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Advantages of strong brands on customer reach and customer engagement on social media marketing

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To Eduardo, Magda and Dudu

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1. INTRODUCTION

Much has been discussed recently about the role of social media in marketing and business, mostly regarding how to efficiently explore these new avenues that are available for marketers to deliver messages to consumers. Moreover, it becomes chiefly important to learn how to tap into this mass of customers that are reachable in many different online places, most of the times engaging in big, real-time conversation about brands that might turn out to be potentially useful information for the companies. Arguably the most important paradigm shift in marketing in many years, the advent of social media has induced major changes in many areas, but most importantly on how brand-related communication is thought and delivered. Brands are now more than ever part of the social environment, while marketing communication is no longer a monologue dictated by the firm through a commercial, print ad or a corporate website – it is shifting quickly to a more democratic two-way interaction between the firm and its customers. Moreover, social media constitutes a communication channel with much lower costs to the firm than traditional media, making it a far more accessible medium to all the companies. In fact, social media hosts shoulder-to-shoulder both strong and high value brands and lesser-known brands, which have virtually no marketing budget to spend. As for customers, their time spent online continues to increase sharply, growing more than 20% yearly with social networks capturing the highest share of this online time among all categories of sites – 20% of all time spent on personal computers and 30% of all time spent on mobile phones (Nielsen, 2012). Social networks can already be considered now the most powerful online medium for brands to deliver their marketing communications, and their importance shall grow with more online time from consumers. Virtually every brand is now present in social media and is already competing fiercely for customers' attention online, trying to get them to connect and engage with their brands on this social context, striving to get the most share of customers' attention. In this

environment, it is increasingly important for marketers and firms to understand the mechanics of social media and customer engagement.

As power shifts to consumers, with an unprecedented freedom to choose the content and messages they are willing to engage with, do the rules of the game change? The present study focuses on investigating this question in the light of a well-established rule in marketing: high equity (i.e. strong) brands enjoy differential, or more positive responses over their marketing efforts. In other words, it has been proven thoroughly in the literature that customers respond better to strong brands than to lesser-known brands, especially when faced with "hard" or difficult situations. When it comes to advertising, this effect has been discussed mainly in a traditional media background, showing that developing brand equity and continuously pushing to create stronger brands is an efficient way for companies to become more successful in their marketing communications. Good examples of the benefits of having strong brands are related to more positive advertising response and recall, increased customer attention and higher levels of customer loyalty (Hoeffler & Keller, 2003).

An important question that arises in this new social media landscape is how these brand equity benefits are shaping marketing efforts online, in a much richer and interactive medium, with a lot less control given to the brands over their messages and content. Engaging customers online is, in fact, a rather deeper challenge for brands than the traditional mass media communications. Two challenging objectives are to be pursued in social media marketing: convincing the customers to give attention to your brand message and promoting customer engagement with that message. A problem in this equation is that customers will selectively pay attention only to those brands that make them want to engage with them, therefore being extremely important to provide customers a solid reason for doing so (Kaplan & Haenlein, 2010). Improving brand equity or creating stronger brands can facilitate or influence these marketing objectives, and a better understanding of the

advantages that can be expected from having higher equity should be of high interest to both academics and practitioners alike.

For this study, two main social media marketing objectives had their relationships with brand strength analyzed empirically: customer reach and customer engagement. Firstly, customer reach can be understood as creating, expanding and fostering a wider audience for their online marketing content. On traditional mass media, brands tapped into a pre-established reach dependent on the channel – such as television audience or magazine circulation. On social media, reach is highly dependent on the brand's own efforts, meaning that marketers strive to get customers to connect with the brand online, mostly via getting users to use opt-in actions, such as "following" on Twitter, becoming a "fan" on Facebook, subscribing to a channel or a feed. Strategically, it is of utmost importance for brands to have a broader audience, reaching as much people as they can with their marketing message and raising awareness.

The second social media marketing objective investigated in this study is customer engagement, or how effectively a brand is in getting its audience to engage with their content. "Engage or die" is the new marketing catchphrase (Nelson-Field & Taylor, 2012), with this topic quickly becoming of great interest to practitioners. There is a prevailing conception of customer engagement as a way to create deeper and more lasting customer brand relationships (Kumar et al., 2010), making it key for brands to be successful on social media. Benefits of having high engagement are diverse, such as generating electronic word-of-mouth, tapping into customer feedback, besides enabling sophisticated interactions with customers such as co-creation of new products and innovations. Nonetheless, in this study a discussion is made about how customer engagement should be seen as a lever rather than a necessary objective to be pursued by every brand in every context. An argument is made that not all brands should always strive to be more "social" and increase customer

engagement, while on the other hand increasing customer reach might be a more ubiquitous objective.

This study sheds a light on whether brand strength can influence these two different social media marketing objectives, using as basis for the study data collected from the two largest social media platforms: Facebook and Twitter. Results of this study show that more valuable brands are able to obtain more customer reach, but the same effect is not verified on creating customer engagement. A better understanding of the mechanisms of social media platforms and its marketing-related objectives can be useful in increasing effectiveness of online marketing activities and also help guiding marketers into aligning marketing strategy with the correct set of metrics on social media.

2. LITERATURE REVIEW

2.1. Introduction

This chapter will discuss several concepts that are highly relevant and used throughout this study. A literature review is provided covering three different topics: strong brands, customer engagement, and social media. These subjects come together in this paper while investigating relationships between brand strength and social media consumer behavior, namely customer reach; and brand strength impact on results over social media marketing efforts, namely customer engagement.

2.2. Customer engagement

Customer engagement is a fairly recent concept in the literature, having received considerable attention among practitioners (Cheung et al., 2011), but still presents itself lacking a consensus in the academic literature. Customer engagement has been defined through several different names, such as "customer engagement", "customer engagement behaviors", "customer brand engagement" as well as a more general "engagement" only (Hollebeek, 2011a). This concept has been firstly defined by social sciences as an ongoing emotional, cognitive and behavioral activation state in individuals (Kahn, 1990; Schaufeli et al., 2002). From the marketing perspective, customer engagement has also been defined as a sequential psychological process that customers move through to become loyal towards a brand (Bowden, 2009), which is in itself a rather limited definition of customer engagement, as its impacts are believed to go beyond brand loyalty. A more comprehensive definition is given by Verhoef et al. (2010), in which the authors argue that customer engagement can be understood as behavioral manifestations towards a focal object (e.g. a brand or a firm) other than purchase, and resulting from motivational drivers. The authors suggest that all customer engagement

behaviors comprise five dimensions: valence (positive or negative), form and modality, scope (temporal and geographic), nature of impact and, finally, customer goals. This approach shows a more in-depth understanding of different aspects of engagement, including in the concept possibilities of customer engagement of negative valence, such as when consumers complain about a product or a brand. Expanding further on the concept, van Doorn et al. (2010) work towards defining a conceptual model in which customer characteristics, firm initiatives and the contextual environment affect customer engagement behaviors. Also, their work provides a very important contribution in establishing more clearly what are the consequences that customer engagement can provide to the firm, the society and the customer itself, as well as some of the antecedents that result in customer engagement. Hollebeek (2011b) presents the concept of customer engagement as "the level of an individual customer's motivational, brand-related and context-dependent state of mind characterized by specific levels of cognitive, emotional and behavioral activity in direct brand interactions", with focus on the interactions between the customer and the brand, a more specific and applicable perspective on the concept of customer engagement, especially useful in contexts that require direct measurement such as in Marketing-related activities that generate customer engagement. Further on, Hollebeek (2011a) works on identifying key themes of customer engagement, namely: immersion, passion and activation, that would represent how much a customer is prepared to exert cognitive, emotional and behavioral investments while interacting with the focal brand. This approach is different from the works of van Doorn et al. and Verhoef et al. in the sense that specific customer-based measurements are proposed and can be used to assess the intensity on which customers would be willing to engage with a given brand.

Mollen & Wilson (2010) contributes to the literature by studying the concept of engagement from an online experience standpoint. Using as a background the e-

learning and online marketing literature, the authors state that responses to a website present three different experiential states: perceived interactivity, tele-presence and engagement. For the authors, engagement can be defined as "a cognitive and affective commitment to an active relationship with the brand as personified by the website or other computer-mediated entities designed to communicate brand value". Furthermore, the authors suggest engagement as comprising dimensions of active, sustained, cognitive processing, attainment of instrumental value (relevance and utility), and experiential value (emotional congruence). This conceptualization agrees mostly with what has been defined by van Doorn et al. and Verhoef et al, but adds an important layer to the concept regarding interactivity, which is a very decisive factor for customer engagement in an online environment.

