What makes them social? – An analysis of the influence of organizational factors on business social media adoption

Master Thesis

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Abstract

This thesis focuses on the impact of organizational factors on the adoption of social media in businesses. To investigate the potential relationship, the size of an organization represented by revenue and number of employees, its industry as well as its B2B/B2C focus were chosen as organizational factors. The presence of a social media profile, the frequency of updates and the presence or lack of a dialogic loop with customers on social media were used as indicators for the level of social media adoption. By analyzing the social media profiles of two hundred German companies and relating the results to the organizational factors mentioned above, an attempt at finding statistically significant relationships was made. The results of the analysis showed no statistically significant relationship between the size of a company and social media adoption. As for the influence of the company's industry, only partial hints at an influence could be found, so the overall hypothesis had to be rejected. Finally, a statistically significant relationship between the b2b / b2c focus of a company and social media adoption was found.
This study contributes to scientific research focused on social media to a degree that it builds up on previous research and represents an attempt at investigating influencing factors in a field that is a highly relevant trend these days that is so recent that is has not been the focus of extensive research. Opportunities for further research in this respect are presented in the discussion part of this thesis.

Keywords: social media, business social media adoption, corporate communications

Introduction & Research objectives

Post, share, like – all these verbs have become a part of our lives and have changed the way we interact with each other. Within a matter of years, social media has turned into a worldwide phenomenon. Besides having impacted people's private lives, it has also led to a situation in which companies increasingly feel the need to take part in it and present themselves across various social media channels. According to Pan & Xu (2009), in order to be able to survive in a competitive market, companies have to effectively make use of the Internet when it comes to public relations. After all, it has never been easier to turn people into ambassadors that spread the word about brands, products and services as in the online age (Oracle, 2012). With the development of social media, the nature of corporate communication has changed drastically and so has increased the pace of management. While in former times, the organization had full control of what kind of information was published to the stakeholders (Mangold & Faulds, 2009), nowadays individuals possess the power to spread their opinions about companies to the public, be it of positive or negative kind, a dynamic process that – to use the opportunities and avoid the dangers – calls for new marketing approaches taking into

account "why consumers are attracted to these new media and how they influence consumers' affect and behavior" (Hennig-Thurau et al, 2010). Today, management has to react fast and listen to individuals they would not have "wasted" a thought on before because now everyone has a voice and even the smallest voice can turn into a movement with the help of social media as a facilitator.

In connection with this development it can be observed that the degree to which companies commit themselves to social media varies greatly. While some businesses live the social message and put great effort and resources into social media, others do not appear to prioritize the topic or do not know how to effectively use their already existing social media presence (Divol et al, 2012). Kaplan & Haenlein (2010) observe that "not overly many firms seem to act comfortably in a world where consumers can speak so freely with each other". In this situation, it is interesting to look at how social media adoption varies among companies of different nature. Thus this thesis that builds on previous research conducted in the field of non-governmental organizations (Nah & Saxton, 2013), aims at investigating the role of company factors – company size, the businesses-to-business / business-to-consumer focus as well as industry – to determine which of those factors are significant for the social media adoption of companies. Though social media literature offers information on how these factors can influence adoption, however, empirical research looking at opposite "parties" (small vs. large, B2B vs. B2C, and different industries) remains scarce, giving this study an explorative character.

In the framework of this thesis the question which influencing factors drive social media adoption will be transferred to the field of commercial organizations. By analyzing the social media profiles of 201 German businesses ranging from small companies to major corporations, data will be collected to test the significance of the relationship between organizational factors and social media adoption. The research question can thus be formulated as follows:

Do organizational factors such as size, industry and B2B/B2C focus have a significant effect on a company's level of social media adoption?

Theoretical Background and Hypotheses

The emergence of social media has had a tremendous impact on the discipline of corporate communications and how companies nowadays talk and interact with their customers. This revolution provokes huge challenges for companies, which they deal with in very different ways. Due to the fast pace of the communications shift, the industry has been divided in two groups, namely the early adopters and those far behind in adopting the new technology (Matthews, 2010). A closer look at the

changed principles of corporate communications and customer interaction shall illustrate the increased demands companies have to deal with in the social media age and the relevance for all kinds of organizations to adapt to this development.

Corporate Communications & Customer Interaction

Corporate communications, defined by Van Riel (1995) as "an instrument of management by means of which all consciously used forms of internal and external communication are harmonized as effectively and efficiently as possible to create a favorable basis for relationships with groups upon which the company is dependent", is an issue that companies have been putting increased effort into in the past years. Cornelissen (2004) illustrates the view of the management world that nowadays the survival of a company essentially depends on the way it is perceived by the various key stakeholders. He names employees, investors, customers and consumers in general as examples of such internal and external stakeholders. Argenti (2007) seconds Cornelissen's theory of corporate communications gaining importance in recent years, stating that “every functional area at one time or another was the newest and most important. But as we enter the 21st century, the importance of communication is obvious to virtually everyone throughout the world”.

In the past, corporate communications was mostly one-sided, as within the traditional integrated marketing paradigm, the organizations themselves dictated the nature of their communications (Mangold & Faulds, 2009). Focusing on the communication targeted at the stakeholder group of customers, actions were based on the organizations' own assumptions of what their customers' needs were and the power remained on the company's side. Terms such as “customercentric” that have in the past years gained popularity among organizations were still widely disregarded (Bernoff & Li, 2008). Even information exchanges between consumers about companies or products that were beyond the companies' control did not have a big impact in most cases. The audience reached was simply too small and it usually took the support of parties like the media for customers to spread the word about e.g. company practices they did not agree with, for instance through a consumer boycott (Friedman, 1999). According to Argenti (2007), the nature of corporate communications has seen significant changes for a variety of reasons. Firstly, the technical advances of the internet age have made it possible for information to be sent around the globe in a matter of seconds. Besides that, the author sees a higher level of skepticism and more questioning of consumers with regards to company activities. Another aspect are the generally higher expectations of consumers concerning companies, for example when it comes to the service or design of an organization. Finally, Argenti (2007) states that the companies

themselves are increasingly getting bigger and thus more complex, making a coherent communication strategy all the more important.

Social media In the last few years, the field of social media has drastically reflected the rise in importance of corporate communications in society, which is underlined by McCorkindale & Distaso's (2013) statement that “social media has had a tremendous impact on corporate reputation as organizations are investing more time, money, and resources into engaging and managing relationships with various stakeholders”. Wright & Hinson's (2009) theory goes into a similar direction: ''It's an understatement to suggest that social media have had a huge impact on the practice of public relations since the first weblogs, or blogs, appeared more than a dozen years ago''.

While there is no commonly accepted definition of social media just yet, various authors have made attempts at describing the concept. Blackshaw & Nazzarro (2004) call social media ''a variety of new sources of online information that are created, initiated, circulated and used by consumer intent on educating each other about products, brands, services, personalities, and issues''. According to another definition by Kaplan & Haenlein (2010), 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''. Scott & Jacka (2011) define social media as the “set of web-based broadcast technologies that enable the democratization of content, giving people the ability to emerge from consumers of content to publishers”.

Due to the lack of a commonly accepted general definition of social media, which services exactly fall under the label is still a question of debate. Kaplan & Haenlein (2010) have, grounded on theories from the media research and social processes field, made a classification of social media types in six categories:

1. Collaborative projects (Wikipedia etc.)
2. Blogs and microblogs (Twitter etc.)
3. Content communities (Youtube etc.)
4. Social networking sites (Facebook etc.)
5. Virtual game worlds (World of Warcraft etc.)
6. Virtual social worlds (Second Life etc.)

Among businesses, blogs and microblogs as well as social networking sites are the most popular categories of social media. The results of a study initiated by the public relations and communications firm Burson-Marsteller (2011) show that European organizations often concentrate on one or two social media channels and that in Germany, Facebook and Twitter are the most popular ones to be used for corporate communications. This goes along with the findings of Herzog et al (2013), who observed

that Facebook and Twitter are the main social media networks that have gained popularity in the private sector in recent years.

Launched in 2004, Facebook was at first exclusively available for college students and aimed at simplifying social interaction among them (Pempek et al, 2009). After having created an own profile, users are e.g. able to connect with other people's (“friends”) profiles and post comments (Ellison et al, 2007). In 2006, the platform was opened for everyone as well as for commercial organizations who from then on were able to start company networks (Facebook 2006 & Smith, 2006). Finally, in November 2007, “Facebook Pages” was released, a feature that is – until today – central when it comes to corporate communications on Facebook, and allows companies to create ''free, customizable presences on Facebook'' (Facebook, 2008). On the so-called “Fan page” organizations can on the one hand present general information (e.g. mission, products, or opening hours) and on the other hand post updates that appear on the news sites of those Facebook users who have become a fan of that particular page, informing about e.g. the latest product release, outstanding employees or an interesting raffle. In addition to that, the user comment function allows users to post questions, statements or pictures on a page. Another central tool on Facebook is the ''Like'' button through which users can express that they like or agree on things that others have posted without having to specifically write anything.

Twitter is defined by Kaplan & Haenlein (2010) as “a micro blogging application that allows sending out short, text-based posts of 140 characters or less”. The social media channel that was launched in 2006 allows users to “follow” others in order to get a notification as soon as they post a new message (“Tweet”) (Jansen et al, 2009). Tweets can either be directed at a specific Twitter account (''*@Account_X''*) or just serve as a general message to the whole audience. It is further possible to forward tweets of others to the own network of followers by ''re-tweeting'' the message. Similar to Facebook, Twitter contains a ''like'' function, which is called ''Favorite'' in this case. A study by Jansen et al (2009) rates microblogging as a good tool for companies to manage their brand and customer relationships.

Corporate communications in the social media age Gupta (2013) explains that “social media differs from traditional media such as newspapers in its ability to allow for spontaneous and easy two-way or multiple-way interaction”. By having the possibility of interacting in multiple ways, customers who are active on social media platforms can now easily spread the word about a company to thousands of users and possibly influence their opinion (Mangold & Faulds, 2009). Constantinides et al (2008) state that social media has ''given consumers much more control, power and information over the market process''. Kietzmann et al (2011) see

a democratization of corporate communications through social media, a shift of power from marketing and PR representatives to individuals active on various online platforms. Many customers nowadays define "their own perspective on companies and brands, a view that's often at odds with the image a company wants to project" (Bernoff & Li, 2008). Thus, organizations now need "to talk with their customers, as opposed to talking at them" (Mangold & Faulds, 2009). The "two-sided corporate communications funnel" (**Figure 1**, own illustration) presented below has been created to illustrate the changing paradigm from one- to two-sided communication between organizations and consumers in the age of social media.

