

Social network sites' content impact on user brand engagement: A literature review

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Abstract

With the emergence of Web 2.0 in about 2004 and the resulting development of digital marketing, an increasing number of brands has been rethinking their approach strategy towards consumers, strengthening their presence on social network sites (SNS) and generating interaction with them, through the company's own digital content or by encouraging consumers to participate in its creation (Heinonen, 2011; Conrado, 2012; Constantinides, 2014; Lee, Hosanagar, & Nair, 2014).

The growing social and commercial interest in SNS has led to several academic and market studies. Examples of these can be found in the Nova Expressão (2014) study published by Marketeer magazine and the Stelzner (2014) report entitled "2014 Social Media Marketing Industry Report". However, due to the innovative and complex nature of the problem, there are only a few studies that focus on and compare the influence of generated content on SNS by brand and by the user in his engagement with the brand.

With this in mind, this paper aims to present a critical, summarized review of the main scientific literature produced on the aforementioned area over the last five years. To ensure an extensive review of the impact of the content in text and visual format, the SNS considered are Facebook, Twitter, Instagram and Pinterest, each with its own specific characteristics.

The original approach and the main contribution of this paper is that it allows a researcher interested in this subject to easily identify research topics that need further study, making it an essential business tool for any scholar or practitioner.

Keywords: Social network sites, User-generated content, Brand-generated content, Image-based content, Text-based content

Introduction

With the emergence of Web 2.0 in about 2004 and the resulting development of digital marketing, an increasing number of brands has been rethinking their approach strategy towards consumers, strengthening their presence on social network sites (SNS) and generating interaction with them, through the company's own digital content or by encouraging consumers to participate in its creation (Heinonen, 2011; Conrado, 2012; Constantinides, 2014; Lee, Hosanagar, & Nair, 2014). An interesting example of this is the creation of brand communities on SNS to engage consumers and facilitate content generation.

Consequently, the spread of information has generated a growing interest by academia and market research companies leading them to produce several studies in the last decade focusing on the effectiveness of these campaigns. For instance, word-of-mouth (WOM) campaigns are expected to

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increase sales (Goh, Heng, & Lin, 2012; Barreto, 2014) and promote user-engagement (Goh et al., 2012). However, due to the innovative and complex nature of the problem, only a few studies have focused on the impact of generated content by brand and by the user on SNS, on user-engagement with the brand.

This paper aims to present a critical, summarized review of the main scientific literature produced on the aforementioned area over the last five years. To ensure an extensive review of the impact of the content in text and visual format, the SNS considered are Facebook, Twitter, Instagram and Pinterest, each with its own specific characteristics and popularity. We chose to do this so as to avoid the current trend in academia which is to analyze a single SNS, individually. This method is known to possess inherent limitations, leading to erroneous conclusions (Padmanabhan, Zheng, and Kimbrough, 2001; Park & Fader, 2004; Smith, Fischer, & Yongjian, 2012), considering that users tend to utilize more than one SNS. For instance, Trusov, Bodapati, and E. (2010) interviewed several SNS users and found that many had multiple profiles in different SNS. Another recent study has shown that over 34% of Twitter users also have Pinterest accounts (Duggan & Smith, 2014).

This literature review also aims to answer the following two research questions (RQ): RQ1: *Is user brand engagement influenced differently by user-generated content and by brand-generated content in SNS?*; RQ2: *Is user brand engagement influenced differently by image-based content and by text-based content in SNS?*

To answer these research questions, the main scientific literature published over the last five years was reviewed. This paper begins with the state of the art analysis of four theoretical concepts and their relationship with brand engagement. These are: brand-generated content, user-generated content, textual-based content and image-based content. Afterwards, a discussion and suggested research guidelines are proposed.

The bibliographic references were compiled from the Web of Science database in April 2015. All papers containing the terms “brand-generated content”, “user-generated content”, “image-based content” and “text-based content” in the title or in the abstract were considered. Each paper was analyzed in order to exclude those that were not related to the brand engagement phenomenon in the marketing context.