Customer engagement has also been conceptualized as a state of sustained attention, which can be characterized by full absorption and involvement as well as being fully occupied or engrossed in something (Higgins & Scholer, 2009). In this same study, the authors acknowledge that consumers can be engaged on different levels of intensity and suggest that the more a person is engaged, the more intense will be the experience of the motivational force. This work provides a fairly generic definition of customer engagement, but mostly adds to the understanding that customer engagement can be expressed both in a positive (e.g. attraction) and a negative (e.g. repulsion) way. Brodie et al. (2011a) have also summarized the main themes in the literature and developed a set of five fundamental propositions for customer engagement, but this conceptualization has being criticized for being too broad and too exposed to the danger of confounding the behaviors, which are potentially caused by engagement, and all other behavioral indications (Malthouse & Calder, 2011). Moreover, the work of Malthouse & Calder is also successful in expanding the perception of customer engagement, as the authors argue that the interactive nature of experiences should not imply that engagement

requires a high level of explicit activity, as engagement can arise not only from activities such as e.g. blog posting, but also from receiving communication that can be seen as interactive and co-creative, as long as these experiences are immersive. This definition is also very useful for better understanding customer engagement in the context of social networks and social media marketing, since "Likes" or "Retweets" are considered low-involvement user actions rather than activities, but are certainly expressions of engagement and can reflect an immersive experience with brand-related marketing content.

After conceptualizing, it is important to further understand what are the antecedents and consequences of customer engagement on the present literature. As for antecedents, Hollebeek (2011b) has identified involvement and interactivity to be required prior to the expression of a relevant customer's brand engagement level. The concepts of interactivity, rapport and value co-creation in particular have been noted as of high relevance in service contexts and Web settings, which can be characterized by human interactive forms. For Van Doorn et al. (2010) antecedents for customer engagement are divided into three major groups and include not only customer-based, but also firm-based and context-based factors. Customer-based factors are attitudes, goals, resources and perceptions, while characteristics of the brand and the firm together with the different aspects of contextual environment can have just as much impact on customer engagement behaviors. The authors also state that these factors interact with each other and are potential moderators of effects on customer engagement.

Regarding customer engagement consequences, an exploratory analysis investigating this topic in a virtual brand community has revealed that the consequences of customer engagement in that particular case included loyalty, satisfaction, empowerment, connection, emotional bonding, trust and commitment (Brodie et al., 2011b). Furthermore, Cheung et al. (2011) suggest that a customers willing to invest

physical, cognitive and emotional effort into an online platform will also have a higher tendency to engage in word-of-mouth and communicate about the brand. Bowden (2009) also suggests that customer engagement can be seen as the superior predictor of customer loyalty, as compared to other traditional marketing constructs. For Hollebeek (2011b) concepts of co-created value, brand experience, perceived quality, customer value and brand loyalty are suggested to represent the potential consequences of customer brand engagement.

2.3. Strong brands

Building a strong brand with significant equity is seen as providing a host of possible benefits to a firm, including greater customer loyalty and less vulnerability to competitive marketing actions or crises, among others (Keller, 2001). Researchers that have studied the effects of different types of brands used a number of different proxies for 'strong' or 'high equity' brands (Hoeffler & Keller, 2003), but ultimately there seems to be an agreement that building strong brands refer to increasing the intrinsic value of a brand, or more directly increasing brand equity. One common discussion in the literature that arises from this topic is regarding differences in the concepts of brand equity and brand value. This differential conceptualization is addressed by Raggio & Leone (2007), who argue that one of the primary reasons for not having a generally accepted measure of brand equity until now is that brand equity and brand value are frequently treated as the same construct. Adding to that argument, Tiwari (2010) also suggests in his work that brand value and brand equity represent two different but deeply connected concepts. For the author, brand value is defined as the net present value (NPV) of future cash flows from a branded product discounted the net present value of future cash flows from a similar unbranded product. Both of these works are useful to separate a firm perspective on brand strength, as brand value is defined as a measurement of how much a brand is worth specifically to the management and to shareholders, and therefore do not use a

customer-based approach. Differently from brand value concept, the authors also argue that brand equity should represent a customer-centered concept, defined as a set of perceptions, knowledge and behavior on the part of customers that creates a price premium for a branded product — in other terms, brand equity can be defined as what the brand is worth to a customer. Regarding measurement of these two constructs, Tiwari (2010) also suggests that while measuring brand value might be useful, the act of measurement itself does not make a brand more valuable or less risky. Quantifying and managing brand equity, however, can be critical to transferring value to the shareholders. Drawing from a comprehensive literature review on brand equity made by Christodoulides & de Chernatony (2010), differences between brand value and brand equity can be understood as two different perspectives of the same concept, one firm-based (and thus financially oriented) and one customer-based. Nonetheless, measuring the strength of a brand is still an uncertain territory in the literature, with a more subtle agreement that both brand value and brand equity are constructs that are intertwined and thus can be considered suitable to indicate the strength of brands (Hoeffler & Keller, 2003). In this research, strong brands will be used addressing brands that possess high equity and, as a rule, also high value. It is not the objective of this research to detangle the two concepts, as both of them can be used to measure brand strength, and are directly ultimately connected with consumer-based brand equity, as explained more in-depth in the following review of brand equity literature.

Brand equity

As mentioned previously, no decisive theoretical foundation has emerged over the brand equity concept (Raggio & Leone, 2007). In fact, Christodoulides & de Chernatony (2010) concur that the literature available on brand equity is substantial, but is also fragmented and inconclusive. In general, an agreement in the literature can be found regarding two

different perspectives on brand equity. On the one hand, there are authors that characterize brand equity from a financial perspective, in which brand equity is defined by the financial value of the brand to the firm and is referred to as firm-based brand equity (Farquhar et al., 1991; Simon & Sullivan, 1993), while on the other hand some researchers focus on a customer-based perspective, in which the focus is on customers' perceptions and attitudes related to a brand (Aaker, 1991; Keller, 1993; Christodoulides & de Chernatony, 2010). Even though there is this differentiation in the literature, the firm-based brand equity and its financial value of a brand can also be identified as an outcome of consumer response to a brand, making it a consequence of customer-based brand equity, which is the driving force of these financial results, such as increased market share and more profitability (Christodoulides & de Chernatony, 2010).

The conceptualizations of customer-based brand equity have mainly derived from cognitive psychology and information economics, mostly focusing on memory structures (Aaker 1991; Keller 1993). One of the most widely accepted models for understanding consumer-based brand equity is the one proposed by Aaker (1991), which defines that the power of a brand lies in the minds of consumers and what they have experienced and learned about the brand over time. Brand equity can be seen as the "added value" endowed to a product in the thoughts, words, and actions of consumers, and the authors present many different ways that this added value can be created for a brand. A strong point of this conceptualization is that the value of a brand is ultimately derived in the marketplace from the words and actions of consumers and, thus, are to be understood as ultimately customer-based. Aaker (1991) further devises that brand loyalty is the primary dimension of brand equity. If the customer continue to purchase one particular brand even in the face of competitors with superior features, price and convenience where we can find the brand loyalty. It reflects how likely a customer will be to switch to another brand, especially when that brand makes a change, either in price or in product

features. Loyal customers are less likely to switch to a competitor solely because of price, and loyal customers also make more frequent purchases when compared to non-loyal customers. Furthermore, Aaker (1991) also consider brand awareness as an important concept, defined as the strength of the brand in consumers' memory, reflected by the ability to identify brand elements under different conditions. It is defined further as the likelihood that a brand will come to mind how easy it happens given different cues. For the author, brand awareness is an important first step in building brand equity, but usually not sufficient.

For Keller (1993; 2009), however, brand equity is a concept better defined as a differential effect of brand knowledge on consumer response to marketing efforts. This concept has been widely used throughout further literature in the topic and is useful into broadening the horizons of what was first established by Aaker (1991). For Keller, brand equity produces an effect either positive or negative, when brand equity influences consumers to react respectively more or less favorable to an element of the marketing mix, in comparison with an analogous situation of a product without a brand. A major contribution from this work and further corroborated by Hoeffler & Keller (2003) is to propose that all brand equity definitions rely implicitly or explicitly on brand knowledge structures in the minds of consumers as the source (or foundation) of brand equity, being brand knowledge a necessary condition for brand equity. For Keller (2009), brand knowledge is defined as "all the thoughts, feelings, perceptions, images, experiences and so on that become linked to the brand in the minds of consumers", and brand knowledge affects how consumers respond to products, prices, communications, channels and other marketing activity – increasing or decreasing brand value in the process. The author proposes further on that brand knowledge can be decomposed into two different components: brand awareness and brand image.

