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Antecedents of brand post popularity in Facebook: The influence of images, videos, and text

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Abstract:

Social media offers huge potential for corporate communication and branding activities. However, due to the novelty of the research field, many mechanisms regarding communication effectivity are still not fully understood. The aim of this study is therefore to investigate the influence of images, videos, and text on brand post popularity in Facebook. We analyzed 560 Facebook posts of three automotive premium brands to identify most promising communication approaches to increase social media performance. The results show that posts including images are most successful in terms of received likes. Moreover, we found that videos do not trigger as much likes as posts containing images. Regarding verbal post elements, the findings reveal that social media users prefer a moderate amount of text. We conclude that if marketers want to increase post likes, it is important to publish posts that allow fast processing.

Key words: social media; social networking site; brand post popularity; automotive industry; communication effectivity

Introduction

According to the Digital, Social & Mobile in 2015 report, there are currently 2.08 billion active social media accounts, which means that roughly 29 % of the world's population is active on social media sites (We Are Social, 2015). There is no doubt that these impressive numbers hold huge potential as a basis of companies' marketing undertakings. However, next to the wide range of opportunities, companies need to be aware of emerging new communication patterns of potential customers. With social media, customers have almost unlimited ways of interaction – for better or for worse. Customers do not passively consume information any more, but rather are themselves creators of new content (Kohli et al., 2015). On the one hand, this content can serve as a multiplier and can therefore boost branding activities' success (Laroche et al., 2013); but on the other hand, it can also cause massive harm, when, for instance, dissatisfied customers spread a large amount of negative messages about a company in a so-called "online firestorm" (Pfeffer et al., 2014).

There is a broad range of social media sites on the internet. From a corporate social media management perspective, there are well-established sites such as Facebook, Twitter, or YouTube, where many brands are already present and active. In contrast, there are also platforms that show increasing popularity, but the majority of brands is not yet active there. We have seen

fast changes in terms of the way users engage on certain platforms. For instance, the mobile photo- and video-sharing social network Instagram has recently gained more and more attention from corporate social media managers because of its rapid growth in terms of user activity. In July 2015, there were already 300 million monthly active users with, on average, 70 million uploaded photos per day (Instagram, 2015).

Despite some similarities of social media sites, it has to be noted that the architecture of platforms differs significantly (Kietzmann et al., 2011; Smith et al., 2012). Consequently, it is essential to examine social networking sites separately when studies aim to investigate brand communication behavior and communication effectivity. In this article, we focus on Facebook because it is currently the most popular social networking site with more than 1.4 billion users by March 2015 (Statista, 2015a).

On Facebook, users can register private profiles to interact on the social networking site. In contrast, brands can register brand pages to engage on Facebook. One of the main differences between user profiles and brand pages is the way to get in touch with them. If users want to connect with other users (private profiles), they have to *add* them as friends. Then, the other person has to confirm this request and the two profiles are linked. When users want to connect with a brand page, they simply have to *like* the page. As a consequence, users receive the brand page's posts in their personal News Feed. Users' News Feeds (potentially) contain all Facebook friends' posts and, in addition, all posts of their liked brand pages.

Table 1:
Difference between page likes and post likes

Page likes	Users can like a brand page to receive content (posts) of the page in their individual News Feeds
Post likes	Users can like individual posts

Users can interact with posts as follows: First of all, every post can be *liked* (the difference between "page likes" and "post likes" is explained in Table 1). Next to post likes, users can *comment* on posts and they can additionally *share* them. When users share a post, the post is shown in their private profiles. The statistics of a post in terms of its likes, comments, and shares are public and can be recognized by everyone who sees the respective post.

As users connect with more and more friends and like an increasing number of brand pages, there is a lot of content that potentially reaches their News Feeds. Therefore, Facebook introduced automated mechanisms to only push those posts to the users' News Feeds, which are "relevant" to them. One important factor of this algorithm is how popular posts are. According to Facebook, the "number of comments and likes a post receives and what kind of story it is (ex: photo, video, status update) can also make it more likely to appear in [a user's] News Feed" (Facebook, 2015). The more likes a post initially receives, the higher is the probability that the post is also relevant to other followers of the brand page. Therefore, the post is sent to more followers' News Feeds. Consequently, the amount of post interaction in terms of likes, comments, or shares determines the amount of Facebook users who potentially see a brand page's post. It is thus highly important to understand factors which increase the popularity of Facebook posts because it is in the interest of a brand page that as many as possible users view a brand's content.