Additional papers, conference papers, reports and books that were not found in the Web of Science search engine but were considered relevant to help answer the two defined research questions, were included. Each paper was carefully reviewed and classified according to the topics related with the two research questions: Brand and user-generated content; Image and Text-branded content. A total of 37 papers, reports and books were used, including articles from the following specialty journals: International Journal of Business and Innovation, International Journal of Market Research, Journal of Business Research, Journal of Consumer Behaviour, Journal of Interactive Advertising, Journal of Interactive Marketing, Journal of Marketing, Journal of Marketing Research, Journal of Research in Interactive Marketing, Marketing Science, Procedia – Social and Behavioral Sciences and Social Science Research Network.

The main contribution of this paper is that it allows researchers interested in this subject to easily identify research topics that need further study, making it an essential business tool for any scholar or practitioner. The suggestions are related with the terms “brand-generated content”, “user-generated content”, “image-based content” and “text-based content” and the relationship between them.

Brand-generated content and User-generated content

A variety of expressions regarding content generated by a brand for commercial purposes can be found in the literature. For instance, firm-generated content, firm-based content, producer-generated content, marketer-produced content, marketer-generated content and firm generated advertising.

We chose to use the term "brand-generated content" in this paper because it facilitates the distinction with the term "user-generated content". The former is developed or curated by a brand for marketing reasons, which in turn is expected to create value by increasing user engagement. This means

that brand-generated content is not confined to advertising or sales purposes, it can also be used to operationalize a relationship strategy aimed at brand consumers (Malthouse, Haenlein, Skiera, Wege, & Zhang, 2013). Therefore, when applied to social media, brand-generated content is believed to create social return on investment and take advantage of social relationships (Kaltcheva, 2014).

In order to achieve these goals, companies are participating proactively in social media. This implies having to create content regularly, initiating and maintaining continuous contact with users and motivating their employees to listen and reply to user's feedback (Smith et al., 2012). By doing this, companies are expected to be able to keep informed and aware of the user-generated content about their brand (Paquette, 2013).

Companies cannot control user-to-user messages directly. However, they may be able to influence the content and the frequency of their contributions. Brand-generated content, therefore, encourages users to share, comment and reply to companies, thereby acting as an indicator of the user's engagement level. Ultimately, the user can build a close relationship with the brand and become a brand ambassador, producing earned advertising for the company (Smith et al., 2012).

There are many different approaches to the concept of user-generated content, such as: user-generated content, user-generated advertising and word-of-mouth (WOM), to name a few. In this paper we will use the expression "user-generated content" since we wish to focus on the user's behavior in an online environment, specifically in SNS. Moreover, we will assume that the user who interacts with a brand does not necessarily have to be a consumer. Therefore, the expressions mentioned include all digital forms of communication (textual, image, video or sound) produced by the user to inform and influence, consciously or unconsciously, a receiver (an individual or a group). Quoting Kaplan and Haenlein (2010) it is "the sum of all ways in which people make use of social media, usually applied to describe the various forms of media content that are publicly available and created by end users".

Much of the user-generated content is brand-related and is capable of shaping the consumer perception of brands and products (Smith et al., 2012), due to credibility perception differences (Barreto, 2013; Paquette, 2013). The user's opinion can also strongly predict consumer attitude towards brands and products (Trusov, Bucklin, & Pauwels, 2009). This effect is better explored on SNS if there is a high level of interactivity between users, which can shape their attitude and purchasing behavior (Haenlein & Kaplan, 2009; Sabermajidi, Khong, & Makam, 2015). User-generated content is important to marketers because it allows them to identify brand loyalists (Paquette, 2013) and measure user engagement (Sabermajidi et al., 2015).

SNS offer a new way in which users can connect and engage with brands, since it allows them to get to know other brands, to connect with their owners and easily share their experience and opinions about products and brands with other users (Sabermajidi et al., 2015). For instance, they can express their views through "likes"² and comments on a brand's page on the SNS.

Trusov et al. (2010, p. 644) state that on SNS, "the content is almost entirely user generated. To attract traffic, a SN firm, itself, cannot do much beyond periodic updates of site features and design elements. The bulk of digital content—the driving force of the site's vitality and attractiveness—is produced by its users".

It is worth mentioning that in some countries, like China, it is observed that there is a higher percentage of user-generated content than brand-generated content (Smith et al., 2012). About 19% of "tweets"³ on the SNS Twitter are brand-related and most of them seek information or wish to share their opinion on specific brands (Sabermajidi et al., 2015). These findings highlight the impact that user-generated content can have on brand engagement and how brands should react to them. Nevertheless,

² The SNS Facebook "Like" button is a feature that allows users to show their support for specific comments, pictures, wall posts, statuses, or fan pages. Added in February 2009, the "like" button allows users to show their appreciation for content without having to make a written comment (in "WhatIs.com" page – Computer glossary, <http://whatis.techtarget.com/definition/Facebook-Like-button>).