The very top part of the model shows the organization at the top level communicating downwards. In the classical sense of one-sided communication, organizations might have e.g. communicated a press release to all stakeholders and any potential feedback would have usually been limited to the organization as the sole recipient. Likewise, organizations might have communicated to a limited group, for example in the framework of a corporate event. Any feedback to the organization's communication would have normally stayed within that limited group. On an individual level, the organization might have communicated with a single customer, for example to respond to a service request. Even if the customers were dissatisfied with the service the company provided, in the ages of one-sided communication any complaints would have reached the organization and the individual customer's social circle, but the impact would have not gone beyond that. In the case of the three levels that were just mentioned, all of those borders might still have been crossed

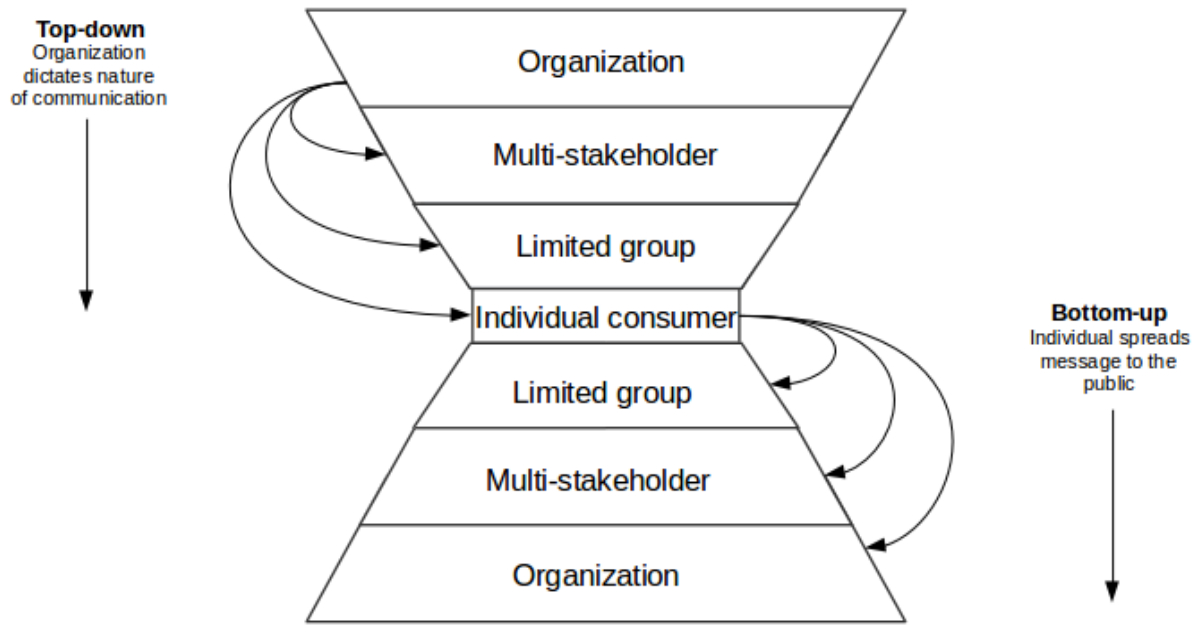

***Figure 1**: Two-sided corporate communications funnel (own illustration)*

and the according information might have become available to a variety of internal and external stakeholders of the company, but this would have taken a facilitator like the involvement of the media to happen (Friedman, 1999).

Now that multiple-way interaction has been made possible by the rise of the Internet and social media, feedback loops have become much more elaborate. If a customer has something to say to a company, they can still communicate directly with the organization and leave it to that. However, the individual can now also communicate any negative or positive feedback to bigger groups of people, for example by making it available on Internet forums. Since those forums might not always be publicly accessible, the group that receives the message will be limited, but this still gives people the opportunity to publicize their opinion about a company to multiple people they do not know personally. Finally, the individual now has the power to communicate directly to multiple stakeholders and the organization itself thanks to social media. On the one hand, this is a great opportunity for companies to receive valuable and direct customer feedback, but on the other hand it can also be an immense risk. While just a decade ago it might have been acceptable for a company to need its time to react on a customer complaint, nowadays it might take one comment on a social media profile that is either left totally unanswered by a company or answered with a standardized and insufficient statement to spark an online riot overnight. As McCorkindale & Distaso (2013) put it: “Reputation can be damaged in a matter of minutes, thanks to the community nature and rapid speed of information dissemination on social media.”

Social media adoption While social media can cause severe problems if criticism is not handled in the right way, it can bring enormous benefits in terms of knowledge creation. In the online age, knowledge can be generated through every single customer interaction, whereas in former times, this happened in a more controlled manner so that information could be stored in a structured and searchable database (Oracle, 2012). In the Oracle White Paper on the topic of social media it is further stated that in order to take advantage of the enhanced customer interaction, companies have to realize that thanks to social media, knowledge has become "highly contextualized". Thus, knowledge nowadays does not anymore exclusively consist of formalized content, which is why it needs the right people and strategy to translate and classify the information shared by consumers. This is confirmed by Schmidt (2012), who argues that many companies have difficulties in dealing with the recent changes if they stick to the traditional approach of leaving all social media issues exclusively to the communication department instead of making it a company-wide priority and assigning the respective experts to get involved. Kane et al

(2009) further see a necessity for "fresh skills, adaptive tactics, and a coherent strategy" in order to successfully manage the new challenges posed by the online community.

Taking a look at the state of social media adoption, a substantial rise in the last few years becomes visible. The “2014 Social Media Marketing Industry Report” (Stelzner, 2014) states that 92 percent of marketers rate social media as important for their businesses, compared to 86% in 2013 and 83 percent in 2012 (Stelzner, 2012). The focus of the majority of marketers with regard to social media according to Stelzner (2014) is placed on learning about the most effective tactics and how to best engage their audience. A research by Kolsky & Pombriant (2012) among German, Austrian and Swiss companies reveals that many organizations have adopted social media but do not yet take the maximum advantage of it. While companies were found to mostly engage in consumer-oriented channels like Facebook and Twitter – and largely missing out on utilizing corporate blogs and communities – a majority of organizations used the tools for spreading information. They, however, did not take the chance to collect customer input, though “listening and analyzing are two of the more important reasons for social media's existence and clear differentiators with older broadcast tools and methods” (Kolsky & Pombriant, 2012).

Though social media adoption is on the rise and regardless of what might happen “behind the scenes” in companies when it comes to different approaches on social media, when simply comparing different organizations' activities in social media, it quickly becomes clear to the observer that the general will to start social media activities and the degree of dedication and effort put into the topic social media still vary greatly. When browsing through the online profiles of companies, users will quickly come to the conclusion that there are great differences in the extent to which businesses are active in social media – quantity and quality-wise. Oftentimes they will see a situation in which a company publishes information to the community, but does not actively encourage a user dialogue (Divol et al, 2012). On the other hand, they might observe a different situation in which it is clear that interaction with the customer is a great priority and that the company follows a certain strategy in dealing with social media issues.

Since the online representation of companies can be so diverse, the question remains which organizational factors might affect companies to put great effort in maintaining an active social media representation and what might prevent others from doing so. Without doubt, there are numerous benefits for organizations with regard to being active in social media. Culnan et al (2010) list four main fields of value creation connected to the social media use of companies: customer loyalty and retention through the generated branding effect,

increased revenue through sales, cost savings through customer service as well as revenue through product development.

So why would businesses hesitate to tap into those seemingly great opportunities? Given the relative novelty of the phenomenon of social media in business use, little academic research has been conducted that goes beyond the analysis of the benefits and risks connected to the social media use of businesses. In the framework of this paper, an attempt will be made in building up on the limited previous research that has been carried out in the field to look into the question whether specific company factors have a significant influence of the level of companies' social media adoption.

Hypotheses

In this paper, the phenomenon of social media adoption for business use will be examined in relation with three different organizational factors – the company's size as represented by turnover and number of employees, the industry it operates in as well as its focus on either the B2C or B2B market. Those factors were chosen because previous research has linked them to corporate communications, which will be further explained below.

Company size According to findings by Damanpour (1992), there is a positive relationship between the size of an organization and innovation. Since social media is a very innovative field, one could assume that this might also mean that the bigger the company, the more likely it is to adopt social media for business use. A study concentrating on the factors that influence the social media adoption of organizations has been carried out in the non-profit field with one variable being the size of an organization with regards to the revenue it generates and the assets it possesses. Yeon et al (2005) have not found a significant relationship between revenue and the interactive communication of NGOs. Nah and Saxton (2013) confirmed this in their research focused on the social media adoption of nonprofits, stating that their study implied that “size does not represent a barrier to the employment of social media”.

However, research focusing on social media in the commercial context has led to different findings. Müller et al (2012) state that in smaller businesses, it is common that social media activities are carried out intuitively and without a clear strategy. Oftentimes, the need for online marketing activities is not even recognized (Müller et al, 2012). According to Constantinides (2009), there are not many small businesses to be found in the group of early adopters of social media. McKee (2013) seconds this and refers to the higher advertising budgets of bigger companies that give them the opportunity to invest in social media activities to a greater extent. Furthermore, Luoma and Goodstein (1999) found that with an increasing size, a company is likely to gain more attention from

especially the external stakeholders and may be forced to expand the social media presence. A study carried out by the German Association Bitkom (2012) shows that in Germany, 86 percent of the organizations with more than 500 employees have personnel explicitly assigned to conduct the company's social media activities, while this is only the case for 41 percent of the SMEs. Further, 63 percent of the bigger German companies use social media guidelines, compared to only 19 percent of the SMEs. The ongoing discussion on the significance of the influence of company size on social media adoption leads to the following hypothesis:

H1: The bigger the company, as defined by sales and number of employees, the more it will adopt to social media.

B2B/B2C Focus According to Michaelidou et al (2011), the relatively limited research that has been conducted on social media so far, still for the most part focuses on the business-to-consumer market. The results of a survey conducted by White Horse (2010) reveal that more B2B than B2C companies are present in social media, however, the latter show more activity. The B2C companies in the study were furthermore generally faster in adopting social media, as the particular interest of the B2B sector in engaging online developed as recently as around the year 2010 (Michaelidou et al, 2011). Another study conducted by Stelzner (2014) shows that "B2C marketers (77%) were much more likely to develop a loyal fan base through social media than B2B marketers (64%)". A reason for this observation could be the factors of the business-to-business sector observed by Kärkkäinen et al (2010), namely that there are fewer customers than in the business-to-consumer market (few large organizations versus many single consumers) with a more direct and intense communication between the organizations and extensive information about the products on the buyer's side. This is supported by a study of the University of St. Gallen (Rossmann, 2012), stating that B2B products often have an investment character and are not digitally transferable, leading to a need for interpersonal relationships with regard to the sales process. In addition, the majority of B2B companies in the study were observed to rely on passive strategies rather than an active dialogue. These organizations monitored the Social Web in order to identify relevant trends and problems with an emphasis on listening, learning and understanding, while B2C companies aimed at reaching a great audience and interacting with relevant user groups. Rossmann (2012) concludes that the social media strategies in the B2B sector still lack sophistication. Based on these results hinting at different ways with regards to how B2B and B2C companies approach social media, the second hypothesis can be formulated:

H2: Companies focusing on the business-to-consumer market will show a

higher level of social media adoption than their counterparts focusing on the business-to-business market.