Keller (2009) defines brand awareness as the "relation to the strength of the brand node or trace in memory as reflected by the consumers' ability to recall or recognize the brand under different conditions." Therefore, for the author brand awareness can also be decomposed into two distinct constructs: brand recognition and brand recall. Aaker (1991) had previously defined in his work brand awareness as a similar concept and is related to the strength of the brand in memory, as reflected by consumer's ability to identify various brand elements (the brand name, logo, symbol, character, packaging, and slogan) under different conditions. Also, the author suggests that brand awareness is an important first step in building brand equity, but usually not sufficient, agreeing with the perception of Keller that brand equity is created with brand knowledge, which is partly derived from brand awareness. As for the second component of brand knowledge, Keller (2009) proposes that brand image can be defined as "consumer perceptions and preferences for a brand, as reflected by the various types of brand associations held in the consumers' memory". Keller's conceptualization of brand image integrates several factors such as brand positioning, brand experience, brand loyalty, brand personality and brand reputation (Keller & Lehmann 2006). For the authors, the image of a brand is a framework of several factors with complex interaction mechanisms, including different types of brand associations that make up the brand image, both product-related and unrelated to the product, benefits, symbolic, functional, experiences in general.

Advantages of strong brands

According to Hoeffler & Keller (2003), brand equity can be used as a means of identifying the existence of marketing advantages for strong brands, defining brand equity in terms of the differential response to marketing activity that results from the existence of strong, favorable and unique brand associations. In a vast recollection of many study results from different authors, Hoeffler & Keller have identified a broad scope

of advantages of strong brands, ranging from price-related benefits such as higher price premium and lower price sensitivity, to communications-related benefits such as increased attention and better response to advertising. In an effort to show how pervasive this effect is, the authors propose a framework (Figure 1) to summarize findings in the literature of strong brands – through its many different facets – impacting consumer behavior and producing differential response on marketing efforts. Therefore, it has been proven many times that brand strength is indeed linked to producing advantages regarding consumer behavior, such as more positive outcomes of attention and learning, as well as further beneficial outcomes of marketing efforts, such as ability to use higher price premiums and also overall preference for products that display strong brands. Also, Hoeffler & Keller conclude that the more 'difficult' the situation for a consumer, the more likely that these brand advantages will become salient.
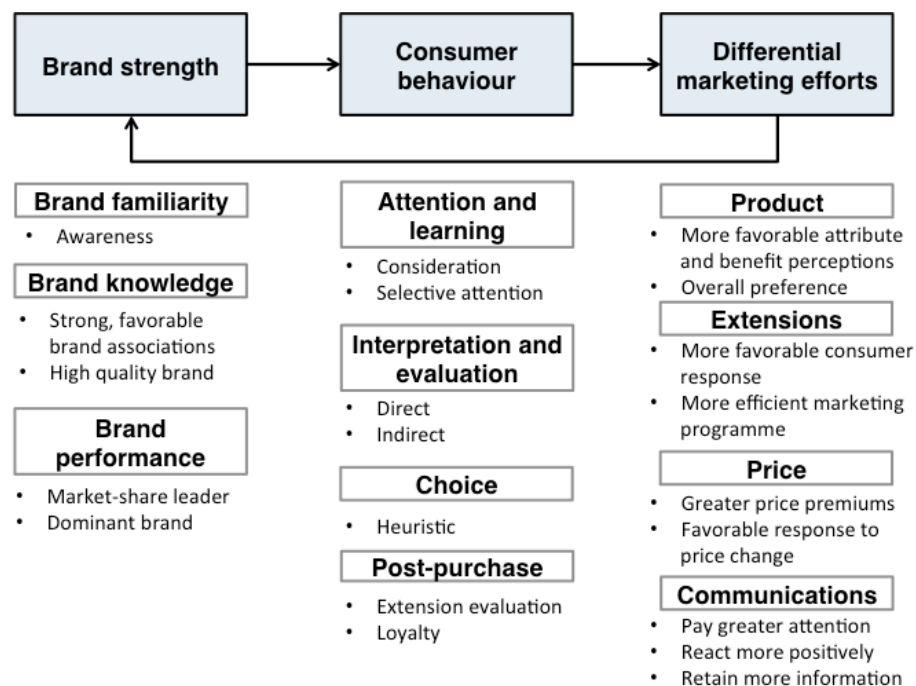

Figure 1 Brand strength summary (Hoeffler & Keller, 2003)

Also agreeing with that broader perspective on brand equity, Raggio & Leone (2007) propose that ultimately brand equity can be conceptualized as a moderator of the impact of marketing activities on consumer behavior as depicted by his conceptual model on Figure 2. More support for that approach is found on the studies by Smith & Park (1992) and Srivastava & Shocker (1991) showing that strong brands contribute to companies having reduced marketing costs, also indicating the moderating effect proposed by Raggio & Leone.
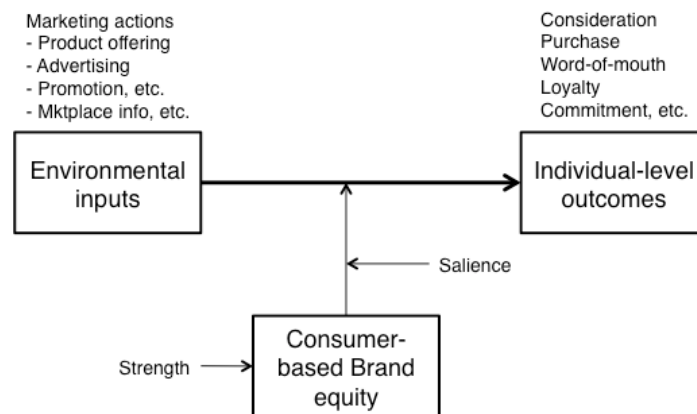
Figure 2 Brand equity moderating concept (Raggio & Leone, 2007)

Measuring brand strength

Keller & Lehman (2006) state that identifying brand equity and measuring it is a significant research topic. Aaker (1996) argues that the ability to charge a price premium may be the best single way of measuring brand equity, since any driver of brand equity should also affect the price premium and therefore can be a reasonable summary of the strength of the brand, but this perception can be a rather over-simplified way of measuring brand strength with a huge drawback of potentially masking confounding factors that also affects price premium and can not be attributed to brand equity. According to Christodoulides & de Chernatony (2010) work on reviewing the literature, there are two main classes of customer-based brand equity measurement methods. First, there are methods that aim at directly quantifying brand equity; and second, methods that use indirect approaches to measurements such as using brand equity's

demonstrable dimensions or through the outcome variable of price premiums. There are no clear consensus on which method is preferable, with both having apparently several flaws and drawbacks. Furthermore, the authors' state that there are divergences in the view of academics on how to measure customer-based brand equity, but more differences exist between the academic approach and managerial consultancy approaches in the market. The authors suggest that this may occur due to the fact that consultants have a business model that relies on proprietary methodologies to generate revenue.

For this research in particular, a publicly available global study on brand value performed by Brand Finance – a widely known consultancy based in London – is used as measurement of brand strength. This approach was chosen mainly due to two reasons: accessibility for data collection and trustworthiness of the source as an estimation of relative brand strength. One point that needs to be clarified is that this research does not aim at accuracy or precision in quantifying the value of a brand. More importantly, the measurement of brand strength is used as comparison among brands in the sample and therefore should be taken as a relative value – it is chiefly to this research to be able to build a relative ranking of strength among the brands and study the impacts of better-ranked brands over the other, but not to precisely pin-point how much a brand is worth to the firm or the customer. Nonetheless, a brief discussion of the methodology used by Brand Finance is presented in the next section.

Brand Finance methodology

The methodology employed by Brand Finance in the Global 500 listing uses a discounted cash flow (DCF) technique to discount estimated future royalties, at an appropriate discount rate, to arrive at a net present value (NPV) of the trademark and associated intellectual property: the brand value. This method is also known as the

royalty relief method, which determines the value of the brand in relation to the royalty rate that would be payable for the brand use were it owned by a third party. Then, the royalty rate is applied to future revenue determining a revenue stream that is attributable exclusively to the brand. According to Brand Finance, the royalty relief methodology is used for three reasons: it is favored by tax authorities and the courts because it calculates brand values by reference to documented third-party transactions; it can be done based on publicly available financial information and it is compliant to the requirement under the International Valuation Standards Committee to determine a Fair Market Value of brands.