³ A tweet is a post on SNS Twitter. The act of writing a tweet is called tweeting or twittering. Tweets can be up to 140 characters long, including spaces, and can include URLs and hashtags. (in "WhatIs.com" page - Computer glossary, <http://whatis.techtarget.com/definition/tweet>).

according to Paquette (2013) there is a lack of empirical evidence on how the credibility of positive and negative user-generated content can influence consumers.

Despite this fact, there is evidence that user-generated content has an important role to play in brand engagement—users are not all creating equal. For instance, community members diverge widely in the frequency, volume, type and quality of digital content generated. From the brand's point of view, understanding who influences the SNS activity is vital, because it allows for “more precise ad targeting as well as retention efforts aimed at sustaining and/or increasing the activity of influential existing users” Trusov et al. (2010, p. 644).

When brand engagement is studied it is difficult to analyze only user-generated content without considering the brand-generated content. That is the reason why researchers tend to include the two types of content in the same study, comparing both, as demonstrated in the studies that follow.

Pehlivan, Sarican, and Berthon (2011) focused on advertisements and compared user-generated content with brand-generated content. They found them to be different because of the advertisement type—whether it was based on user content or brand content. They have detailed evidence that consumers appreciate brand-generated content but find user-generated content to be more entertaining, promoting greater dialogue about the advertisement (Paquette, 2013).

Another similar finding by the Cheong and Morrison (2008) study states that users show greater trust in product information created by other users than by marketers. In other words, users who generate content become opinion leaders (Paquette, 2013): “the differential and even contrasting impact of UGC and MGC[Marketer-generated content]⁴ suggests that users not only respond to the information of online contents, but also factor the sources of content into consideration. This provides a foray into better understanding the economic value of content on social media platforms.” (Goh et al., 2012, p. 27)

Other findings suggest that user-generated content plays both persuasive and informative roles, whereas, brand-generated content only plays a persuasive role (Goh et al., 2012). This study suggests that a combination of two types of content as an ideal strategy to encourage brands to generate persuasive and informative content, simultaneously: “marketers can incentivize consumers to share their experiences by using discount coupons and reward points” (Goh et al., 2012, p. 28). Another example of how brands can invest in informative content is through viral advertising (Paquette, 2013).

From the directed and undirected communication perspective, Goh et al. (2012) have revealed the same findings. That is, user-content influences both informative and persuasive communication, and its persuasive effect is 22 times higher than that of the brand-content in terms of marginal effect. The brands' content can only exert their influence through persuasive communication. In other words, “undirected contents are more effective than directed ones for both informative and persuasive consumer-to-consumer communication, while directed contents are more effective than undirected ones for persuasive marketer-to-consumer communication” (Goh et al., 2012, p. 27).

Trusov et al. (2009) have studied the effect of WOM marketing on customer acquisition and growth on SNS and compared it with traditional marketing mechanisms. They concluded that a long-term elasticity for online WOM is about 20 to 30 times higher than for traditional marketing. However, their research only focused on aggregate outcomes, such as the number of one-time customer acquisitions and not recurring sales to individual customers.

Albuquerque, Pavlidis, Chatow, Chen, and Jamal (2012) “used data from an online user-generated magazine platform to compare content creator activities (e.g., referrals and WOM efforts) with firm-based actions (e.g., public relations). However, they lacked individual customer-specific visitation and communication data”. The authors also did not focus on marketer-generated content per se, and could have included qualitative aspects of this type of content (Goh et al., 2012, p. 7).

Therefore, the authors concluded that “even though some research has attempted to evaluate the role of UGC [user-generated content] side-by-side with MGC [brand-generated content] or other marketer actions, empirical evidence on the relative efficacy of both types of generated content in influencing consumer purchases is rare, with the exceptions of Trusov et al. (2009) and Albuquerque et al. (2012)” (Goh et al., 2012, p. 2).

⁴ In this research we consider the concept “Brand-generated content”.

To sum up, as stated in the different studies referred previously, brand-generated content can affect user purchase behavior like user-generated content. Later, in the discussion chapter, we will review this point.