Industry Statistics by vor dem Esche & Hennig-Thurau (2013) show the importance of social media information for consumer decision-making per industry. In the entertainment electronics industry, for instance, social media makes up for 6.7% of the consumers' buying decision, while the values are considerably lower for the automotive industry (5.6%) as well as for groceries (4.9%) or apparel (4.6%). In their study about the social devotion of industries and brands on Facebook, Socialbakers (2012) further found that there are considerable differences especially between industries with regards to response rates, with the telecom and airline industry at the top. It thus seems that in some industries it is more important for companies to be present and active on social media than in others. Consequently, one can assume that operating in different industries leads to different degrees of social media adoption, an assumption that is reflected by the third hypothesis:

H3: A company's level of social media adoption significantly depends on the industry it operates in.

Adoption criteria

When attempting to measure social media adoption, the question remains which criteria to use. Though there is no common definition of social media adoption yet, literature and the Internet provide information on useful measures. One of the first things that users notice when visiting a corporate Facebook or Twitter presence is the number of fans and followers respectively. As this figure as a potential indicator for social media performance is controversially discussed among experts, it will be excluded from the analysis. According to Donath (2013), the number of Facebook fans does not matter, because being a fan of a page does not necessarily mean that one supports the company in general or a particular product and actively engages on the Facebook page. This, however, is what makes a Facebook page vivid, e.g. liking post and posting own comments. It is also often the case that fans are generated through lotteries or other campaigns (Franke, 2012). A considerable part of these fans then supposedly have just liked the page for the purpose of winning something or for similar reasons, instead of having serious interest in the company. The same counts for Twitter, according to Batra (2010), a high number of followers is not relevant if these do not engage in any activities. Lambert (2013) supports this by stating that "unless your business has an enormous budget for earning thousands or even millions of fans, focusing on growing this category adds little value."

On the countless websites & blogs dealing with social media one can find

numerous indicators, companies can use to measure the success and effectiveness of their social media activities. In terms of Facebook and Twitter, these are for instance *Social Page Views* (number of people that have visited a Facebook page)*, Engagement rate* (number of likes and comments on Facebook divided by total number of fans) or *Re-tweet Rates* (number of re-tweets to own tweets on Twitter) (Gold, 2012). For a quantitative analysis in the framework of this thesis, these indicators, however, are not feasible as they are either based on data only accessible for the company itself, or data which is too extensive to collect for a sample of 200 companies. Thus, based on literature, the variables *social media presence, social media updates* and *customer interaction* have been identified, which will be further outlined below.

Social media presence & Social media updates Based on Nah and Saxton's (2013) previous research, the social media presence of companies will be used, defined by the presence of a Facebook and a Twitter profile. Another variable mentioned is the number of company updates (posts on Facebook and tweets on Twitter) that allows to identify the quantity of social media activity.

Customer interaction As described earlier, the nature of social media leads to a concept of two-sided communication instead of the traditional monologue of "classic" corporate communications (Constantinides et al, 2008; Mangold and Faulds, 2009). According to Constantinides (2009), social media can be made use of "as platforms of communication/promotion, customer interaction and customer feedback". Based on this concept, the social media profiles of the companies in the sample will be analyzed to define if customer interaction is generally made possible through the comment function and if it takes place, as well as if users get a reply after having posted a questions or feedback. This is what Kent and Taylor (1998) call the "dialogic loop", which "offers the organization the opportunity to respond to questions, concerns and problems". Furthermore, they state that the existence or non-existence of a dialogic loop is closely connected to whether feedback is processed and forwarded to the person or department in charge of the respective issue.

After analyzing the literature and on the basis of the hypotheses and adoption criteria, the following research model (**Figure 2**) was developed. It shows the variables to be part of the analysis, namely *Size*, *B2B/B2C Focus* and *Industry* as *Organizational Factors*, as well as *Social Media Adoption* represented by *Presence* (of Facebook and Twitter), *Number of Updates* and *Customer Interaction*. The single-sided arrows directed from *Organizational Factors* to *Social Media Adoption* illustrate the general underlying assumption the hypotheses have been grounded on, namely that the nature of an organization, in this case represented by size, industry and market focus effects the

degree to which companies engage in social media activities.

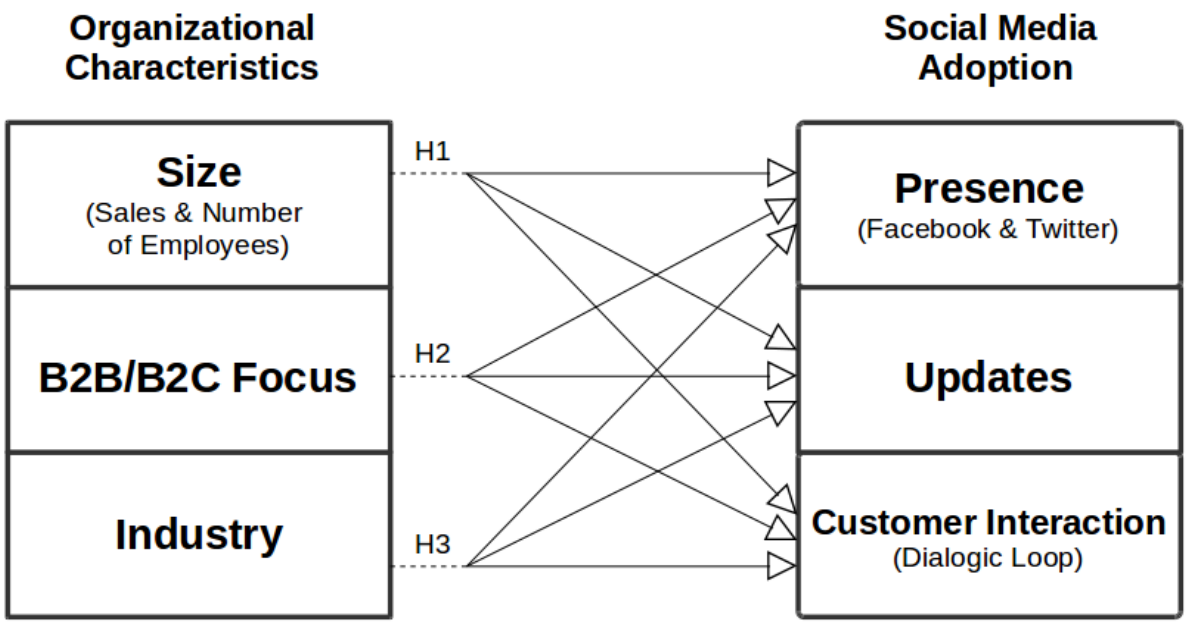

***Figure 2**: Research Model*

Methodology

The main part of this study is made up by a quantitative analysis aimed at testing the established hypotheses. The results of this quantitative analysis are enriched by a qualitative analysis in the form of six illustrative case studies to provide practical examples of the conclusions drawn from the quantitative part.

Sample

The sample comprises two lists of 203 companies in total. List A was published by a major German newspaper and contains the 100 highest turnover German-based companies of the year 2010 (Süddeutsche Zeitung, 2011). The organizations on the list are from various industries, with turnovers ranging from about 4,500 to 130,000 million Euros and the number of employees between 253 and 467,000 (see appendix). List B, on the other hand, officially contains the 100 most innovative German small and medium enterprises (SMEs) of the year 2013 selected by the initiative TOP 100 (2013). The list effectively features 103 companies, explaining the total sample size of 203. This particular sample of big and small organizations was chosen to be able to draw conclusions with regard to the "assets- social media nexus", as proposed by Nah & Saxton

(2013). The authors had previously restricted their research to large organizations and not looked at the differences of a wide range of organizational sizes. The decision to choose solely companies with headquarters (or at least subsidiaries) in Germany is based on the goal to make the results comparable and avoid bias due to different countries operated in.

A preliminary check of the sample revealed that one company has gone bankrupt since the lists were published and another one has been acquired. Thus, the number of organizations feasible for the analysis amounts to 201.

Data collection and measurement

Independent variables Data concerning the company factors Size, B2B/B2C Focus and Industry was derived either from the information provided in the two lists the sample consists of or from other publicly available sources.

Size is expressed by the variables *Sales* and *Number of Employees.* According to Daft (2010), the typical measure of size with regard to an organization is the number of employees, however, it can also be derived from the total sales or assets. For the TOP 100 companies, the sales were not presented in the list, thus they had to be collected through other sources, as for instance the governmental database Bundesanzeiger (2014), a website publishing annual financial statements of German SMEs. However, as SMEs in Germany are not obliged to make data like the profit and loss account publicly available, the database lacks sales figures for a number of companies. This explains the considerable smaller N with regard to the variable *Sales*. Figures concerning the number of employees were reported in full in both lists.

B2B/B2C Focus is defined by the concentration on the business-to-business or business-to-consumer market. This was figured out through the company- and product descriptions on the corporate websites. Naturally, many companies sell their products or services to both businesses and end consumers. In these cases, the market the company derives more revenue from was chosen. The variable *B2B/B2C Focus* is of categorical nature and expressed through numerical values with 0 = B2B and 1 = B2C.

Dealing with the variable Industry, the companies were classified into six groups, making it a categorical one. As the original industry classifications from the two lists were too numerous and overlapping, the organizations were assigned to the following main categories according to the "Industry Classification Benchmark" (FTSE, 2012) (with numerical values from 1 to 7): Basic Materials, Industrials, Consumer Goods, Health Care, Consumer Services, Technology

as well as Oil & Gas. To gain a stronger basis for testing if there are significant differences in social media adoption among industries, the categories had to be defined more widely than initially planned and merged, because otherwise the number of companies would have been too small. Additionally, 59 companies could not be classified, leaving a sample of 142 organizations in connection with this variable.

As a matter of fact, there are overlappings when it comes to the factors *B2B/B2C Focus* and *Industry*, because certain industries are, for instance, more of a business-to-business nature than others. In the framework of the data analysis, the correlation of the two independent variables will be further investigated to avoid multicollinearity.