The first step in calculating brand value is to obtain brand-specific financial and revenue data. Further on, a financial modeling of the market takes place in which market demand and the position of individual brands are identified in the context of all other market competitors. The following step is to establish the royalty rate for each brand. This is done primarily by calculating what Brand Finance calls the brand strength, an index value that accounts for a number of attributes of the brand, such as financials, brand equity, market share, profitability, among others. Finally, the royalty rate is calculated by using a combination of historic data, sector of operations and profitability of the company.

A final number for brand value is reached when future royalty income is calculated, then discounted over time with a discount rate specific to each brand that takes into account brand-specific characteristics such as its size, geographical presence, reputation, gearing and brand rating. The result of this calculation is a net present value of all future royalties that are attributable to the brand, or more precisely, the brand value.

2.4. Social media

Core concepts

The rise of social media powered several attempts to create a better-framed concept that could define social media domain in the literature. Ebersbach et al. (2008) makes a distinction between two concepts, named by the authors social software and social web. For them, social software is more focused on the software applications that use the Internet as a technical platform, whereas the social web includes also user generated contend and data from network of involved parties. In that sense, social software is often referred to as social media and is further defined by Kaplan & Haenlein (2010) as "a group of Internet-based applications that build on the ideological and technological foundations of the Web 2.0 and that allow the creation and exchange of user generated-content". Furthermore, the authors also define what social media is not: social media is term that should exclude data creation, data storage, and the interpersonal connections established by any application. For better comprehension, this study will use social media in a broad concept including also the concept of social software proposed by Ebersbach and others. Moreover, social media is also conceptualized by Mayfield (2008), who suggests that the term is best understood as a group of new types of online media, which are recognizable for sharing several characteristics. For the author, social media is founded on participation and engagement, meaning that participants are interested in providing contributions and feedback, with a fading distinction between medium and audience. Furthermore, social media is a more open medium, fostering two-way interactions in the form of conversations and forming communities around shared interests.

As a primary change brought on by social media, consumers are now given more power, flexibility and more visibility to their actions when dealing with marketing related content. This expansion of information choices can be seen as the driving force of social

media activity. (Livingston and Solis, 2007). Another strong characteristic of social media is what can be called as micro-consumption, in which consumers can choose what, where, how much and how often they consume content, a total disrupt from a traditional mass media concept. Further on that, companies and their public relations practitioners have now less control over the content or message they send, with social media leading the way to a collapse of this company-centered kind of communication (Cooke & Buckley, 2008).

Social media marketing

Social media has brought many opportunities and challenges to marketing practitioners. For Keller (2009), an interactive type of marketing – like the one enabled by social media – can improve two different dimensions of brand awareness, namely breadth and depth. According to the author, the Internet allows for a much more specific customer targeting of groups that are potentially difficult to reach, especially creating a strong brand awareness for market segments that have an on-line presence. Furthermore, virtual communities and social networks have had an impact as a strong influencer of customers' purchase behavior and decision-making. Harridge-March & Quinton (2009) suggests that these networks enable connections among consumers that can lead to forming strong relationships, ultimately influencing consumer behavior.

Due to this potential impact for businesses, companies have recently dedicated a great deal of resources to social media activities. According to Kaplan & Haenlein (2010), social media is high priority on the agenda of many business executives today. Moreover, decision makers and consultants alike are trying to find ways for firms to make profitable use of social media platforms. Up until now, the objectives of brands on social networks are mostly related to promoting their products or services, either those available online or in the physical world (Jansen et al. 2009). Looking further into how

social media marketing has been developing, Barnes & Mattson (2010) studied the development of how brands are using social media, using as a focal group both Fortune 500[1] and Inc. 500[2] companies. Results of the study show that 22% of Fortune 500 firms have a corporate blog, a number up 6% from the previous year. Furthermore, 45% of the Inc. 500 companies use blogging as an active communication channel, while microblogging platform Twitter is present among 35% of Fortune 500 companies. The authors conclude that rates of adoption of social media by firms show a growing importance of social media in the business world. According to forecasts[3], there will be an increase of interactive advertising expenditures in the future that will end up cannibalizing traditional media advertising expenditures. The authors also point out results of their research show that direct mail, newspapers, and magazines will be the biggest losers of advertising investment in favor of online advertising.

Regarding social media marketing strategy, practitioners and researchers prioritize a focus on branding, not on advertising. As suggested by Keller (2009) and concurred by Taylor et al. (2011), firms use social media platforms chiefly to raise brand awareness among customers. Furthermore, electronic word-of-mouth (eWOM) is also closely related to promoting brand awareness, with social media platforms enabling a closer track of what is being talked through online word-of-mouth (Jansen & Zhang, 2009). Building up on the findings from Taylor et al. (2011), much of social media marketing effectiveness can be attributed to the content of the marketing communication. The authors found that when social media advertisements delivered content that contained informational value, entertainment, or offered social value, those ads were more likely to get favorable responses from consumers.

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[1] US Pages defines the Fortune 500 as such: "The Fortune 500 is a list compiled by Fortune magazine raking the top 500 public corporations of the US as measured by their gross revenue. The names that grace the list however command such power and wealth that the Fortune 500 has

[2] The Inc. 500 is a list of the fastest growing privately held companies in the United States (Inc. 500,2010).

[3] US Interactive Marketing Forecast - 2009 To 2014 (http://www.commetrics.com/download/18/), accessed on: July, 2013,

Electronic word-of-mouth (eWOM)

Word-of-mouth can be defined as the process of information passing from one person to the next. Furthermore, word-of-mouth plays a key role in customers purchase decisions (Jansen et al., 2009), being ultimately considered a powerful yet hard to manage marketing tool. This phenomenon is due to a social behavior of consumers, which freely share their opinions, feelings and evaluations of products or services, especially for those closer on their social circle, such as family and friends (Jansen et al., 2009). In general, customers tend to trust other people's opinions in or outside their immediate social network, for instance trusting also online reviews (Jansen et al. 2009). A particularly interesting aspect of social media is its potential to engage users in sharing their opinions and interests, generating a vast amount of word-of-mouth, also known as electronic word-of-mouth (eWOM). Hennig-Thurau et al. (2004) define eWOM as: "statement made by potential, actual, or former customers about a product or company, which is made available to a multitude of people and institutions via the Internet". On the Internet, word-of-mouth becomes more frequent, faster and also less personal. In particular, Hennig-Thurau et al. (2004) show that eWOM is indeed less personal than "offline" communications, but has significant more reach, besides being more visible and thus being a more powerful mechanism of influence than traditional word-of-mouth. Goldsmith & Horowitz (2006) detailed many reasons why eWOM is effective and why consumers go online to search for other people's opinions. In fact, the authors show that reasons are, but not limited to, reducing risks, lowering costs, and easy access of information. Connecting conceptually eWOM and customer engagement remains to be done systematically, but it is fair to understand eWOM as a manifestation of customer engagement with a brand.

Another relational concept that is important in the context of customer engagement on social media and eWOM is homophily. Homophily is defined as the degree to which

individuals who interact with each other are congruent or similar in certain attributes (Rogers & Bhowmik, 1970). Because individuals tend to socialise with those who share similar characteristics, often termed social homophily, interpersonal communications are more likely to occur between two individuals who are alike. In a world that brands are literally "talking back" to consumers and participating on a conversational setting, homophily can be an important factor in determining customer engagement. Despite the diversity of Internet users in general, consumers online are able to freely select their exposure to certain topics and participation in virtual communities, and thus can steer their social interactions towards consumers similar to themselves (Best & Krueger 2006). A central role in this social media puzzle is played by the brand, with which customers primarily identify themselves with and use as a background to connect with similar people.

Engagement in social media

Customer engagement has been one of the most widely discussed topics in the social media era. This movement can be explained by an overall perception that social media platforms have the ability to enable and support deeper levels of customer engagement and thus support a more intense relationship that is expected to lead to greater consumer loyalty (Nelson-Field & Taylor, 2012). The authors further suggest that customer engagement is at the very core of the social media mantra, being a premise that brands are required to engage consumers in order to benefit from social media. Nonetheless, there are still only weak links between engagement and more tangible benefits such as increased sales.