Image-based content and Text-based content

In this chapter, literature is reviewed in order to understand the role of image-based and text-based content on user brand engagement on SNS and how both types of contents can be interrelated.

According to Aigrain, Zhang, and Petkovic (1996) the development of multimedia technology and SNS have positioned image-based content at the center of key application domains, such as: digital and interactive video; large distributed digital libraries; multimedia publishing and academia. An example of this academic interest is the increasing number of recent studies focused on quantifying and analyzing Pinterest⁵ user behavior (e.g., (Feng, Cong, Chen, & Yu, 2013). In addition, Zoghbi, Vulic, and Moens (2013) have concluded that images posted on sites like Pinterest are an accurate reflection of user interest, and, because of this, can be used to recommend a product.

Much has been written about the growing interest in and the importance of image-based content in communication and SNS have played a major role in its emancipation, primarily in western cultures. For Sontag (2002, p. 3) image-based content is a critical issue because it teaches us “a new visual code, alters and enlarges our notions of what is worth looking at and what we have a right to observe” and similarly, it is an “experience captured”. In part, this new interest for image-based content is related to technology development, since, nowadays, it is quite easy to obtain an image, manipulate its characteristics, integrate a related text, publish and share it with other users around the world.

Although technology has facilitated procedures, it is believed that human behavior also justifies this trend. As a matter of fact, image-based content needs users to build up emotional stimulations and mental multisensory imagery which can be historic when based on prior experiences, or can be fantasy imagery when based on what they expect to taste, hear, smell, see or feel, whilst they consume products (Govers & Go, 2005). In support of this, Martinec and Salway (2005) state that it is possible that some kinds of images may tend to create direct emotional impact, and text may suite logical analysis.

Without depreciating the importance of image-based content, we must realize that people have a natural predisposition to organize information about their experiences in story format, which suggests that they relate their interpretation of experiences thorough narrating or telling stories (Govers & Go, 2005). One way of telling a story through an image, according to Martinec and Salway (2005), is to link the image to the information about what can be seen in the image, what the image could possibly mean, as well as the history behind the image. That is why some images need to be complemented with text-based content. As a matter of fact the shared images in Pinterest are the main user language. However, there is text-based content that can complement Pinterest’s images, like labels or short comments.

Some researchers have focused on image-based content or on text-based content. Others have compared both or tried to understand how they are interrelated. The latter were interested in the fact that image-based and text-based content play a key role in understanding and indexing visual data (Aigrain et al., 1996).

Martinec and Salway (2005, pp. 341-342) highlight two researchers — Barthes and Halliday — that theorized about the relation between text and image. They explain that Barthes (1977a [1961], 1977b [1964]) “identified three possible image–text relations: text supporting image (‘anchorage’), image supporting text (‘illustration’), and the two being equal (‘relay’)”. Martinec and Salway simplified the Barthes’ classification into just two kinds of relations: logico–semantics and status, which is in

⁵ Pinterest is a SNS where users can upload, save, sort, and manage images—known as pins—and other media content (e.g., videos and images) through collections known as pin boards. It is possible to browse the content of others on the main page or save individual pins to one of own boards using the "Pin It" button, with pin boards typically organized by a central topic or theme. (Adapted from Wikipedia’s page, <https://en.wikipedia.org/wiki/Pinterest>).

accordance with what Halliday had done previously (1985, 1994), only that Halliday made the distinction in a more explicit and systematic way, keeping the two dimensions clearly separated.

The Martinec and Salway (2005, p. 367) study stated that “priority should be given to a text that is subordinate to an image. In this way, more of the text is likely to be related to the image content, so keywords extracted from the text should facilitate more precise retrieval”. Examples of this are labels or comments on images, where the image is more important than the text, which is what Santaella and Noth (2008) call “informative images”. On the other hand, when the text is more important than the image (meaning, the image is subordinate to the text) then, the image is only part of the text, and there is a greater chance of extracting erroneous words from the text (Martinec & Salway, 2005).

Guerini, Staiano, and Albanese (2013) investigated the general impact of images, by comparing posts containing images with posts containing text only. The authors found that the probability of having a high number of re-shares is three times higher for a post containing an image. On the other hand, if we take into account the number of comments, posts containing images have a lower probability of becoming viral. Their explanation of these findings is that text-only posts produce more “linguistic-elaboration” than those containing images.