Although previous research has already addressed this question, there is a high need for further studies. Sabate et al. (2014), for example, have studied the influence of a post's richness (included images, videos, or links) on post popularity. However, they focused on a data set of Spanish travel agencies' Facebook pages, which leaves room to verify their findings in other settings. Furthermore, de Vries et al. (2012) have analyzed the effects of certain brand post characteristics such as a post's vividness or interactivity on post popularity. Since they have not mentioned which social networking site they analyzed, it is difficult to transfer their findings on specific social media sites because previous research has shown that each site has its own characteristics. Therefore, communication mechanisms may vary between different platforms (Kietzmann et al. 2011; Smith et al. 2012). For example, post elements such as hashtags ("#") are used differently on Twitter compared to other social networking sites. Another study was conducted by Swani et al. (2014) who have examined Fortune 500 companies' communication activities on a social networking site. In particular, they studied differences between B2B and B2C brands regarding their communication behavior on Twitter. Again, it is hardly possible to transfer their findings to other social networking sites. Ultimately, current insights into brands' optimal use of social networking sites are limited, illustrating the need for research in the field of social media as a new and promising communication channel for corporate communication.

The aim of this study is to further explore antecedents of brand post popularity in Facebook. In particular, we examine the effects of posts including images and videos on brand post popularity. Moreover, we give insights on the optimal amount of text in Facebook posts. We do this by investigating the social media communication behavior of premium brands from the automotive industry. Premium brands distinguish themselves from non-premium brands

based on higher prices and typically "excellent quality" (Quelch, 1987, p. 39). Apart from product or service superiority (e.g. through technological superiority), premium brands generally face high pressure to build and maintain strong brands. By focusing on automotive premium brands, we examine companies with huge marketing departments and a long tradition in (premium) brand management. Thus, also social media efforts have already been undertaken for some time, indicating a certain level of experience in this field.

The remainder of this article is structured as follows. First, we develop the hypotheses on the basis of previous literature. The next section describes the methodological approach of this study, focusing on the sample, data collection, and on the employed variables. After that, we present the empirical findings. This is followed by a discussion and conclusion, including managerial implications, limitations, and further research possibilities.

Literature review and development of hypotheses

Figure 1 schematizes the conceptual framework considered for our study. We expect that the popularity of brand posts is significantly influenced by the use of images and videos, and also by the amount of text. The dependent variable (brand post popularity) is operationalized by the count of post likes. Since the number of page likes increases the chances of interaction on brand posts (Sabate et al., 2014), we control the number of post likes by the number of page likes. We will explain that in more detail in the method section.

Images and videos

The analysis of image usage is well established in the field of marketing communication. Pictures can transport messages and trigger positive customer reactions (Schmitt et al., 1993). In the online context, images substantially determine the richness or vividness of communication content (Cvijikj Pletikosa & Michahelles, 2013; Fortin & Dholakia, 2005; Vries et al., 2012). Regarding the optimal allocation of pictures vs. text, dual coding theory (Paivio, 1986, 1991, 2007) suggests a general superiority of visual vs. verbal elements. The theory assumes that people utilize two cognitive subsystems to process images and text and that especially images can be processed through both subsystems, leading to higher communication effectivity (Edell & Staelin, 1983; Childers & Houston, 1984). Therefore, we formulate:

H1. Posts including images are more popular than posts without images.

In their study of Spanish travel agencies' Facebook pages, Sabate et al. (2014) found a positive impact on brand post popularity of not only pictures, but also of videos. Since videos increase the vividness of brand posts (Vries et al., 2012), it is likely that posts including videos increase post popularity. However, we assume that, in average, images have a stronger influence on a post's likes than videos. Images can be processed a lot faster and it is therefore easier for the user to press the *like button* to interact with the post (Hansson et al., 2013). For a video, users have to invest more time to decide whether they like it or not. Therefore, we expect that posts including videos are popular, but not as popular compared to posts including images. We therefore propose:

H2. Posts including images are more popular than posts including videos.

H3. Posts including videos are more popular than posts without images or videos.