   One of the most important aspects of customer brand engagement is to provide customers a reason for doing so (Kaplan & Haenlein, 2010), and that holds true also in social media. Due to the ability of monitoring social media activity with relative ease,

companies are capable of identifying topics that customers find interesting, valuable and enjoyable. According to the authors, brands have to provide content that fit needs of the customer, in order to extract an action of engagement from the customer, such as a click, reaction or response to the brand's message. To Nelson-Field and Taylor (2012), however, there is still a lack of clear definition of the engagement construct on social media, even though the authors believe that engagement in these platforms takes the form of activity like posting a comment or sharing a story (or the attitude that underlies the subsequent interaction with the brand).

Malhotra et al. (2013) discusses customer engagement on Facebook platform, and suggests that engagement is becoming critical for every firm's marketing strategy. Regardless of how engagement is measured (whether using Facebook fans, "likes", comments, shares or combination thereof), there is an opportunity to leverage this customer engagement into effectively generating greater reach and also more profound conversations, converting more consumers into brand advocates in the process. Furthermore, when customers engage and share a brand message, the author suggests that users are self-appointing themselves as a kind of brand ambassador, acting on behalf of the brand to promote the brand message to his or her network.

3. CONCEPT AND METHOD

3.1. Research framework

This research aims at moving the studies on social media one step further into better understanding if marketing advantages normally enjoyed by strong brands in the offline world also have a reflection on a more free, unrestrained, online environment like social media. The basis of this research is an adaptation of the brand strength model proposed by Hoeffler & Keller (2003) and presented previously in chapter 2, with an operationalization of its elements focusing on a social media context. In order to reflect brand strength, this research uses one of the proxies cited by Hoeffler & Keller: highly valued brands, or simply brand value. The second element of the framework is how strong brands impact consumer behavior, by influencing consumer attention, learning, evaluation and ultimately choice behavior (Hoeffler & Keller, 2003). Drawing a parallel with this consumer choice behavior, on social media context customers are required to choose themselves pro-actively which brands they will interact with online, mostly via opt-ins or platform-specific actions such as "follow" on Twitter or becoming a "fan" of a brand on Facebook. The result of these actions is an increase in the audience, or more specifically, the customer reach of a brand on a given social media platform. Furthermore, these opt-in actions are also akin to a manifested loyalty and show explicitly consumer behavioral traits towards the brand. Finally, a parallel can be drawn for how brands experience differential results over their marketing efforts in the form of customer engagement. Marketing content is broadcasted to the brand's audience on social media, and the audience engagement translates how much attention and personal investment has been give to that particular brand content or interaction. User actions such as "like" or "retweets" on social media are ultimately responses to marketing communication efforts, showing how impactful and engaging brands are among

consumers. With this new perspective over the framework drawn by Hoeffler & Keller (2003), it is possible to devise a social media specific context as follows:
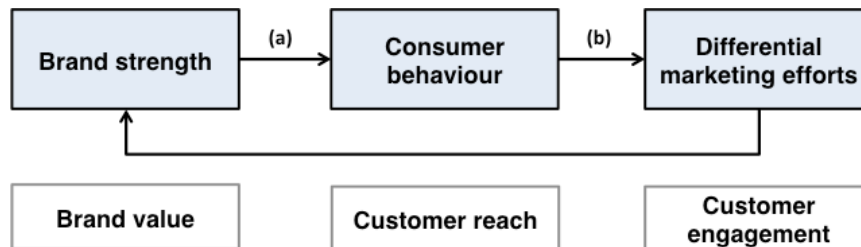
Figure 3 Brand strength impacts on social media context (Adapted from Hoeffler & Keller, 2003)

This new model presents two relationships that are the focus of this research: how brand strength affects consumer behavior and ultimately if any differential response is verified over marketing efforts. To summarize, two research questions are stated below relating brand strength to social media context-specific potential effects:

(a) *Does brand strength influence customer reach on social media?*

(b) *Do customers engage more with stronger brands?*

An answer to these two questions would provide insights into understanding the influence that brand equity can have on marketing efforts in social media. Furthermore, it should offer an empirical evidence of whether benefits of strong brands that have been proven on traditional media settings are still present in an online setting, allowing better comprehending distinctions between social media and traditional media.

3.2. Conceptual models and hypotheses

A first step prior to the development of any conceptual models was to define a variable that could be used as proxy to measure the strength of a brand. In this case, the brand

financial value was chosen to evaluate how strong a brand is, as brand valuation methods provide an analytical approach towards brand equity, allowing to objectively compare the strength of different brands. After this definition, two conceptual models were developed to address the research framework. The first model aims to answer research question (a), in which the brand value is used as an independent variable (or predictor) of the customer reach (or size of audience) on social media platforms. The second model addresses research question (b), trying to establish a relationship between brand value and customer engagement on social media. The two models are presented in more detail throughout the following sections.

3.2.1. Customer reach conceptual model

A customer is defined for the purpose of this study using a broad concept, in which a brand customer is not classified regarding purchase behavior (current customers) and not classified regarding a potential purchase condition. This means that customers on social media are considered those who manifest at least a minimal engagement with a particular brand, consuming content or interacting with that brand on a social media platform. Furthermore, customer reach is defined as how many of these customers a brand can reach on social media platforms, or the core audience that a brand has online, which can present itself in different formats depending on particular structures and mechanisms of the social platform itself (e.g. Fans on Facebook, Followers on Twitter, etc). In general, social media platforms allow consumers to opt-in for receiving content and interacting with a brand, by becoming a "fan" of a brand on Facebook or "following" a brand on Twitter for example. This is substantially different from a traditional media approach, in which the marketing content is pushed to the consumers without previous agreements, such as on television ads or print media. Therefore, measuring customer reach on social media can be approximated by the number of users that actually manifested their interests

for a brand and for consuming content from that brand via its profile page on a social media platform. A particular marketing content can reach customers that did not directly engaged with a brand, either via advertising or through viral reach. In the present study only the organic reach (i.e. content that reach customers that chose explicitly to interact with a brand) is taken into account, with a more in-depth discussion about reach and its measurement is made in section 3.3.

Following the objectives established in the research framework, a simple conceptual model to assess the relationship between brand value and customer reach is proposed and presented below:
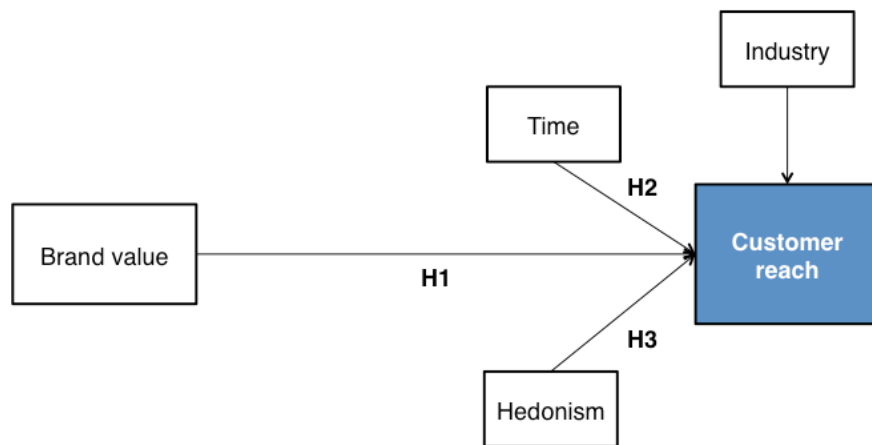
Figure 4 Conceptual model of customer reach on social media

This model has four independent variables (IVs) that potentially influence customer reach on social media, the dependent variable (DV). The first factor in the model is a measure of brand strength, in this case represented by a numeric variable *Brand value*, which stands for the financial value of a given brand. This relationship presents itself also as the first main hypothesis of this study:

H1: Brand value has a positive impact on social media customer reach

Furthermore, three auxiliary factors are present in the model in order to better explain variations in customer reach. First one is a *Time* factor, which represents the amount of time since a particular brand first joined a particular social media channel. It is reasonable to expect that the longer a brand is present on a social media platform, the more consumers will be driven to the brand page. This effect is mostly due to the steep growth of social media usage, combined with the "social contagion" characteristics of this medium. Hence, we derive a second hypothesis:

H2: Time has a positive impact on social media customer reach

A second auxiliary factor is the *Hedonism* variable, which is a binary measure for whether a given brand can be considered in consumers' minds primarily of hedonic traits or on the contrary, a primarily utilitarian brand. As proposed by Holbrook and Hirschman (1982), consumers seek out pleasurable products and experiences, making hedonic products and brands more attractive to consumers. In the context of social media, customers have to actively attach themselves to the brand's reach (via opt-in behavior), meaning that brands that have a more attractive trait such as hedonism should therefore attract more customers to its reach. This effect must be particularly salient in social media also due to its use as an instrument for pleasurable activities and ruled by social influence and social conformity. Hence, it is possible to state the following hypothesis:

H3: Hedonic brands enjoy more social media customer reach than utilitarian brands

Finally, an auxiliary variable called *Industry* is used to track and control for differences in customer reach that are related to the industries these brands are inserted in. As this is a control variable, no hypotheses were derived from consumer engagement differences across industries.