The correlation between content characteristics and virality has begun to be investigated, especially with regard to textual content. Some results suggest a strong relationship between effect and virality, even though, the measurement of virality is limited to the “likes”, comments and re-shares collected.

The Guerini et al. (2013) study focuses on the content characteristics and virality phenomena, on SNS. It compares static with animated images, different image orientation (landscape, portrait and squared), images containing one face with images containing no faces and greyscale versus color images. Results suggest that “likes” and comments to the posts follow the same tendency, while “shares” indicate a distinct user reaction. On the one hand, funny and informative images have a much higher probability of being shared but are associated to different image features (animation and high-brightness, respectively). Furthermore, color images or images containing faces have a higher probability of being “liked” and “commented”.

Another study focused on the aforementioned comparison but based it on two different SNS with different characteristics and popularity: Pinterest and Twitter. On Pinterest, user interest is measured by the images that a user pins and re-pins on different boards. On Twitter, user interest is measured from the words used in the tweets. Therefore, Ottoni et al. (2014) developed a methodology that is able to compare image-based content, on Pinterest, with text-based content, on Twitter. They used content categories based on those provided by Pinterest and found that users engage in more content categories on Pinterest than on Twitter, but Twitter categories have greater predictive power. According to the authors, “the pollination of content from one site to the other and found that new content tends to originate on Pinterest before spreading to Twitter. This result suggests that while Twitter is a popular global communication platform, sites like Pinterest (smaller topic-specific sites) play a key role in the generation of new ideas and content.” (Ottoni et al., 2014, p. 2).

Another important issue is the impact of different content categories on user engagement. However, categorizing SNS content (image or text) is not an easy task. The Ottoni et al. (2014) study used categories ⁶from Pinterest plus the following five additional categories that have been identified in Twitter-related studies: Politics; Religion; Charity; Twitter-Specific and Business.

A number of approaches have been used in an attempt to categorize Twitter content, but Twitter itself categorizes its trending hashtags/topics as trends in reviews published yearly. For example, the 2012 Review lists classes of hashtags as: politics; sport; tech and food. Twitter’s classification methodology is not public (Ottoni et al., 2014).

⁶ The researchers used 33 categories from SNS Pinterest.

Discussion and Conclusions

The aim of this literature review was to answer two fundamental research questions, important to both the academic and the industry's marketing sector: *Is user brand engagement influenced differently by user-generated content and by brand-generated content in SNS? Is user brand engagement influenced differently by image-based content and by text-based content in SNS?*

An interesting topic for discussion is the way in which the first question has been explored. We could have started by investigating whether brand-generated and user-generated content influence user brand engagement. If the result was positive, then we would investigate whether they influence the user's brand engagement differently. However, it was not necessary to perform the first part of the investigation because we assumed that both types of generated content do influence user brand engagement, as we explained in this literature review.

Assuming this and with regard to the first question, it is important to stress that both brand-generated content and user-generated content play an effective role in user brand engagement, especially on SNS, which is why it is advisable for brands to adopt a mixed strategy when playing on SNS. However, these two types of content can be controlled by brands in different ways. Brand-generated content which is dependent entirely on the brand can be created regularly, by initiating and keeping contact with users in a proactive way. In this way, it is an indicator of user engagement levels. Nonetheless, user-generated content can also be brand-related but is more capable of shaping consumer perception of brands due to best credibility perception. Besides, this type of content can strongly predict consumer attitude towards brands and products. This effect is better explored on SNS if there is a high level of interactivity between users. Consequently, user-generated content is important for brands because it allows for identifying brand loyalists and opinion leaders, and is a measure of user engagement. Unfortunately, brands cannot control this type of content in the same way that brand-generated content is controlled.

Brands must make use of strategies which will lead SNS users to comment and share brand contents, increase their engagement, and improve results where word-of-mouth, customer knowledge, loyalty and sales are concerned. In this way, users are creating the brand, because they are talking about it, they are giving their opinion and influencing other users' perceptions of the brand. User engagement is, therefore, "a strategic imperative for establishing and sustaining a competitive advantage and as a valuable predictor of future business performance" (Brodie, Ilic, Juric, & Hollebeek, 2013, p. 105). As far as SNS are concerned, user engagement can be seen as an interaction between users and the brand, becoming a multidimensional concept which involves cognitive, emotional and behavioral aspects (Brodie et al., 2013).