Table 1 shows the independent variables and the respective numbers of valid cases together with the created labels and their distributions.

Variables	Labels and Distributions
Sales (n=127)	5.5 - 126,875 million €
# Employees (n=127)	28 - 467,088
Industry (n=127)	1 = Basic Materials (13) 2 = Industrials (45) 3 = Consumer Goods (11) 4 = Health Care (13) 5 = Consumer Services (28) 6 = Technology (2) 7 = Oil & Gas (15)
Business Sector (n=127)	0 = B2B (90) 1 = B2C (37)

Table 1: *Independent variables with labels and distributions*

Dependent variables One month of activity on the companies' social media profiles was analyzed for the purpose of gaining information on social media activity. Due to the fact that the analysis was started in December 2013, the actual period chosen for practical reasons is November 1st to 30th, 2013. The social media profiles of the companies were analyzed with a focus on the three different dimensions chosen to define the level of social media activity. The variables and the kind of measurement regarding the degree of social media adoption for the most part conform to the research of Nah & Saxton (2013), who, as mentioned earlier, have looked into the factors driving organizational adoption and use of social media, in this case taking a sample of nonprofit organizations. While the authors created nine different dependent variables, this analysis was limited to eight variables (or models, as Nah & Saxton (2013) also called them). This is caused by a different focus of the dimension Customer Interaction.

Social Media Presence was defined by the existence of a Facebook and Twitter account (*Facebook Presence* & *Twitter Presence*) as binary variables (0,1) with 1 = "Facebook/Twitter presence" and 0 = "No Facebook/Twitter presence".

In addition, *Social Media Presence* was measured as an ordinal categorical variable with 0 = "Neither Facebook nor Twitter Presence", 1 = "Either Facebook or Twitter

Presence" and 2 = "Both Facebook and Twitter Presence". The concrete numbers for each variable are presented in Table 2. Those companies that are only operating international Facebook or Twitter pages were excluded from the analysis, as taking those into account would lead to biased results because of a naturally higher traffic than on a page directed only at the German customers.

The dimension Frequency of Social Media Updates was measured by counting the status updates posted on the companies' Facebook and Twitter profiles within one month. This led to total numerical scores for the variables *Number of Facebook Updates* and *Number of Twitter Updates.* Both variables together resulted in the third variable *Number of Social Media Updates*, which is the number of Facebook and Twitter updates added up.

Customer Interaction was measured with the existence of a dialogic loop (*Dialogic Loop on Facebook & Dialogic Loop on Twitter*) expressed through binary variables (0,1) with 1 = "Dialogic Loop" and 0 = "No Dialogic Loop" on Facebook and Twitter respectively. In many cases, it was not possible to identify the existence or nonexistence of a dialogic loop because there were no user comments or tweets the company could have replied to. This explains the small number of valid cases for these two variables (see Table 2).

The dependent variables and valid cases from the sample, as well as the labels and distributions, are presented in **Table 2**.

Facebook Presence (n=127)	1 = yes (70) 0 = no (57)
Twitter Presence (n=127)	1 = yes (67) 0 = no (60)
Social Media Presence (n=127)	0 = Neither/nor (39) 1 = Either/or (39) 2 = Both (49)
Number of Facebook Updates (n=70)	0 - 57
Number of Twitter Updates (n=67)	0 - 101
Number of Social Media Updates (n=)	0 - 101
Dialogic Loop on Facebook (n=65)	1 = yes (47) 0 = no (18)
Dialogic Loop on Twitter (n=42)	1 = yes (24) 0 = no (18)

***Table 2**: Dependent variables with labels and distributions*

For the **data collection** on the organizations' Facebook and Twitter pages, several general rules derived from test analyses were applied:

- If a page could not be found through the regular search function of the social media platform, the company website or Google Web Search were consulted to make sure that no company profile was missed out.

- To get valid and comparable results, the page analyzed had to be a general one (e.g. no career site) that is of interest to the average customer. In case a user wants to pose a question and cannot find a general site provided by the company taking care of all kinds of concerns, but only

a Facebook page concentrating on a certain product sold by the company (e.g Sanofi Aventis - *Viscontour® Serum Cosmetic*) or a career page on Twitter, they will most probably refrain from using the convenient option of social media to get in touch with the organization by just posting a short comment or question, but rather go back to (e-)mail or a phone call.

- With regard to the various corporate groups in the sample, it was decided to analyze the top-selling company of each group.

Data analysis and Results

Just as the measurement of the dependent variables, the data analysis is geared towards the research of Nah & Saxton (2013).

In a first step, zero-order correlations were calculated to preliminary test for associations between the independent and dependent variables. After that, regression analyses were applied. Regression has the aim to "describe the dependence of a variable on one (or more) explanatory variables; it implicitly assumes that there is a one-way causal effect from the explanatory variable(s) to the response variable" (Read, 1998), and can thus be used to analyze the posed hypotheses. As the dependent variables have different measurement levels, three different types of regression analysis were required:

The first two dependent variables, *Facebook Presence* and *Twitter Presence*, as well as *Dialogic Loop* on *Facebook* and *Dialogic Loop on Twitter* are dichotomous (categorical) and were therefore analyzed using binary logistic regression. Further prerequisites for this test are independent variables of either categorical or continuous kind, as well as a large sample to assure the estimation reliability (Anderson, 1982), both given in this study.

As an ordinal categorical variable, *Social Media Presence* was tested using the ordered logistic regression (also known as ordered logit), which is an extension of the logistic regression.

Dealing with count variables, like in this study *Number of Facebook Updates*, *Number of Twitter Updates* and *Number of Social Media Updates*, the Poisson and the negative binomial regression were applied. Due to the fact that the mean of a Poisson variable equals the variance, which is not the case in the underlying sample (the data is over-dispersed), the negative binomial regression that adds unobserved heterogeneity to the Poisson regression model (Rodríguez, 2013), was used.

All tests were carried out with the statistical software SPSS (Version 22).

Database preparation After collecting the data for the companies in the sample, the

database had to be prepared for the further analysis. As an initial step, it was made sure that the data for the dependent variables was complete. Since the purpose of this thesis is an investigation of social media adoption, all companies that only had international social media pages were excluded from the data set, as their statistics would not have provided an objective basis for comparison with the national social media sites in the sample. This lowered the N from 201 to 184.

In a second step, the independent variables *sales*, *employees*, *b2b_b2c_focus* and *industry* were analyzed for correlation with the help of the statistics program SPSS. While *industry* and *b2b_b2c_focus* did show a significant correlation (.270), sales and employees had a correlation of .819, hinting at a high level of multicollinearity. According to Reinmuth (1974), this is the case for predictor variables with a correlation higher than .700. Due to their high correlation, sales and employees had to be transformed into one variable. This was managed by using the transform function of SPSS. Since a number of companies in the sample did not report their revenue publicly and the numbers could not be obtained in the data collection process, those cases had to be excluded from the database as well, because they would have distorted the new variable that was created by multiplying the two individual variables sales and employees. After taking the companies with missing sales numbers out of the sample and creating the combined variable, entitled *size*, the N decreased to 127. Another correlation analysis was carried out in order to make sure that the new variable did not correlate too strongly with the existing ones. As it turned out, *size* did not have a statistically significant relationship with *industry* (.125). It did show a significant correlation with *b2b_b2c_focus* (.364), but the strength was not high enough to assume multicollinearity. Therefore, *size*, *industry* and *b2b_b2c_focus* were defined as the final independent variables for the analysis.

Social Media Presence

The dependent variable ***sm_presence*** in the sample indicates the number of social media networks the respective company is active in. It is of ordinal kind, with *0 = company has no Facebook or Twitter profile, 1 = company has either a Facebook or a Twitter profile* and *2 = company has both a Facebook and Twitter profile*. This variable was used as a basis for an ordinal logistic regression analysis to investigate the statistical relationship between social media presence and *size*, *b2b_b2c_focus* as well as *industry*. Chi-Square statistics *(X^2 = 22.490, df = 3, p = .000)* suggests a significantly better prediction of the dependent variable in comparison to the null model. The *Nagelkerke R^2 at .183* indicates that the model's explained variance amounts to *18.3%*.

The results of this ordinal regression show no statistically significant relationship between *sm_presence* and *size (p = .621)*. However, they do indicate a positively

significant relationship between *sm_presence* and ***b2b_b2c_focus*** *(Estimate = 1.274, Wald = 8.727, p = .003)* as well as a significant relationship with ***industry*** *(Estimate = .199, Wald = 4.558, p = .033)*.

***Table 3**: Social Media Presence*

	Estimate	S.E.	W ald	df	Sig.
Size	1.760 E-11	3.559 E-11	.245	1	.621
B2B/B2C Focus	1.274	.431	8.727	1	.003
Industry	.199	.093	4.558	1	.033

To get a more detailed look at the adoption of Facebook as a specific network, the nominal variable ***fb_presence*** was used in the framework of a stepwise logistic regression. The variable has two values, *0 = company has no Facebook profile*, *1 = company has a Facebook profile*. The independent variables *size*, *b2b_b2c_focus* as well as *industry* were used as available covariates. The Chi-Square *(X^2 = 16.403, df = 1, p = .000)* proves that the model is significant, while the *Nagelkerke R^2 at .162* indicates an explained variance of *16.2%*.

In the result of the analysis, only ***b2b_b2c_focus*** is marked as a statistically relevant variable *(B = 1.737, Wald = 13.660, p = .000)*. While *size (p=.106)* and *industry (p = .051)* are labeled as insignificant, the latter is very close to being statistically significant and a further look at the categories of the industry variable show that *industry(5)* (Consumer Services, *p = .011)* possesses statistic significance on its own.

***Table 4**: Facebook Presence*

	B	S.E.	Wald	df	Sig.	E(B)
Size			2.617	1	.106	
B2B/B2C Focus	1.737	.470	13.660	1	.000	5.678
Industry			12.560	6	.051	

The stepwise logistic regression with the nominal variable ***tw_presence*** reveals only ***b2b_b2c_focus*** *(B = 1.101, Wald = 6.991, p = .008)* as a statistically significant independent variable. *size (p = .940)* and *industry (p = .408)* show no statistical significance with *tw_presence*.

While the Chi Square *(X^2 = 7.474, df = 1, p = .006)* indicates a significance of the model, the Nagelkerke R^2 of .076 hints at a relatively limited explained variance of 7.6%.