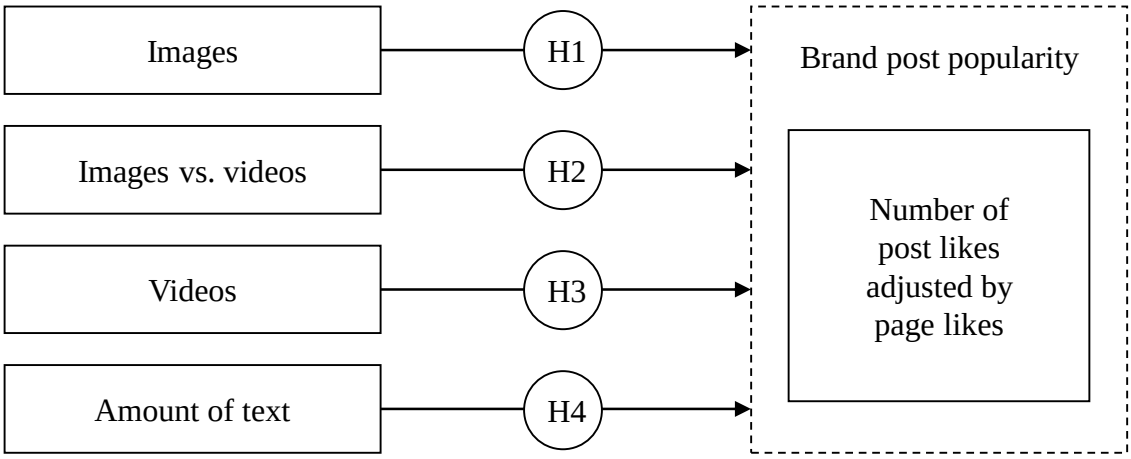
Information

Depending on the product category, customers face different levels of uncertainty during product purchases. Companies can reduce this uncertainty by communicating certain bits of information to potential customers (Abernethy & Franke, 1996; Eng & Quaia, 2009; Resnik & Stern, 1977; Narayanan & Manchanda, 2009). Brands may communicate product features, price, or even branding elements to help customers decrease perceived risk during purchasing decisions (Akdeniz et al., 2013; Cox, 1967).

In the advertising literature, various studies have examined the optimal amount of information presented to customers (Baccarella et al., 2014). Research has shown that the effectiveness of advertising is strongly influenced by the informativeness of advertisements. However, the optimal amount of information might vary between product categories. In the context of high technology products, for example, a high degree of information content is expected to generate best results (e.g. Chen et al., 2007; Singh & Schoenbachler, 2001). Yet, there are also studies indicating that too much information will confuse customers (Lee & O'Connor, 2003).

In this study, we investigate the optimal amount of information used in Facebook posts. In line with the previous argumentation, we expect that a certain amount of information is valuable, yet too much information might lead to negative effects.

Figure 1:
Conceptual framework



Therefore, we argue that a moderate amount of text in posts triggers best user feedback in terms of post likes. We predict the following:

H4. Posts with a moderate amount of text are more popular than posts with no or a lot of text.

Method

To test the hypotheses, we focused on a single industry to avoid disturbing product- or industry-related effects. As brands from the automotive industry heavily engage in social media (Hendricks, 2015), we chose premium brands from within this industry to analyze their social media activities. We particularly selected Audi, BMW, and Mercedes-Benz due to their undoubted premium brand approach. As a research object, we decided to analyze the brands' US Facebook pages because the US social media market is one of the largest in the world, according to the number of users (Statista, 2015b). We did not consider other markets to avoid any country-related effects, which have been previously studied by various researches in the context of marketing communication (e.g. Russell & Russell, 2006; Verlegh et al., 2005).

The brands' Facebook pages were accessed between December 8 and 10, 2014 to collect the data. During this time, the BMW page reported 19.03 million page likes. The Mercedes-Benz page had 16.85 million likes, whereas the Audi page showed 9.41 million page likes. When we started to manually collect and code the data, we focused on posts that were published before October 31, 2014. Interaction on posts takes place very fast on social networking sites. Therefore, we assumed that a time delay of around five weeks is more than sufficient to analyze post interaction.

Our total sample contained 560 Facebook posts. From every Facebook brand page, we collected 200 posts. We excluded all posts that were published more than once on the brand pages. In particular, this were photo albums, because every time a brand adds photos to an existing album, the album is automatically posted again on the brand page's wall. Then, it is again sent to users' News Feeds and triggers additional user interaction. Consequently, such posts receive more than one round of user interaction. We therefore excluded those posts from our sample.

All analyzed posts have been published between March 19, 2014 and October 31, 2014. The coding of the posts was performed by two coding teams (two coders per team). Both teams coded the total sample as a basis to calculate reliability measures. We applied the proportional reduction in loss index (PRL) by Rust and Cooil (1994) to assess intercoder reliabilities. All values were clearly higher than 0.9 ("desirable"), suggesting a sufficient level of objectivity.