It is worth discussing whether it is the brand that creates user-generated content or whether it is the user who creates brand-generated content. In our opinion, it is difficult to be one hundred percent sure on this matter because evidence points both ways. Taking into account the subject of this paper, it is far more important that we find out whether both types of content do indeed influence user brand engagement on SNS, or not.

Regarding the second research question, the findings of this literature review suggest that image-based content and text-based content play complementary roles on user engagement on SNS.

It is clear that image-based content has become more relevant and has aroused interest among researchers and practitioners, and, it is believed that the development of multimedia technology has incremented this interest even further. However, we believe that human behavior is also responsible for this increment and has a key role to play. People are attracted by appellative and sentimental images and want to share them on SNS.

Regarding the complementary role of the two types of content — image-based and text-based — some researchers have focused on the type of relationship between them as well as on comparing them. It seems clear to us that the focus should lie on how they relate to each other because comparing them will be of no use, as they have complementary roles to play where user brand engagement is concerned.

Regarding textual content, some studies are focused on the correlation between content characteristics and virality (e.g. Guerini et al. (2013)). Some results suggest that there is a strong relationship between effect and virality when investigating how different textual contents give rise to different reactions in users. Here, one must bear in mind the existing limitations in measuring virality.

Studies of the correlation between content and virality also include image-based content and its characteristics. Findings support the idea that funny images and informative images have a much higher probability of being re-shared. These are related to animation images and high-brightness images, respectively. On the other hand, color images or images containing faces have a higher probability of being “liked” and commented on.

Image-based content arouse special interest among researchers and practitioners as images posted on sites, like Pinterest, are an accurate reflection of user interest, and because of this can be used to recommend products (Zoghbi et al., 2013), reflecting the power that this type of content can have.

However, as we have seen, text-based content also has a key role to play where user brand engagement is concerned. For example, Guerini et al. (2013) found that the probability of having a large number of re-shares is higher for a post containing an image. On the other hand, posts containing images have a lower probability of becoming viral when it comes to number of comments. The explanation they arrived at is that text-only posts produce more “linguistic-elaboration” than images do.

In conclusion, there is evidence in the literature that image-based content and text-based content both play complementary key roles in user engagement on SNS.

Limitations

As with any other literature review study, this one also has some limitations that should be considered. Firstly, this study analyzed mostly articles published in the last five year, selected on the basis of the following keyword search: “brand-generated content”, “user-generated content”, “image-based content” and “text-based content”. We believe that a broader time period may produce different results. We also have to assume that some studies may have used slightly different keywords, so, it is possible that as a consequence some papers may not have been included in this literature review.

Secondly, this study was restricted to the search for articles at only one online database (Web of Science). We have to assume that, had we used other academic journals and databases, the results may have been different.

Finally, only English publications were considered in this study; this leaves open the possibility that literature from other cultures may exist and which could have led us to different results.

Suggestions for future studies

The main contribution of this paper is to identify research topics, related to user brand engagement on SNS, which need further study. The impact of different content on user brand engagement is, thus, not fully understood, yet.

There is some evidence that brands should use a mixed strategy to engage with users, playing active roles in both brand-generated and user-generated content. Very few studies focus on the relative effect of user-generated content versus brand-generated content, as argued by Goh et al. (2012). It would, therefore, be interesting to fill this gap. Future research could also study the impact of different message components, like text and image or direct links to the brand’s main page, on user brand engagement.

Another suggestion for future research is to fill the gap caused by the lack of empirical studies — for example, how the credibility of positive, neutral and negative user-generated content can influence SNS users or influence the relative efficacy of brand-generated and user-generated content.

The impact of image-based and text-based content on user brand engagement needs more research. It would be interesting to analyze the impact of different content categories (for example, informative, persuasive or advertising), in accordance with the suggestions made by Guerini et al. (2013).

How best to extract and manage semantics information of image-based content remains an uncertainty. Additional research efforts and more critical research approaches are needed.

In spite of the studies carried out by Barthes (1977b [1964]) and by Halliday (1994) labelling the types of image-text relationships, it would be helpful to conduct more theoretical research to explore the types of relationships these two types of content can have.

The last suggestion for future research is to include other metrics to evaluate user brand engagement, instead of only using “likes”, comments and re-shares. Both quantitative and qualitative metrics can be used.

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