***Table 5**: Twitter Presence*

	B	S.E.	Wald	df	Sig.	E(B)
Size			.006	1	.940	
B2B/B2C Focus	1.101	.416	6.991	1	.008	3.007
Industry			6.137	6	.408	

Social Media Updates

In order to investigate the frequency with which the companies in the sample post on their social media pages, the variable ***sm_updates*** was created, cumulating both

the number of Facebook and Twitter updates that were made within a month. A negative binomial regression was used for analysis, in which the model proved to be significant *(X^2 = 28.053, df = 3, p = .000)*. Both ***industry*** *(B = .172, Wald = 9.109, p = .003)* and ***b2b_b2c_focus*** *(B = .739, Wald = 9.613, p = .002)* turned out to be statistically significant independent variables, while *size (p = .818)* did not.

***Table 6**: Social Media Updates*

	B	S.E.	Wald	df	Sig.
Size	3.940 E-12	1.7159 E-11	0.53	1	.818
B2B/B2C Focus	.739	.2383	9.613	1	.002
Industry	.172	.0568	9.109	1	.003

Taking a closer look at Facebook, the analysis of the variable ***fb_updates*** shows a statistic significance *(X^2 = 14.651, df = 3, p = .002)* of the model. The independent variable ***b2b_b2c_focus*** *(B = .754, Wald = 7.526, p = .006)* is statistically significant, while *size (p = .433)* and *industry (p = .376)* are not.

***Table 7**: Facebook Updates*

	B	S.E.	Wald	df	Sig.
Size	1.351 E-11	1.7247 E-11	.614	1	.433
B2B/B2C Focus	.754	.2748	7.526	1	.006
Industry	.062	.0700	.783	1	.376

The similar analysis for ***tw_updates*** variable is significant as well *(X^2 = 16.756, df = 3, p = .001)* and indicates both ***industry*** *(B = .174, Wald = 7.100, p = .008)* and ***b2b_b2c_focus*** *(B = .577, Wald = 4.573, p = .032)* to be statistically significant independent variables. *size*, however, in this case turns out to be insignificant (.647).

***Table 8**: Twitter Updates*

	B	S.E.	Wald	df	Sig.
Size	1.169 E-11	2.5570 E-11	.209	1	.647
B2B/B2C Focus	.577	.2699	4.573	1	.032
Industry	.174	.0652	7.100	1	.008

Dialogic Loop

To determine whether the companies in the sample offer their customers the opportunity to interact directly with them on Facebook, the variable ***fb_dl*** was created with two values *0 = company offers dialogic loop on Facebook* and *1 = company does not offer dialogic loop on Facebook*. Since the variable is dichotomous, the analysis was carried out within a stepwise logistic regression that turned out to be significant *(X^2 = 15.731, df = 1, p = .000)* and possess an explained variance of *29.9% (Nagelkerke R^2 = .299)*.

In the results, ***b2b_b2c_focus*** *(B = 2.601, Wald = 10.464, p = .001)* proves to be the only statistically relevant dependent variable. *size* (p = .385) and *industry* (p = .222) show no significance and are therefore excluded.

***Table 9**: Facebook Dialogic Loop*

	B	S.E.	Wald	df	Sig.	E(B)
Size			.756	1	.385	
B2B/B2C Focus	2.601	.804	10.464	1	.001	13.474
Industry			8.231	6	.222	

The same analysis focusing on the dialogic loop on Twitter with the variable ***tw_dl*** shows no significance whatsoever with either *size* (p = .434), *b2b_b2c_focus* (p = . 714) or *industry* (p = .372).

***Table 10**: Twitter Dialogic Loop*

	Wald	df	Sig.
Size	.611	1	.434
B2B/B2C Focus	.134	1	.714
Industry	5.370	6	.372

Table 11 provides an overview of the p-values of all tests, the findings are summarize by hypothesis in order.

***Table 11**: Overview p-values*

	FB P.	TW P.	SM P.	# FB UPDT	#TW UPDT	# SM UPDT	FB DL	TW DL
Size	.106	.940	.621	.433	.647	.818	.385	.434
B2B/ B2C Focus	**.000**	**.008**	**.003**	**.006**	**.032**	**.002**	**.001**	.714
Industry	.051	.408	**.033**	.376	**.008**	**.003**	.222	.372

- *Hypothesis 1* that proposed a significant positive relationship between the size and the social media adoption of an organization, is not supported whatsoever, as all eight test variables were insignificant.

- *Hypothesis 2,* assuming a higher social media adoption of B2C companies in comparison to those operating in the B2B sector, obtained strong significant positive associations with all variables except for *Dialogic Loop on Twitter*. It has to be noted, that in this case the n was very small, so the result in relation to this specific variable has to be treated with caution. Overall, the hypothesis is accepted.

- *Hypothesis 3* could only be confirmed to be significant in two models, namely *Number of Twitter Updates* and *Number of Social Media Updates,* and therefore is only marginally supported. However, though the variable industry on the whole is not significant in most cases, when looking at the correlations of the single industries, tendencies towards differences become visible. Specifically, the variable consumer services by itself reached positive correlations with all models but *Dialogic Loop on Twitter* and appeared to have a greater influence on social media adoption than the other industries in the analysis.

Case Illustrations

Since social media is such a broad and innovative field, it is hard to describe related trends and phenomena through quantitative data. As an illustration of the different approaches and ways of dealing with social media, various examples of qualitative kind were derived from suitable social media profiles as case studies to exemplarily illustrate the observations made during the process of collecting the quantitative data. According to Mann (2006), illustrative case studies are "descriptive; they use one or two instances to show what a situation is like". Yin (1994) sees case studies as a tool to be used when the researcher cannot control events and the studied phenomenon is contemporary and situated in a real-life context, all of which is given when analyzing social media profiles.

Size

The underlying sample did not show significant differences between the companies with regard to the variable Size. As described earlier in this paper, big companies are often virtually forced to present themselves on various social media channels by their stakeholders (Luoma and Goodstein, 1999) and generally have more resources in terms of money and personnel (McKee, 2013) compared to smaller organizations. The sample, however, shows that there are also SMEs which go new ways of communication and take the opportunity to profit from an active social media presence.

One of the most famous German car brands, **BMW**, provided their social media fans with 18 updates on Facebook and 63 on Twitter in November 2013. From the content of the updates it becomes obvious that BMW invests a great amount of resources in the social media activities. Through posting attractive photos, videos and raffles regularly, BMW achieves high activity rates and – in addition to all the fans the company already has from just being well-known – attracts many new fans (which though is subject to controversy as discussed earlier), but consequently also needs considerable manpower to manage the consumer interaction and fulfill the dialogic loop. Users for instance post photos of their own BMW cars, questions about products or service requests with regard to claims or quality issues.

Luxhaus, a manufacturer of low-energy houses, though being a small company with about 300 employees, is a good example to show that also small companies with far less budget than the big players can adopt social media well without high investments and make use of the new communication opportunities to interact with existing and attract potential customers. Luxhaus posted 19 Facebook updates in November 2013 in the form of photos of realized construction projects or the presentation of employees and herewith built a general base for active

two-sided communication, thus additionally attracting customers to post feedback concerning their experiences with the company.

Comparing BMW and Luxhaus with regards to the companies' social media presences, it becomes clear that being an internationally recognized brand with a solid existing fanbase and large funds certainly helps, but is not a necessity in social media. While great social media content can be created by posting polished high-class images of products and offering raffles with expensive prizes, small budgets can still be effective if a company is creative and willing to commit to a consistent social media strategy that takes work to implement and maintain. Though social media can take up a lot of personnel resources, in the end it is still very cost effective to get a message across to and communicate with customers. That is why it comes at no surprise that small companies will, in many cases, be just as willing to put effort into it than large corporations.

Though the sample contains various SMEs that have adopted social media well, many still lag behind. It is further interesting to note that the underlying sample of SMEs, selected by the Initiative "Top 100" as the most innovative companies of the year 2013, do not show as much social media presence and adoption as one might expect, and a look at the selection criteria does not reveal any specific aspects with regard to the use of social media or other online marketing tools (Top 100, 2013).

B2B/B2C Focus

The analysis found significantly higher levels of social media adoption for companies focusing on the business-to-consumer market. Many companies from the B2B sector do not have social media presences yet, or if they do, oftentimes only use it for one-sided communication. The qualitative observations indicate that there are indeed B2B organizations present and active in social media, however, the communication is mostly one-sided from the direction of the company. Status updates further tend to have a more sophisticated content than those posted by B2C organizations, because it is the business audience that is supposed to be addressed. Since it is more difficult to involve other businesses in the own social media activities than individual consumers, in most cases, the content of B2B pages is of informative kind.

The fuel provider **Total Deutschland** for instance was able to establish a vivid Facebook page through the direct contact to end-consumers thanks to a dense petrol station network. An active and responsive social media team regularly updates the page with lotteries and other promotions to keep the customers interested. This is valued by the customers of the petrol station network who actively participate in the dialogic loop

that takes place on the company's social media presence.

Gazprom Germania, another company from the Oil & Gas industry, but in contrast to Total operating solely in the B2B sector, uses social media to spread information to the public. Gazprom has a Twitter, but no Facebook profile, and posted 59 Tweets in November 2013, a high number of updates which was observed to be typical for B2B organizations, as the mostly informative posts normally do not call for much further action and therefore can be released more frequently.

Even though Gazprom's social media team is highly active and engaged, the company's Twitter account shows mostly one-sided communication and little dialogic loop with customers. The direct comparison between Total and Gazprom shows that even in similar branches and with an active social media team on board, levels of engagement with customers can differ significantly on a company's social media presence, depending on if it deals with end or business customers.

B2B companies use both Facebook and Twitter as platforms to inform customers about issues such as recent developments and business trends, however, from what has been observed in the quantitative sample, Twitter appears to be slightly more popular with these organizations than Facebook.

Industry

Dealing with social media profiles of companies from various industries, the analysis revealed a limited significant influence of the variable industry on social media adoption. However, the results of the quantitative analysis outlined that consumer services stood out more that the other industries in the field of social media. These are services such as retail, media or travel, all of which directly and oftentimes strongly affect individual consumers' lives and their customer experience. What could be observed in this field is the especially high user traffic with organizations operating in a field with a great sensitivity for failures in the service provision, such as airline or telecommunications companies (flight delays, malfunction in the telephone network, etc.). From this specific analysis it is obvious that individual consumers in most cases do not make an effort to tell the public about positive experiences, but are quick to complain when something is not working, which draws a very negative image of these companies when just taking the social media presences into account. As a consequence, businesses dealing with a high rate of negative comments are naturally forced to put great emphasis on their social media activities and in particular their dialogic loop, leading to a need for a designated social media team that promptly reacts to customer complaints and requests as well as a communication strategy. This is also reflected in the degree of social media activity, as the existing

(personnel) resources in many cases are seemingly as well used to realize social media campaigns and frequent updates. The airline company **Lufthansa** for instance provides extensive replies to user requests on Facebook concerning flight delays, lost or delayed baggage, inconvenient experiences on the plane etc., often within an hour. Taking a look at the structure of the answers provided, it is obvious that Lufthansa has established rules for their employees in terms of customer communication, which seems crucial for an organization to curtail public resentment. With 17 updates in November 2013 (photos, videos, lotteries), the company shows frequent activity to inform customers about recent developments and enhance the personal image. The telecommunications provider **Vodafone**, whose services directly affect many people's daily lives, has to deal with constant criticism as well. Just as Lufthansa, the company has adapted to these circumstances by assigning a social media team that immediately takes care of the complaints regarding issues like a weak network or long waiting times, and additionally posts updates regularly (13 in November 2013).