3.2.2. Customer engagement conceptual model

Customer engagement was translated in this study as all actions taken by consumers in a social media platform that are observable and happen as interactions with a marketing content posted by a brand. There are different ways consumers can interact with content in each platform, differing either by merely its name or by the mechanism through which the interaction takes place. A broader concept of customer engagement as proposed by Malthouse & Calder (2011) in which mere any immersive experiences should be considered as engagement would imply tracking also passive content consumption, or non-observable actions of consumers in social media platforms, like reading content or viewing a picture posted by a brand. Even though some platforms are able to register these content "impressions" (such as Facebook), it is still questionable whether they are good indicators of real consumer behavior, since printing a content on a web page doesn't necessarily mean that the consumer in fact paid attention or "consumed" that content. Thus, this study considers as engagement actions only those that are made explicit on a platform as a tangible action by a consumer while interacting with marketing content. More detail about the definition and measurement of customer engagement on social media platforms is given further on section 3.3. A conceptual model for customer engagement is presented below:
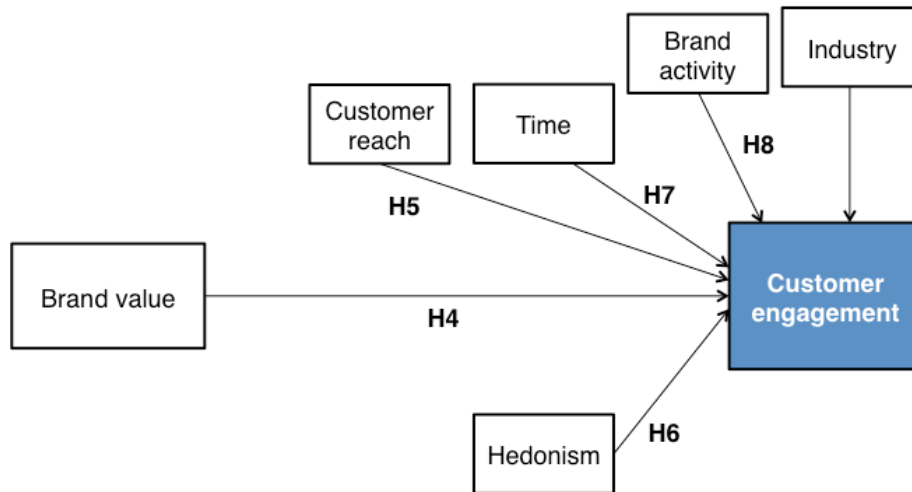
Figure 5 Conceptual model of customer engagement on social media

The conceptual model constructed to evaluate impacts of brand value on customer engagement has five independent variables or groups of variables (IVs) that potentially influence customer engagement on social media, the dependent variable (DV). The main independent variable in the model is once again a measure of brand strength, represented by the financial value of a brand named *Brand value*. This relationship allows drawing the main hypothesis of customer engagement, directly connected to the research question, defined as follows:

> **H4: Brand value has a positive impact on social media customer engagement**

Furthermore, *Customer reach* enters this model as having potentially a direct effect on *Customer engagement*. This proposition is founded in the fact that the size of the audience will foster more engagement, as more customers will have access to brand-related content, allowing for more chances to interact with the brand and ultimately to generate more social influence (social proof) around the content in a given social media platform. In general, it is expected that having more customers receiving

content and being reached by a brand should also drive more engagement, as those customers tend to interact. Hence, the following hypothesis is proposed:

H5: Customer reach has a positive effect on social media Customer engagement

Another factor in the proposed model is the *Hedonism* variable. As consumers seek out pleasurable products and experiences (Holbrook and Hirschman, 1982), it is fair to assume that hedonic brands would enjoy more consumer attention and interactions (i.e. engagement) on social media. To support that assumption, several other studies point out to the fact that hedonic value may have an effect on consumers' brand loyalty development (Chaudhuri & Holbrook, 2001; Sloot et al., 2005; Kuika & Laukkanen, 2012) and therefore potentially an impact also on engagement behaviors. Thus, it is hypothesized that:

H6: Hedonic brands experience higher levels of engagement on social media than utilitarian brands

Time is also included in this conceptual model as a factor, and again represents the amount of time since a particular brand first joined a particular social media channel. It is reasonable to expect that the longer a brand is present on a social media platform, strategies regarding content and usage of platform are more developed, therefore yielding better results in marketing efforts. It is hypothesized that:

H7: Time has a positive impact on social media customer engagement

A second factor that potentially influence customer engagement is related to how brands use social media. How much and how often content is broadcasted, what kind of content and how active the brand is in dialoguing with consumers are possible influencers in the creation of engagement on social media. Therefore, brands' activities on social media are expected to be determinants of customer engagement as follows:

H8: Brand activity has influence on social media customer engagement

Similarly to the previous conceptual model, the auxiliary variable *Industry* is used to map differences in customer engagement that are related strictly to differences across industries, and thus had no hypotheses derived from this variable relationship.

3.3. Measuring customer reach and engagement

Prior to testing the hypotheses, a definition of how social media metrics of both customer reach and customer engagement is provided in this section. A first step into defining measurements was selecting the platforms on which the study would be conducted. The criterion used to make this decision was of how large is the user base (i.e. consumer audience) of a given platform, as a proxy to evaluate how successful a platform is among consumers. As a consequence of attracting more users, brands are also driven to use more frequently those platforms, creating a more suitable environment for marketing actions that are relevant for this study. The top 3 social media channels in terms of audience in 2012 were respectively Facebook, Blogs, and Twitter (Nielsen, 2012). For the purpose of this research, Blogs were discarded for not being a single, centralized platform – but rather a scattered, disperse and non-standardized online communication channel, making data collection difficult and rather unreliable. Based on that rationale,

this study focused into gathering activity data from the remaining two main social media platforms: Facebook and Twitter.

Social Media platforms:

Social media platforms used for data collection and analyses in this research are Facebook and Twitter.

According to the conceptual models described previously, two types of performance metrics on social media marketing are the focus of this study: customer reach and customer engagement. As Facebook and Twitter platforms differ in their mechanisms, these metrics will be from here on treated as separate **research variables** – with each platform having its own metric scores and also its own statistical analyses (such as regression models) throughout the study. The following sections go into more depth about how these metrics were defined and measured.

3.3.1. Facebook customer reach

On Facebook, users can interact with brands primarily by the action of "liking" a brand page and with that becoming "fans" of that brand. This action essentially works as an opt-in, enabling Facebook to start displaying updates, marketing content and information about the brand on that user's news feed. As previously explained, a customer in this social media context could be either an actual or a potential consumer of products or services, being identified chiefly by a manifested interest of the customer in linking himself to the brand and consume its marketing content – both resulting from becoming a "fan" of the brand on Facebook. Nonetheless, the translation of this social media customer into an actual consumer regarding active purchase behavior is still unclear territory. A recent study by IBM during 2012's Black Friday in the United States showed that the major social networks Facebook, Twitter

and YouTube were able to generate less than 1% of the resulting online sales of that day, indicating a weak link between social media and actual purchase behavior. Furthermore, the link between the effects of engagement and business performance remains weak and still doesn't explain the return in real terms (Nelson-Field & Taylor, 2012).

On Facebook, marketing content produced or broadcasted by a brand can reach customers that are both in the group of fans of that brand as well as users outside of that group, who actually did not necessarily opted-in for engaging with that same brand. The customers who opted-in (i.e. are "fans" of a brand) constitutes the primary group who is exposed to marketing content from a given brand, through what is called *organic reach*. Content is displayed to these users based on algorithms and a set of rules that are kept mostly secret by Facebook. Nonetheless, another type of customer reach happens when a customer who has been exposed to a content via an organic display engage with that content through an action (such as a like, share or comment), making that action and its content visible to his or her particular network of friends. This type of customer reach is called a *viral reach*. Furthermore, an increasingly common way of improving the reach of content is through paid exposure (or *sponsored stories*), in which brands pay for Facebook to display their content to a given target group, working similarly to online advertising mechanisms.