To measure the popularity of a post (dependent variable), we assessed the likes received by a post. However, a comparison of the total number of likes can lead to wrong conclusions because the considered Facebook pages have different numbers of followers (=number of page likes). The basic logic that more followers potentially generate more post interaction has been shown in previous research (e.g. Sabate et al., 2014). Therefore, we adjusted the post likes for the number of page likes, as shown in Equation 1. Adjusted post likes is a measure of "true" interaction. For example, 1000 adjusted post likes mean that a brand page is able to generate 1000 post likes with 1 million followers. Thereby, we ensure that a comparison of brand post popularity between various Facebook pages leads to meaningful conclusions.

Equation 1:

*Adjusted post likes = Post likes / Page likes * 1 million*

For our study, we used two independent variables. The first variable includes information about the attachments of a post. In particular, the variable was nominally coded according to four post characteristics (more than one image included; one image included; video included; no image or video included). The second variable aims to count the number of text lines. Blank lines were not considered as text lines. We grouped the values of the text variables (0; 1; 2; 3-4; 5-7; 8-13 text lines) to generate groups with comparable frequencies, aiming to make the conclusions more meaningful.

The effects of post characteristics on post popularity are evaluated by comparing the means. In particular, we compared the average post likes (per one million page likes) of posts with and without certain characteristics. To test the statistical significance of those differences, we conducted analyses of variance (ANOVAs).

Findings

The findings section is structured as follows. First, we report the descriptive statistics of our analysis. Second, we present the findings regarding the examined effects of certain post characteristics on post popularity.

Descriptive statistics

Most of the posts in our data set include images (82.1%). As shown in Table 2, 61.4% of the posts provide exactly one attached image, whereas 20.7% include more than one image. In contrast, videos do by far not reach the same frequency of use (10.0%). Although there is the possibility to not attach any content (post with text only) or to include other types of content like events or external links, such posts can be rarely found in our sample (7.9%).

Table 2:
Number of posts including images and/or videos

Post attachment		Count	%
More than one image		116	20.7
One image		344	61.4
Video		56	10.0
No image or video		44	7.9
	Total	560	100.0

Next to images and videos, we examined the amount of text within Facebook posts (see Table 3). We found that most of the posts (97.0%) present at least one line of text, and only few posts (3.0%) do not comprise any words (e.g. post with a picture and no text). In 13.0% of the posts we found exactly one text line. Around 60% of the posts report two to four text lines, whereas 23.0% provide five to seven text lines. More than seven text lines could be found in only 1.8% of the posts. The dataset did not contain any posts with more than 13 text lines.

Table 3:
Number of posts with a certain number of text lines

Number of text lines		Count	%
0		17	3.0
1		73	13.0
2		147	26.3
3-4		184	32.9
5-7		129	23.0
8-13		10	1.8
	Total	560	100.0

Effects on post popularity

Hypothesis 1 suggested that posts including images are more popular than posts without images. Moreover, Hypothesis 2 expected that posts including images are also more popular than posts containing videos. However, we assumed that posts with videos are still more popular than posts with no or another attachment apart from images or videos (Hypothesis 3).

In fact, we can confirm that posts containing images are most popular. As shown in Table 4, posts with one image received (on average) 1155 adjusted post likes (post likes per 1 million page likes). Posts including more than one image generated user interaction of 1632 adjusted post likes. When a post contained a video, posts triggered far less likes (333 adjusted post likes). In contrast, posts with no or other attachments than images or videos gained least user feedback with only 145 adjusted post likes. Consequently, it can be noticed that posts with images are more popular than posts without images. However, video posts are still more popular compared to posts with no or another attachment apart from images or videos. The overall differences are significant ($F = 17.501$; $df = 3$; $p < .001$). Thus, Hypotheses 1-3 are supported.

Table 4:
Influence of images and videos on adjusted post likes

Post attachment	Mean	Std. error
More than one image	1632	2312.25
One image	1155	1214.87
Video	333	437.37
No image or video	145	140.88

Notes: N = 560; F = 17.501; df = 3; p < .001 (ANOVA)

Hypothesis 4 suggested that posts with a moderate amount of text are more popular than posts with no or a lot of text. As shown in Table 5, we confirm this assumption based on our dataset because posts with one text line were most popular (1513 adjusted post likes). Posts with two and three to four text lines triggered interaction of 1052 and 1223 adjusted post likes. Interestingly, posts including no text received third most likes (1187 adjusted post likes, 3.0% of total sample). Posts with five to seven text lines received 741 adjusted post likes, whereas least interaction was induced by posts with more than seven text lines (574 adjusted post likes). The overall differences are significant ($F = 3.231$; $df = 5$; $p < .01$).