Besides adopting social media primarily for coping with criticism, other companies operating in the customer services industry use it extensively to generate fan communities. Good examples in this regard are the drugstores **dm** and **Rossmann**. Both companies post updates on a regular basis, often including promotions or campaigns to involve their customers, thus leading to a constant communication and exchange of ideas. Though complaints are sparse, the social media managers seem to take the dialogic loop very seriously in order to grow and maintain the desired fan base. In connection with Twitter it is interesting to note that, given the companies have established a presence, the response rates are often considerably lower than on Facebook. An explanation for this could be a general lower attention paid to the Twitter operations by the social media teams and the fact that users have to explicitly search for comments by customers, other than on Facebook, where the collection of comments is visible for every user and directly hints at whether feedback, questions or complaints are heard.

With regard to the sample, the customer service industry appears to hold much more potential on the one hand as well as a higher necessity on the other hand to push on effective social media adoption than other industries because consumers seem to be emotionally most concerned with the services they encounter on a day-to-day basis. Social media teams working in this industry need to be constantly alert because they never know which customer complaint may start a major discussion and might require their immediate damage control. After all, the constant dialogic loops come with high traffic on their social media profiles, so the content is presented to a high number of

users and spreads extremely fast. This is usually not the case in industries that consumers are not involved with on a daily basis, so the statistical differences can be explained in this respect.

Discussion & Conclusion

This study examined the influence of the size of an organization, the market focus (B2B/ B2C) and the respective industry on the social media adoption of a company as an attempt to explore possible factors playing a role in the generally highly differing degree of social media use among organizations. On the basis of data from 201 German-based companies – those with the highest turnover on the one hand and the most innovative SMEs on the other hand – observations suggest that all factors are connected to the degree of adoption, however, with regard to the quantitative data analysis, only the variables B2B/B2C Focus and Industry were found to play a role in social media adoption.

The assumption that the size of a company affects its level of social media adoption drawn on basis of literature could not be confirmed. The results take the same line as what had been found in the field of nonprofit organizations by Nah and Saxton (2013), namely that size is not barrier to social media adoption. According to this sample, large financial resources are not necessarily a prerequisite for an advanced use of social media, as was supposed in the theoretical part. Yet, with a final sample of 127 cases, the findings have to be regarded with caution. Furthermore, there were considerable gaps between the large companies and the SMEs in terms of number of employees and sales, which might have had negative consequences on the validity of the results. Thus, future research should be based on a larger sample with more evenly distributed cases.

However, the observations made within the analysis that were also outlined in the case studies showed in quite a few cases that the quality and quantity of a company's social media activities does not necessarily have to be directly connected with the businesses' revenues or its numbers of employees. On the contrary, it is obvious that social media is one of the marketing tools that small companies are enthusiastic about because it is possible to be implemented and kept running without the immense budgets that a TV commercial, a magazine print ad or a billboard campaign would require.

It thus would be interesting to further investigate whether this observation is mainly subjective or a general trend and if this is something limited to the German or European market or an international phenomenon. After all, in quantitative research it comes down to the numbers and a large study investigating this would be a possibility of confirming or rejecting this assumption for generalization.

According to the results of the quantitative study, social media as a tool for

commercial advantage seems to be much less important for B2B companies than for their B2C counterparts. Organizations operating in the B2B sector apparently prefer to keep their traditional ways to get in contact with their customers, because the communication is more intense and direct. This confirms findings by Kärkkäinen et al (2010) and Rossmann (2012), who state that interpersonal relationships are crucial. The findings may thus imply that the situation of B2B companies did not change much with the emergence of social media and two-sided communication, because in contrast to B2C organizations, they have always practiced two-sided communication. Using a rather passive social media strategy, the companies with a B2B focus in the sample mostly use social media channels just to spread information, while not taking the opportunity of establishing a two-sided communication. This could be the reason why many organizations without a social media presence do not see advantages in making efforts to ''become social''. In this connection, future research could examine whether social media is a useful tool for the purposes of B2B companies and if so, how they specifically can make their social media operations more effective and initiate mutual communication.

Another interesting aspect that was observed in the process of gathering data was that many B2B companies are, in fact, very engaged when it comes to their social media profiles. However, despite their best efforts, the feedback they receive can usually at no level be compared to that of companies even in the same sector that focus on the B2C market. It thus may very well be possible that in many cases it is more up to the customer than to the company that is running the social media profile how much activity will actually take place. Even the best singer will not get much applause on stage if the audience is basically empty. The whole issue of engaging customers in B2B social media may just be much more complex than the company making an effort in the first place, so this field clearly calls for much more research in the future.

The quantitative research only revealed partial support for the theory that the type of industry a company is active in will influence its level of social media adoption. However, the customer services industry showed higher adoption than the other industries in the sample. That is the reason why this industry was further looked into in the framework of the illustrative case studies. When analyzing the Facebook profiles of the companies in this study, the impression that the consumer services industry was more involved in social media than other industries was widely confirmed. It became clear that customers saw a direct connection to those businesses and were passionate about communicating with them. What could be observed were extreme emotions from the customers' side, both in a negative or in a positive way. If customers are very excited about a new product of a company, their timeline might be flooded with messages

about excitement that more users see and engage with afterwards. The same, however, goes for negative aspects as well, which can be facilitated by the community just as quickly. This is clearly consciously used by many users, who are well aware that a very negative publicly readable comment on a social media page will often provoke a quicker and more helpful reaction by a company than a phone call or email. Those are some of the reasons why it seems natural that companies close to the customers' daily lives will receive more feedback and see more activity in most cases.

Academic Relevance, Limitations and Future research

This thesis started off with the statement that research focusing on the influencing factors of social media adoption is scarce and this is still the case. In the framework of this study, various conclusions have been drawn that – despite a number of limitations, which will be further outlined below – add to the results of other works that have been published in the past. This thesis first of all gives insights into the new challenges of corporate communications in the social media age and the relationship between commercial organizations and social media adoption on the basis of organizational factors. Even though out of the three hypotheses that were formulated in the beginning, only one could be fully confirmed, the partial results and even rejection of the other hypotheses can serve as a reasonable basis for interpretation. The significant relationship between B2B/B2C Focus and social media adoption that was confirmed in this study offers a great basis for further research, as the quantitative observations suggest that this relationship could be rather complex and looking into the more specific facilitating factors might be a future challenge for a new study. Additionally, the variable Industry hinted at an influence on social media adoption, but since no clear overall conclusion for the hypothesis could be found, this is definitely a topic where future research is needed. Suggestions for improvements and changes in this respect will be further outlined in the next columns.

Finally, the rejection of the hypothesis that company size influences social media adoption that was rejected on all levels could be confirmed or rejected by researches, ideally with a bigger sample. If the conclusion that size does not have a significant impact is confirmed, the next question would be why this is the case and why social media defies the rule of classic corporate communications, where big companies with big budgets traditionally have an advantage.

The study does not claim generalizability as the validity of the results is limited. It is rather an approach to draw attention to causes for the observable highly differing extent to which companies utilize social media as a way to cope with the changing paradigm from one- to two-sided communication between companies and

customers as illustrated by the two-sided communications funnel. Serving as an explorative study, this thesis calls for broader and cross-national samples in future research to increase validity. Furthermore, a large-scale study in cooperation with organizations could provide more detailed information on influencing factors. Last but not least, the identification of common adoption criteria, also taking into account the described ongoing changes (e.g. organic reach), could be a useful tool as basis for future studies.

In the process of collecting, analyzing and interpreting the data that was used in this thesis, several aspects turned out to have a limiting character with regard to the internal and external validity.

An initial sample size of n=201, that had to be further reduced to 127 due to missing numbers and invalid cases, proved to be too small in some respects, particularly when looking at the categorization into different industries. Too few cases in the different groups led to inconclusive results and a further combination of industries into broader categories would not have allowed for a meaningful differentiation. A significantly bigger sample would be needed as a basis to draw conclusions in this field. Such an extended sample would also be beneficial for the replication of the overall analyses in this thesis to find out if the statistical significance of the results can be substantiated in a bigger framework. Additionally, the choice of using a list of “most innovative” companies to cover the area of small and medium- sized businesses in the sample of companies might have led to limitations in this thesis. This choice had to be made because no other publicly available and comprehensive registers of German SMEs could be found. Through access to extensive databases and thus the possibility to draw larger and randomized samples, future research could achieve higher validity.

The rather small sample sizes turned out to be particularly problematic concerning the variable Industry. The literature that had provided the foundation for the hypothesis that the industry of a company influenced its level of social media adoption was obviously connected to a much more detailed industry categorization. In retrospect, this does not conform to the more general categories the organizations of were assigned to in this study to cope with a small sample. To achieve valid conclusions in future research, a larger sample with definite industry categorizations from the start is advisable to be able to assess the suitability of the sample at an early stage.

Another aspect of limitation would be the national character of the analysis. The focus on the German market does not make it possible to generalize the results globally, as e.g. national and cultural factors that were not considered in this study might also play an important role in the area of social media adoption. To decrease the risk of dilution of

results due to such aspects, a replication in a cross-country setting would be appropriate. By carrying out the analysis preferably in a large number of countries that vary from each other in the cultural sense, one could look into the cultural attributes that play a role.

The data collection for this thesis was limited to one month only due to the manual labor that was required in analyzing the data of the companies' social media profiles. This way one might have collected skewed statistics if a company had special promotions on Facebook or had more user postings than usual due to an increased press coverage. However, one could certainly simplify the collection process by refraining from taking a look at the content of communication and limiting the data analysis to numbers that can be generated by automatic software used for analyzing social media profiles. While in this case one could not take a closer look at the nature of the dialogic loop companies have with their customers on social media, one would surely be able to collect a much bigger amount of data over much longer time periods. This would make it possible to use monthly averages over a year instead of focusing on one month only.