For the objectives of the present study, Facebook customer reach is defined exclusively as the total potential *organic reach* of a given marketing content. Therefore, this organic reach is equal to the total number of customers who opted-in ("liked") a brand page, or in other words, the total number of brand "fans" on Facebook. Nonetheless, viral reach is a metric that is deeply associated with what is treated in this research as customer engagement and therefore is still indirectly being accounted for among engagement measurements. Basically, every engagement

action on Facebook has a "side-effect" of increasing total customer reach, meaning that achieving higher engagement scores have ultimately also a positive effect in total customer reach. Regarding paid customer reach, data collection is infeasible as it is impossible to evaluate on a large scale how much was invested by each brand and the impacts of that investment on customer reach, without fully accessing all private brands' Facebook page analytics. Thus, the Facebook customer reach is the first research variable, defined as:

Research variable 1: Facebook customer reach

Facebook customer reach is equal to the total number of "fans" of a brand page on Facebook (i.e. organic reach).

3.3.2. Twitter customer reach

On Twitter, customer reach follows the same logic as on Facebook. Users who have subscribed to the brand's Twitter updates are called "followers" and are opting-in to see the brand's content in the form of tweets shown up in their news stream. These followers are the ones being reached organically, like Facebook fans. Likewise, Twitter further allows content to "travel" and reach consumers via a viral reach and also via paid reach.

Once more, for the purposes of the present study, Twitter customer reach is defined exclusively as the total potential *organic* reach of a given marketing content, which would be equal the total number of followers that a given brand has on its Twitter profile. Even though engagement actions on Twitter are different from Facebook, their effects are the same in increasing customer reach by displaying the engagement action further on to a follower's network of friends. Hence, part of the viral reach potential unaccounted for in the customer reach definition is accounted for in the customer engagement metrics covered by this research. Similarly to its

Facebook counterpart, Twitter customer reach is defined as the second research variable as follows:

Research variable 2: Twitter customer reach

Twitter customer reach is equal to the total number of "followers" of a brand profile on Twitter (i.e. organic reach).

3.3.3. Facebook customer engagement

There are 3 main types of actions with which Facebook enables users to interact with any kind of content on its platform: likes, comments and shares. These actions are also the ones used for interacting with content posted by brands on their official Facebook fan pages. Performing different functions in the Social networking context, each of these actions also demand different "investments" by the user, therefore also representing different levels of engagement with a given content posted by a brand. For this study, a weighted score was calculated to measure the average engagement across all Facebook posts during the period monitored, provided different weights to the actions of likes, comments and shares that reflect the degree of customer engagement they represent. Moreover, to get insights on whether a given audience to which a brand reaches out is being more or less engaged, this measurement has to be relative to the reach (or size of the audience), measuring effectively engagement proportional to the size of the Facebook page. Hence, the first step to calculating this engagement score follows the equation:

$$Facebook\ engagement = \frac{total\ interactions}{total\ fans}$$

This measurement allows capturing how successful the brand is in creating interactions (i.e. engagement) relative to each Facebook fan the brand currently detains. This allows to detach a more abstract concept of "Fan" to a more concrete measurement, showing how "active" this fan base is and how intensively it engages with the brand's content. Nonetheless, a more precise measurement of engagement has to be also dependent on the amount of posts made by the brand, since less content posted would also generate less opportunities for interactions – regardless of the size of the brand's fan base. Thus, a final equation to calculate Facebook engagement scores could be understood as follows:

$$\textbf{Facebook engagement} = \frac{total\ interactions}{total\ fans} \div total\ posts$$

In order to convey the different levels of engagement through the 3 different types of interactions, a standardized score was calculated for each action type and then put together as a weighted final score, arriving at the final Facebook engagement score for each brand. The reasoning behind the weights are as follows:

a) **Likes** (**25% weight**): the action of liking a post is fairly of low involvement and also interpreted as low engagement. It can be understood as a consumer providing a feedback to the brand that the content is aligned with his or her interests, but doesn't foster a conversation or deeper interaction between brand and consumer;

b) **Comments** (**35% weight**): the action of commenting on a brand's post demands a higher involvement and conveys more engagement than liking, as consumers

have to put cognitive efforts into writing something back to the brand or participating in an active conversation among consumers and the brand;

c) **Shares** (**40% weight**): the action of sharing something posted by a brand is relatively effortless, but it is a high involvement action as it functions as an endorsement by the consumer. Moreover, sharing content works as word-of-mouth, demonstrating that consumers not only like the content but also are willing to recommend it to friends and willing to help increasing the reach of that particular brand post.

These definitions allow summarizing the third research variable of this study as follows:

> **Research variable 3: Facebook customer engagement**
>
> *Facebook customer engagement variable is the weighted score of engagement actions towards a brand page on Facebook, relative to its total customer reach and posting frequency.*

Auxiliary variables: Brand activity variables

In order to understand if actions taken by the brand inside social media platforms are influencing customer engagement, a set of variables that track brand activity were collected from Facebook. A first measure was the average posts per day that a brand had during data collection period, indicating how often a given brand broadcasts content to its audience on Facebook.

A second variable used to convey brand activity was the response rate achieved by a brand on Facebook. Brand fans most of the time freely post

messages, questions, complaints and any kind of content on a brand's Facebook page and the response rate measures the percentage of these fan posts that were responded to at least once by the brand, not accounting how deep (rounds of question and answer) a single conversation had.

Thirdly, two different variables account for the usage of rich media posted by a brand, either usage of photos or videos in posts. Each variable was coded to depict the percentage out of all posted content by the brand that used the format, i.e. a value of 0.90 regarding photo posts would indicate that 90% of posts made by the brand contained at least one photo. A summary of the brand activity variables on Facebook is shown below:

Brand activity variables for Facebook:

- **Average posts per day**: average number of Facebook posts made by the brand's Facebook page per day during the time period analyzed;

- **Response rate**: The percentage of users questions (posts containing "?") the brand's Facebook page responded to during the time period analyzed;

- **% of Photo posts**: The percentage of Facebook posts made by the brand that contained photos as part of the content;

- **% of Video posts**: The percentage of Facebook posts made by the brand that contained videos as part of the content.

3.3.4. Twitter customer engagement

A similar process was used to create an index score for Twitter engagement. The Twitter platform has also 3 main types of actions that can be performed by its users in order to engage with content: retweets, replies and mentions. Contrary of Facebook, these actions are not so different in terms of the level of engagement that they represent but it is still possible to create a weighted score reflecting small

differences between the types of interactions. Apart from different types of user interactions, Twitter has also a taxonomy difference from Facebook, since in the former "Fans" are called "Followers" and each "post" is actually called a "tweet". One important particularity of analyzing Twitter engagement is that unlike Retweets, Replies, and Facebook actions, Mentions work not as a response to a brand's action (or content) – it is a message created by the user and addressed to the brand. Hence, the engagement generated via Mentions cannot be calculated relative to the number of tweets made by a brand, as it doesn't depend on that variable. The equations used to calculate Twitter engagement via each interaction type are as follows:

$$\textbf{\textit{Twitter engagement}}_{retweets} = \frac{Total\ retweets}{Total\ followers} \div Total\ tweets$$

$$\textbf{\textit{Twitter engagement}}_{replies} = \frac{Total\ replies}{Total\ followers} \div Total\ tweets$$

$$\textbf{\textit{Twitter engagement}}_{mentions} = \frac{Total\ mentions}{Total\ followers}$$

Once again, scores of each action type were standardized and put together as a weighted final score, arriving at the final Twitter engagement score for each brand. The reasoning behind the weights are as follows:

a) **Retweets** (**30% weight**): the action of retweeting a brand's tweet can be interpreted as a user forwarding the brand message, improving its reach while also adding an endorsement component of the consumer. Nevertheless, it

requires low cognitive effort and time investment from the user to engage in this type of interaction;

b) **Replies** (**35% weight**): the action of replying a brand's tweet works similarly to the Facebook commenting feature, in which consumers actively express through language something in response to a content presented by a brand. This type of interaction also fosters conversations, i.e. two-way interactions, with longest durations than simply retweeting;

c) **Mentions** (**35% weight**): a mention is a tweet created by a user that is addressed directly to the brand. It has the same principles as a reply, with a difference that the content is created by the user instead of created by the user in response to something tweeted by a brand.

These definitions allow summarizing the fourth research variable of this study as follows:

Research variable 4: Twitter customer engagement

Twitter customer engagement variable is the weighted score of engagement actions towards a brand profile on Twitter, relative to its total customer reach and posting frequency.

