communications department of companies rather than the customer service. This would demand coordination processes within the company. To respond to users with the request to express their complaint elsewhere can therefore be regarded as a necessary strategic step of companies because it guarantees the possibility of an immediate reply and prevents the Facebook profile from taking the role of the customer service.

It is recommended that companies strategically approach their response to criticism in two directions, (1) which impression would a response give stakeholders about the function of the channel and (2) which

impression would a response give stakeholders about the company. If the response to criticism is only relevant for a specific person in a specific situation it might be advantageous to either ignore it or to forward the person to whomever is responsible for those sorts of complaints within the company. Companies should ponder if a response would meet the goals of their social media presence or if it would give stakeholders a wrong impression of the channel (e.g. customer service). If the response would be relevant to more people, the company might rather benefit from using a prevalent response strategy and use it to make a good impression of the company in general and the social media presence.

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Appendices

A – Companies of the sample divided into activity groups

LOW	MEDIUM	HIGH
Adidas	Deutsche Bank	Nivea
BMW	Persil	SAP
Krombacher	Wella	Haribo
Porsche	Montblanc	Kühne
Granini	Jägermeister	Tui
Nero	Puma	Ritter Sport
Henkel	BrAun	Warsteiner
Faber-Castell	BASF	REWE
Florena	Tom Tailor	Deutsche Telekom
Bitburger	Dr. Oetker	Opel
Bayer	Escada	VW
Schwarzkopf	Fa	Real
Allianz	Jacobs	Tchibo
Knorr	Praktiker	Audi
AEG		Lidl

B – Reliability

Quantitative Variables	Correlatie (r)
Posts by Company	1,000**
Comments by Company	1,000**
Post by Fans	1,000**
Comments by Fans	1,000**
Positive Input	1,000**
Negative Input	1,000**

**p<0,01

Qualitative Variables	Cohen´s kappa
Nature of Criticism - Product	0,954
Nature of Criticism - Service	1,000
Nature of Criticism - Business	1,000
Nature of Criticism - Indistinctive	0,954
Name Fan	0,915
Picture Fan	1,000
Language Fan (abusive)	0,903
Visualization	1,000
Response Strategy	0,985
Language Response (formal/Informal)	0,932
Spokesperson Response	1,000
Immediacy	0,972
Adjusting Information	0,955
Instructing Information	1,000
New Media Tactic	0,738
End Conversation Channel	0,967

C – Frequency tables for each level of activity

LOW (N=15)	**Minimum**	**Maximum**	**Mean**	**Standard deviation**
Fans	13700	7663985	809197,87	2111477,90
Fan Raise	107	465603	55642,53	139543,823
Company Activity	6	34	21,53	9,08
Posts by Company	2	28	11,67	6,58
Comments by Company	1	25	9,87	6,78
Fan Activity	23	3505	679,27	1073,822
Post by Fans	0	524	97,47	165,20
Comments by Fans	3	3035	581,80	936,20
Positive Input	0	2603	296,80	701,10
Negative Input	0	20	6,13	6,42
Product	0	8	2,00	2,36
Service	0	7	1,53	2,17
Business	0	17	2,80	5,10
Indistinctive	0	3	0,53	1,13

MEDIUM (N=14)	**Minimum**	**Maximum**	**Mean**	**Standard deviation**
Fans	11567	7311445	594144,07	1934276,63
Fan Raise	127	97451	11933,64	25160,42
Company Activity	38	59	46,21	6,27
Posts by Company	9	46	23,36	11,99
Comments by Company	0	39	22,86	12,87
Fan Activity	53	909	286,07	213,59
Post by Fans	0	88	30,79	24,22
Comments by Fans	49	909	255,29	217,96
Positive Input	6	134	72,93	52,17
Negative Input	0	12	4,29	3,97
Product	0	6	1,43	1,91
Service	0	9	1,50	2,68
Business	0	8	1,21	2,33
Indistinctive	0	3	0,57	0,94

HIGH (N=15)	**Minimum**	**Maximum**	**Mean**	**Standard deviation**
Fans	12677	1014492	226976,80	260529,19
Fan Raise	416	36013	13008,73	11650,71
Company Activity	64	705	138,47	160,11
Posts by Company	9	54	23,87	11,56
Comments by Company	28	651	114,60	151,89
Fan Activity	241	4564	1152,07	1260,08
Post by Fans	56	580	190,07	173,79
Comments by Fans	99	4021	962,00	1100,66
Positive Input	13	1280	305,53	394,42
Negative Input	3	165	34,47	43,28
Product	1	36	11,73	12,26
Service	0	68	13,93	18,65
Business	0	61	8,20	16,42
Indistinctive	0	19	4,67	4,66