Moreover, this thesis is only based on Facebook and Twitter, simply because those are the two most commonly used social networks by companies and users alike. However, more and more social networks are entering the market and some of them are in fact used by more and more companies. As an example, image based social networks like Instagram and Pinterest can be very attractive for retail chains because they allow them to post outfits and styles. Along these lines, those social networks also tend to attract the young and stylish target group that retailers are looking for. Hence, it might be recommendable to broaden the scope on social networks for future research in the field.

With larger capacities in terms of time and personnel, future research could furthermore directly approach companies to collect data of internal company factors, such as company culture, to increase the variety of the predictor variables to be analyzed.

It is further important to note that the fast-changing nature of social media is difficult to embrace and keep up with in the framework of scientific research. Just when this research was carried out, Facebook started to massively lower the organic reach, which is the total number of users who receive a message by a page through unpaid distribution (Facebook, 2014). Thus, being fan of a page does not anymore necessarily mean to automatically receive the updates posted. Allfacebook.de, a major German Facebook Blog, studied 600 Facebook pages and found that 90 percent had a lower organic reach in March 2014 than in October 2013. 41 percent of the pages had even lost half of their organic reach. As the degree of loss highly differs among pages, it is

assumed that various independent variables influence the organic reach of a post (Allfacebook, 2014). This development certainly means a limitation to the study, because the social media adoption examined is based on the unpaid services provided by Facebook and Twitter and such cutbacks totally change the picture, for instance regarding the opportunity of small companies to make good use of social media with little investments.

Finally, an additional aspect to be discussed in the future is a common definition of social media adoption, which has not been determined yet. This study utilized various criteria based on previous research, however, a standard definition would certainly be beneficial for the validity of prospective studies.

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APPENDIX A: Company Data

Company	Sales (Mio. €)	Number of Employees	Industry	Business Sector	Facebook Presence	Twitter Presence	Social Media Presence	FB Updates	Twitter Updates	Social Media Updates	Facebook Dialogic loop	Twitter Dialogic loop
				0=B2B 1=B2C	0=no 1=yes	0=no 1=yes	0=none, 1=either/or, 2=both				0=no 1=yes	0=no 1=yes
Volkswagen AG	**126875**	**399381**	Consumer Goods	1	1	0	1	22		22	1	
Daimler AG	**97761**	**260100**	Consumer Goods	1	1			6		6	1	
E.ON	**92863**	**85105**	Oil & Gas	0	1	0	1	0		0	0	
Siemens AG	**75978**	**405000**	Industrials	1								
Metro AG (Real)	**67258**	**252258**	Consumer Services	1	1	1	2	9	11	20	1	0
BASF	**63873**	**109140**	Basic Materials	0	1			15		15	1	
Deutsche Telekom	**62421**	**246777**	Consumer Services	1	1	1	2	16	34	50	1	1
BMW	**60477**	**95453**	Consumer Goods	1	1	1	2	18	63	81	1	1
Schwarz-Gruppe (Lidl)	**60000**	**310000**	Consumer Services	1	1	1	2	6	20	26	1	0
Deutsche BP AG	**54281**	**9744**	Oil & Gas	1		1			47	47		1
Rewe Group	**53040**	**335992**	Consumer Services	1	1	1	2	57	20	77	1	0
Deutsche Post AG	**51481**	**467088**	Consumer Services	1	1	1	2	14	99	113	1	1
Aldi	**50800**	**200000**	Consumer Services	1	1	0	1	13		13	1	
RWE	**50722**	**70856**	Oil & Gas	0	1	1	2	16	30	46	1	0
Robert Bosch GmbH	**47259**	**303000**	Industrials	1								
Edeka	**43500**	**302000**	Consumer Services	1	1	1	2	18	0	18	1	0
ThyssenKrupp	**42621**	**177346**	Basic Materials	0	0	1	1		22	22		1
Bayer AG	**35088**	**111000**	Health Care	1	1			13		13	1	
Deutsche Bahn	**34410**	**276310**	Consumer Services	1	1	1	2	22	32	54	1	1
Franz Haniel & Cie GmbH (CWS-boco)	**27432**	**58141**	Basic Materials	0	1	0	1	18		18	1	
Lufthansa	**27324**	**117019**	Consumer Services	1	1	1	2	17	48	65	1	1
Continental AG	**26047**	**148228**	Industrials	1								
Shell Deutschland	**23914**	**4160**	Oil & Gas	1		1			117	117		1
Heraeus	**22025**	**13323**	Basic Materials	0	0	1	1		24	24		0
Phoenix Pharmahandel	**21738**	**23206**	Health Care	0	0	1	1		101	101		0
Hochtief	**20159**	**70657**	Industrials	0	0	1	1		89	89		0
Thüga Gruppe (Erdgas Schwaben)	**19900**	**18100**	Oil & Gas	0	1	1	2	8	0	8	0	
EnBW	**17509**	**20952**	Oil & Gas	0	1	1	2	9	10	19	1	1
TUI	**16350**	**71398**	Consumer Services	1	1	1	2	55	66	121	1	1
Fresenius SE & Co. KgaA	**15972**	**137552**	Consumer Services	0								

Bertelsmann	**15786**	**104419**	Consumer Services	1	1	1	2	15	66	81	0	1	
Henkel KgaA	**15092**	**47854**	Consumer Goods	1	1	1	2	11	29	40	1	0	
MAN	**14675**	**47669**	Consumer Goods	0									
Evonik Industries	**13300**	**34407**	Basic Materials	0	1	0	1	6		6	1		
Vattenfall	**13040**	**20573**	Oil & Gas	0	0	1	1		1	1		0	
ZF Friedrichshafen	**12907**	**64600**	Industrials	0	1	1	2	20	6	26	1	1	
Linde AG	**12868**	**48430**	Oil & Gas	0	1	1	2	14	16	30	1	1	
Marquard & Bahls	**12588**	**4076**	Oil & Gas	0	0	0	0						
Boehringer Ingelheim	**12586**	**42224**	Oil & Gas	0	1	1	2	25	37	62	1		
SAP	**12464**	**53513**	Technology	1									
Lekkerland	**12200**	**6164**	Consumer Services	1	0	0	0						
Adidas	**11990**	**42541**	Consumer Goods	1									
HeidelbergCement	**11762**	**53437**	Industrials	0	1	0	1	0		0	0		
Otto Group (Otto)	**11404**	**49721**	Consumer Services	1	1	1	2	13	0	13	1		
Tengelmann (OBI)	**11340**	**80282**	Consumer Services	1	1	0	1	28		28	1		
Total Deutschland	**11017**	**3244**	Oil & Gas	1	1			11		11	1		
Aurubis	**9865**	**4831**	Basic Materials	0	1	0	1	3		3	1		
Maxingvest (Tchibo)	**9595**	**31487**	Consumer Services	1	1	1	2	16	61	77	1	1	
Schaeffler Gruppe	**9495**	**67500**	Industrials	0	0	1	1		0	0			
Dr. August Oetker KG	**9457**	**25591**	Consumer Goods	1	1	1	2	12	0	12	1	0	
Vodafone D2	**9292**	**12000**	Consumer Services	1	1	1	2	13	39	52	1	1	
Merck KgaA	**9291**	**40562**	Health Care	1	1	1	2	14	21	35	1		
Rethmann (Remondis)	**9100**	**41200**	Industrials	0	0	1	1		0	0			
BSH Bosch und Siemens Hausgeräte	**9073**	**42814**	Consumer Goods	1	0	0	0						
Alfred C. Toepfer International	**8664**	**2017**	Industrials	0	0	0	0						
Würth-Gruppe	**8633**	**62433**	Industrials	0	1	0	1	10		10	1		
Salzgitter AG	**8305**	**22948**	Basic Materials	0	0	0	0						
Bilfinger Berger	**8123**	**58312**	Industrials	0	0								
Gazprom Germania	**8030**	**520**	Oil & Gas	0	0	1	1		59	59		1	
ExxonMobil	**8000**	**3208**	Oil & Gas	0	0	1	1		93	93		0	
Helm	**7957**	**1366**	Basic Materials	0	0	0	0						
BayWa	**7903**	**16432**	Industrials	0	1	0	1	19		19	1		
Porsche	**7792**	**12722**	Consumer Goods	1									
Brenntag	**7649**	**12132**	Basic Materials	0	0	0	0						
Lanxess	**7120**	**14648**	Basic Materials	0		1			21	21		1	
EWE AG	**6970**	**8464**	Oil & Gas	0	0	1	1		30	30		1	

C&A	**6590**	**36500**	Consumer Services	1	1	1	2	11	73	84	1	1
Hapag-Lloyd	**6204**	**6872**	Industrials	0	0	0	0					
Südzucker	**6161**	**17658**	Consumer Goods	1	1	0	1	6		6	1	
Benteler	**6104**	**23748**	Industrials	0	0	0	0					
Johnson Controls	**5860**	**37300**	Industrials	0	0	0	0					
Hewlett-Packard Deutschland	**5700**	**9360**	Consumer Goods	1	1	1	2	16	69	85	1	1
Dm-drogeriemarkt	**5647**	**36224**	Consumer Services	1	1	1	2	9	0	9	1	0
OMV Deutschland	**5536**	**522**	Oil & Gas	1	1	0	1	7		7	1	
Freudenberg	**5481**	**34319**	Industrials	0	1	1	2	2	3	5	0	0
Agravis Raiffeisen	**5435**	**5226**	Consumer Services	0	1	1	2	7	21	28	0	1
VNG - Verbundnetz Gas	**5293**	**754**	Oil & Gas	0	0	0	0					
Mahle GmbH	**5261**	**47457**	Industrials	0	0	0	0					
Voith	**5198**	**39754**	Industrials	0	0	1	1		3	3		1
Klöckner & Co	**5198**	**9699**	Basic Materials	0	0	1	1		0	0		
Knauf Gips	**5190**	**23500**	Industrials	0	1	1	2	0	3	3	0	
Stadtwerke Köln	**5161**	**11111**	Consumer Services	1	0	0	0			0		
Globus SB-Warenhaus Holding	**5133**	**24817**	Consumer Services	1	1	0	1	13		13	1	
K+S Gruppe	**4994**	**15241**	Basic Materials	0	0	0	0					
Roche Deutschland	**4852**	**10676**	Health Care	1	0	1	1		18	18		
Telefonica Germany (o2)	**4826**	**6500**	Consumer Services	1	1	1	2	9	24	33	1	1
Wacker Chemie	**4748**	**16314**	Basic Materials	0	0	1	1		26	26		1
Sanofi Aventis	**4700**	**8000**	Health Care	1	0	1	1		66	66		0
Dirk Rossmann GmbH	**4630**	**30000**	Consumer Services	1	1	1	2	16	6	22	1	1
E/D/E	**4620**	**796**	Oil & Gas	0	0	0	0					
Dow Chemical	**4600**	**5780**	Basic Materials	0								
Scholz	**4500**	**7100**	Industrials	0	0	0	0					
Hagebau	**4439**	**332**	Consumer Services	1	1	1	2	9	1	10	1	
B. Braun Melsungen	**4423**	**41666**	Health Care	0	1	1	2	10	7	17	1	0
GEA Group	**4418**	**20386**	Industrials	0	1	1	2	10	7	17	1	
Ingram Micro Distribution	**4416**	**1241**	Industrials	0	1	1	2	2	6	8	0	0
Tönnies Fleischwaren	**4300**	**7600**	Consumer Goods	1	0	0	0					
Andrea-Noris Zahn AG (now Alliance Healthcare)	**4244**	**3703**	Health Care	0	0	0	0					
Eurobaustoff	**4229**	**253**	Industrials	1	1	1	2	0	6	6	0	
HAP GmbH Dresden	**19**	**50**	Industrials	0	0	0	0					
Rißmann Zahntechnik GmbH		**50**	Health Care	0	0	0	0					
n3 data analysis GmbH und Co. KG		**18**	Technology	0	1	0	1	1		1	0	