Table 5:
Influence of text on adjusted post likes

Number of text lines	Mean	Std. error
0	1187	2555.27
1	1513	1224.49
2	1052	1495.20
3-4	1223	1836.59
5-7	741	600.89
8-13	574	467.42

Notes: N = 560; F = 3.231; df = 5; p < .01 (ANOVA)

Discussion and conclusion

The findings of our study support the idea that marketing professionals can influence brand post popularity by integrating certain elements in their social media communication activities. Table 6 summarizes the four hypotheses and the results of our analysis. Based on these findings, we can draw several theoretical and practical implications.

The confirmation of the first hypothesis approves the notion that images are more successful in terms of generating post likes compared to posts including no images. This is in line with previous research (e.g. Schmitt et al., 1993), because especially in the online context images can be used to design vivid messages and content (Cvijikj and Pletikosa, 2013; Fortin, 2005; Vries, 2012). In order to stimulate interaction in terms of post likes, images are vital for successful communication efforts. Therefore, images are a perfect way for brands who wish to deliver their messages to the customers as efficiently as possible.

Before further discussing Hypothesis 2, it must be noted first that the descriptive statistics reveal that posts with one or more pictures account for the vast majority of examined posts (82.1%). It is therefore not surprising that we could confirm the second hypothesis. Posts with images generate significantly more likes than posts with videos. It can be assumed that especially posts which require fast information processing should prefer images over videos.

When it comes to the third hypothesis, a clear hierarchy of post design elements becomes evident. The results showed that videos are more advantageous regarding brand post popularity than posts without images or videos. Hence, when marketers want to maximize awareness through post likes, they need to integrate pictures in their posts rather than videos. These results suggest that marketers need to carefully design messages for their online purposes. If interaction through likes is the main key performance indicator, then messages that are processed quickly are particularly valuable. As already mentioned, pictures are the most promising approach.

The confirmation of the fourth hypothesis reveals that a moderate amount of text in posts can be a promising tactic. This result emphasizes the already discussed notion that posts, which are planned to generate interaction through likes, need to be designed in a way that they can be processed quickly and easily. One line of text can be a reasonable quantity. However, it is has to be mentioned that when social media managers expect the content of the post to be highly popular (e.g. a new model release), it is also conceivable to renounce verbal elements completely. Then, the content may stand for itself. In contrast to no text, too much information might be boring or confusing for customers and divert their attention to other content.

Table 6:
Expected and obtained findings by hypothesis

Hypotheses	Expected	Findings
H1 (Images vs. no images)	More post likes	Confirmed
H2 (Images vs. videos)	More post likes	Confirmed
H3 (Videos vs. no images or videos)	More post likes	Confirmed
H4 (Moderate amount of text)	More post likes	Confirmed

Limitations and further research

Based on the limitations, our study provides possibilities for further research. First, we focused on one social networking site. Although Facebook is highly used by both private users and corporations, future research should further investigate other sites like Twitter, Instagram, or LinkedIn.

Second, our analysis was directed towards the brands' US Facebook pages. An interesting extension of our research could be the investigation of other countries. Especially the investigation of country-related effects, which might occur by comparing user activities in different cultural settings, could be beneficial to social media managers.

Third, our sample only contained car brands. Further research could compare different industries. We expect that there are industries with longer tradition in social media and therefore greater social media excellence. Future studies could analyze communication strategies from social media best practice examples to generate insights for companies with less social media experience.

Fourth, a great benefit of social media is the fact that research can employ the number of post likes as outcome variable. However, the pure use of likes can be critical because there could be posts that are very much appreciated by users, but do not receive many likes. This might be especially true for posts including videos. Videos require a higher level of user engagement (time), but they also might be strong in convincing people of something or shaping users' attitudes. Therefore, the pure consideration of likes could be too limited as a final measure for post success. Next to *Post Comments* and *Shares*, we propose that future studies could also include the number of *People Reached* and *Post Clicks*, which are post statistics only provided to the pages' admins and editors. Unfortunately, it might be difficult to access those statistics, but it is probably a very good complement to public post statistics.

Although this has to be seen as a first step towards a better understanding of optimal communication patterns in social media, this study gives insights into a rather new research stream in the marketing literature. Undoubtedly, social media has a huge but still mostly untapped potential for corporate branding which needs to be elaborated in future studies.

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