W.O.M. WORLD OF MEDICINE GmbH	**55**	**296**	Health Care	0	0	0	0					
PACE Paparazzi Catering & Event GmbH		**263**	Consumer Services	1	0	1	1		0	0		
HQ LIFE AG	**0,3**	**28**	Industrials	0	1	1	2	17	17	34	0	
CP Corporate Planning AG	**11**	**120**	Technology	0	1	1	2	3	0	3	0	
Treppenbau Voß GmbH & Co. KG		**59**	Consumer Goods	1	1	1	2	1	0	1	1	
Nordic Yards Holding GmbH	**300**	**1135**	Industrials	0	0	0	0					
BENI8 GmbH		**8**	Consumer Services	0	1	1	2	0	0	0	1	
Schnoor Industrieelektronik GmbH & Co. KG		**80**	Industrials	0	0	0	0					
ACO Severin Ahlmann GmbH & Co. KG	**578**	**1500**	Consumer Services	0	1	1	2	0	0	0	1	
papagei.com GmbH		**77**	Consumer Services	1	1	1	2	4	4	8	1	1
JA-Gastechnology GmbH		**38**	Industrials	0	1	0	1	0		0		
INNO TAPE GmbH		**49**	Industrials	0	1	0	1	0		0		
KSM Castings Group GmbH		**1791**	Industrials	0	0	0	0					
RK Rose+Krieger GmbH		**209**	Industrials	0	1	0	1	0		0	1	
Weidmüller	**621**	**2200**	Industrials	0	0	1	1		0	0		
MODUS Consult AG		**168**	Technology	0	1	1	2	7	14	21	0	
pixelconcept GmbH		**20**	Technology	0	1	1	2	0	0	0		
Pfeiffer Vacuum Technology AG	**461**	**817**	Industrials	0	1	1	2	1	2	3		
CSS GmbH	**12**	**132**	Technology	0	1	1	2	3	0	3		
HKL Energieanlagen AG		**19**	Industrials	0	1	0	1	0		0		
Tilch - Ganzheitliche Pflege und Betreuung		**347**	Health Care	0	0	0	0					
capricorn Automotive GmbH		**120**	Industrials	0	0	0	0					
Walter Rau Neusser Öl und Fett AG	**333**	**184**	Consumer Goods	0	0	0	0					
Apostore GmbH		**58**	Industrials	0	0	0	0					
Rhedach GmbH		**12**	Industrials	0	0	0	0					
LED Linear GmbH		**50**	Industrials	0	0	0	0					
Jansen Bedachungen GmbH		**45**	Consumer Goods	1	1	0	1	0		0	0	
Möller Orthopädie-Schuh-Technik		**33**	Health Care	1	1	0	1	0		0	0	
LANG AG	**46**	**125**	Industrials	0	0	1	1		3	3		
Trianel GmbH	**39**	**280**	Oil & Gas	0	0	0	0					
CPA Systems GmbH		**17**	Technology	0	0	0	0					
TRACOE medical GmbH	**15**	**143**	Health Care	0	0	0	0					
Medialine EuroTrade AG		**65**	Technology	0	1	0	1	3		3	1	
ELO Stahlwaren GmbH & Co. KG		**61**	Consumer Goods	1	1	0	1	11		11	0	
SIMONA AG	**293**	**850**	Basic Materials	0	0	1	1		0	0		
Fissler GmbH	**206**	**538**	Consumer Goods	1	1	1	2	18	17	35	1	0

C. D. Wälzholz KG	**800**	**1290**	Industrials	0	0	0	0					
THIELE GmbH & Co. KG	**88**	**486**	Industrials	0	1	1	2	0	0	0	0	
MeisterWerke Schulte GmbH	**133**	**629**	Industrials	0	1	1	2	5	0	5	1	
CBC Business Consultants AG		**75**	Industrials	0	1	0	1	0		0	0	
Elementar Analysensysteme GmbH		**73**	Health Care	0	0	0	0					
PROFI Engineering Systems AG	**134**	**340**	Technology	0	1	0	1	1		1	1	
SGL CARBON SE	**1709**	**2585**	Basic Materials	0	0	0	0					
Plan Software GmbH		**28**	Technology	0	0	0	0					
BKH Sicherheitstechnik KG		**21**	Industrials	1	1	0	1	0		0	0	
Wohlfahrtswerk für Baden-Württemberg		**1400**	Health Care	1	1	0	1	0		0	1	
Ferdinand Gross GmbH & Co. KG	**70**	**186**	Consumer Services	0	0	0	0					
QUIN GmbH	**80**	**100**	Industrials	0	0	0	0					
Roche PVT GmbH	**27**	**191**	Health Care	0	0	0	0					
ELB – Eloxalwerk Ludwigsburg Helmut Zerrer GmbH		**30**	Industrials	0	0	0	0					
Beton Kemmler GmbH	**49**	**235**	Industrials	0	0	0	0					
BORRIES Markier-Systeme GmbH		**90**	Industrials	0	1	0	1	0		0		
Gutekunst Stahlverformung KG		**93**	Industrials	0	1	1	2	0	0	0		
Volksbank Nordschwarzwald eG		**66**	Consumer Services	1	0	0	0					
REFUsol GmbH	**141**	**180**	Consumer Services	0	1	0	1	0		0		
Hartlieb GmbH		**78**	Health Care	1	1	0	1	0		0		
ebm-papst Mulfingen GmbH & Co. KG	**666**	**2800**	Consumer Services	0	1	1	2	11	37	48	1	1
MPDV Mikrolab GmbH		**200**	Technology	0	1	0	1	0		0	0	
hawo GmbH		**66**	Health Care	0	0	0	0					
SIMON HEGELE Gesellschaft für Logistik und Service mbH	**200**	**2300**	Industrials	0	1	0	1	0			0	
UNION Instruments GmbH		**40**	Industrials	0	0	0	0					
i3 Consult (Deutschland)		**5**	Industrials	0	1	1	2	0	0			
ADA Cosmetics International GmbH	**21**	**188**	Industrials	0	0	0	0					
Werner Wohnbau GmbH & Co. KG		**28**	Consumer Goods	1	0	0	0					
MDS Raumsysteme Dirk Solbach e. K.	**12**	**70**	Industrials	0	1	0	1	0				
MSC Tuttlingen GmbH (Schubert System Elektronik)	**26**	**125**	Industrials	0	0	0	0					
MS Spaichingen GmbH	**96**	**681**	Industrials	0	0	0	0					
WERMA Signaltechnik GmbH + Co. KG	**25**	**205**	Industrials	0	1	0	1	0			0	
ACI ecoTec GmbH		**75**	Industrials	0	0	0	0					
IKA®-Werke GmbH & Co. KG	**102**	**300**	Health Care	0	1	1	2	6	16	22	0	1
Hecht Contactlinsen GmbH	**11**	**83**	Health Care	0	1	1	2	7	14	21	1	
inomed Medizintechnik GmbH	**100**	**104**	Health Care	0	1	0	1	0			0	

NEOPERL GmbH	**106**	**400**	Industrials	0	0	0	0					
Cellpack GmbH		**150**	Industrials	0	0	0	0					
GABO:mi Gesellschaft für Ablauforganisation: Milliarium mbH & Co. KG		**21**	Industrials	0	0	0	0					
attocube systems AG		**46**	Health Care	0	1	0	1	7		7	1	
iwis motorsysteme GmbH & Co. KG	**250**	**1100**	Health Care	0	1	0	1	1		1	0	
HYTORC - Barbarino & Kilp GmbH		**22**	Industrials	0	0	0	0					
EOS GmbH Electro Optical Systems		**345**	Industrials	0	0	0	0					
KATEK GmbH	**64**	**500**	Industrials	0	0	0	0					
Truma Gerätetechnik GmbH & Co. KG	**100**	**430**	Industrials	0	1	1	2	7	2	9	1	
Greenlight Consulting GmbH		**35**	Industrials	0	1	0	1	0			0	
Pfister Waagen Bilanciai GmbH	**11**	**60**	Industrials	0	1	1	2	0	0			
Fitz Interior GmbH		**45**	Consumer Goods	1	1	0	1	0			0	
Stolz Aufrolltechnik GmbH		**18**	Industrials	0	0	0	0					
MENEKS AG		**35**	Consumer Services	1	0	0	0					
ALOIS KOBER GMBH		**825**	Industrials	0	1	0	1	2		2	1	
Hauff-Technik GmbH & Co. KG		**150**	Industrials	0	0	0	0					
Geiger Gruppe	**15**	**183**	Industrials	0	1	0	1	0			0	
TeamBank AG (EasyCredit)		**1095**	Consumer Services	1	1	1	2	17	36	53	1	1
clearaudio electronic GmbH	**5,5**	**36**	Consumer Goods	1	0	0	0					
LUXHAUS GmbH & Co. KG		**309**	Consumer Goods	1	1	1	2	19	0	19	1	
HBW-Gubesch Kunststoff-Engineering GmbH		**280**	Industrials	0	0	0	0					
Modern Drive Technology GmbH		**8**	Technology	0	0	0	0					
Nabaltec AG	**130**	**416**	Industrials	0	0	0	0					
Wieland Electric GmbH		**824**	Industrials	0	1	0	1	0			0	
Dr. Schneider Unternehmensgruppe	**335**	**1600**	Industrials	0	0	0	0					
KONZEPT° GmbH & Co. KG		**45**	Industrials	0	1	1	2	5	7	12	1	
Thermik Gerätebau GmbH	**30**	**165**	Industrials	0	0	0	0					