Auxiliary variables: Brand activity variables

In order to understand if actions taken by the brand inside social media platforms are influencing customer engagement, a set of variables that track brand activity were collected also from Twitter. Similarly to Facebook, the first measurement was

regarding the average tweets per day that a brand had during data collection period, indicating how often a given brand broadcasts content to its audience on Twitter.

The other two variables are both related to a more conversational aspect of twitter and refer to outgoing replies and retweets made by the brand. Like any user, the brand profile also replies to tweets made by other users or by its consumers. Furthermore, a brand can also make use of retweets to rebroadcast content created by different Twitter accounts, creating a flow of information among their profile followers. Both these variables show how "social" a brand has been on Twitter, by interacting back actively with content and consumers. A summary of the brand activity variables on Twitter is presented below:

Brand activity variables for Twitter:

- **Average tweets per day**: average number of tweets per day on Twitter made by the brand's Twitter profile during the time period analyzed;

- **Average retweets per day**: average number of retweets per day on Twitter made by the brand's profile during the time period analyzed;

- **Average replies per day**: average number of replies per day on Twitter made by the brand's profile during the time period analyzed.

3.4. Selecting brands for the sample

In order to collect the data and test the hypotheses established for this study, a sample of global brands was selected using three different criteria: industry, brand value and presence on Social Media. To create diversity and also capture differences across industries 4 different industries were chosen to be included in the study: Food & Beverage, Automotive, Technology, and Consumer Goods. These industries have in common a strong mass consumer focus, which results also on a more salient interaction with consumers, relevant to be captured with this study as it focus on a Business to

Consumer (B2C) relationship through Social Media. In a second step, the selection of brands within these industries was based on their brand value. To achieve that, 2013 Brand Finance Global 500 report – an annual report of the world's most valuable global brands developed by Brand Finance, a consulting company headquartered in London specialized in brand valuation. As a final criteria, all selected brands had to have an active account on both Facebook and Twitter to allow for direct comparison between platforms throughout the study. To summarize how brands were selected for this study:

Brand selection criteria:

- **Brand industry**: Food & Beverage, Automotive, Technology or Consumer goods;
- **Brand value**: Ranked within the Brand Finance Top 500 value ranking;
- **Brand on social media**: Presence on both Facebook and Twitter.

3.5. Data collection

The dataset used for this research comprises of social network activity data both on Facebook branded pages and Twitter branded accounts for the 101 brands selected for the study. This data was collected through web scraping and monitoring social network activity in these branded pages for the duration of 30 days, from 4th of February 2013 through 5th of March 2013, both on Facebook and Twitter. Several important variables were monitored during that period regarding both the brand's activity on these platforms (posts, tweets, etc.), as well as the consumers' reactions and interactions with the brand's activity (retweets, likes, comments, etc.).

In order to acquire data that could reflect brand strength. Data on brand value was acquired through the 2013 Brand Finance Global 500 report – a reliable annual study developed by the consultancy firm Brand-Finance. The methodology on Brand valuation is briefly described in section 2.2.3 and will be referred throughout this study merely as Brand value. To summarize the dataset collected for this research:

Data collection summary:

- **Social media data**: Web scraping Facebook brand pages and Twitter brand profiles activity;

- **Brand value data**: Brand Finance Global 500 report;

- **Sample size**: 101 brands (101 Facebook pages + 101 Twitter profiles);

- **Period**: 30-days daily data from 04/02/2013 to 05/03/2013.

3.6. Statistical analysis

Different types of statistical analyses are used throughout this study. The bulk of the analytical work uses multiple linear regression analysis to test the conceptual models and the hypotheses that they convey as defined previously. This method was chosen due to its flexibility and, according to Malhotra et al. (2006), the fact that regression analyses are useful to determine whether the independent variables explain a significant variation in the dependent variable, or more explicitly to identify whether a relationship exists and how strong that relationship is. In the present study, this statistical approach was used to fulfill the needs of establishing a relationship between metric variables of both customer reach and customer engagement and multiple other factors, such as characteristics of a brand and usage of social media platform. Through the multiple regressions used in this study, it was possible to test the relationship between the dependent variables (X) and the independent variables (Y), conducted individually through the null hypotheses that there is no linear relationship between X and Y. The alternative hypothesis is that there is a relationship, positive or negative, between X and Y. This approach allows tearing apart different effects of different factors on important research variables such as Customer engagement and Customer reach.

Apart from the multiple linear regression models, this research presents analyses that aim at examining differences in the mean values of different dependent variables, such as Brand value or Customer engagement, for several categories of a single independent variable or factor, in this research a categorical variable that reflects the industry to which a particular brand belongs to. This approach was used as a support to the main analyses provided by the multiple linear regression models, while also giving insightful information about how different industries perform on average regarding some of the research variables.

4. RESULTS

The results of the statistical analyses conducted for this study are summarized below. Firstly, descriptive statistics on the data analyzed is provided, followed by ANOVA results and finally a summary of the regression analysis results.

4.1. Descriptive statistics

This set of descriptive statistics aims to providing an overview of the dataset that was used in the present study. The variables associated with brand characteristics are presented first, followed by a description of Facebook and Twitter reach variables, and finally by the Facebook and Twitter engagement variables. Each session of descriptive statistics is also accompanied by insights that have been extracted from analyzing the dataset before any statistical analysis.

4.1.1. Brand characteristics

Each brand in the dataset was firstly classified regarding two identifying variables: industry and whether the brand was evaluated as hedonic or utilitarian. A description of the dataset regarding these two characteristics is presented in the tables below:

Table 1 Industry statistics

Industry	Frequency	%	Cum. %
Food & Beverage (F&B)	26	25.7	25.7
Automotive (Auto)	26	25.7	51.5
Technology (Tech)	37	36.6	88.1
Consumer Goods (CG)	12	11.9	100
Total	101	100	

Table 2 Hedonic and Utilitarian brands

Type of brand	Frequency	%	Cum. %
Hedonic	36	35.6	35.6
Utilitarian	65	64.4	100
Total	101	100	

The dataset contains a majority of Tech industry brands, with a minority from Consumer Goods industry. Furthermore, utilitarian brands are predominant in the data, accounting for roughly two-thirds of the sample, while brands with hedonic traits amounts to approximately a third of the sample.

4.1.2. Brand value

A full set of descriptive statistics is provided about brand value below, while also identifying the top 5 most valuable brands and the bottom 5 less valuable brands in the dataset:

Table 3 Brand value statistics

Statistic		Value *(mil USD)*
Mean		10,143
Median		5,572
Std. deviation		10,969
Minimum		2,437
Maximum		58,771
Top 5 brands	**Industry**	
Samsung	Technology	58,771
Google	Technology	52,132
Microsoft	Technology	45,535
IBM	Technology	37,721
GE	Technology	37,161
Bottom 5 brands		
Nintendo	Technology	2,437
Lipton	Food & Beverage	2,461
Blizzard	Technology	2,616
Harley-Davidson	Automotive	2,726
Tropicana	Food & Beverage	2,726

There is a wide range of brand values in the dataset, but mostly the data is skewed to lower value brands. Half of the sampled brands have a value approximately less or equal than 5.5 billion US dollars, while the maximum value is more than ten times higher that median value. It is also possible to see that the top 5 most valuable brands in the data come from the Technology industry, reflecting a reality that lately technology and innovation have been driving most of economical growth, especially

among business to consumer business. On the other hand it is possible to see that the less valuable brands are still widely recognizable brands, with significant brand value of more than 2 billion US dollars. This fact shows that the sample is composed of global and renowned brands, even though they differ in strength and brand value among themselves.

4.1.3. Customer reach

Two different variables were used to track customer reach in the two platforms selected for the study: number of Facebook fans and number of Twitter followers. Below, a set of descriptive statistics for both variables is presented, combined with top 5 and bottom 5 ranked brands in each category:

Table 4 Customer reach descriptive statistics

Facebook Fans			Twitter Followers		
Statistic		*(in mil)*	**Statistic**		*(in mil)*
Mean		6.354	Mean		0.365
Median		1.797	Median		0.059
Std. deviation		1.222	Std. deviation		0.999
Minimum		0.006	Minimum		0.001
Maximum		88.970	Maximum		6.802
Top 5 brands	**Industry**		**Top 5 brands**	**Industry**	
Facebook	Tech	88.970	Facebook	Tech	6.802
Coca-Cola	F&B	60.327	Google	Tech	5.635
Starbucks	F&B	33.891	Starbucks	F&B	3.583
PlayStation	Tech	31.868	Samsung	Tech	2.632
McDonald's	F&B	27.530	Blackberry	Tech	2.174
Bottom 5 brands	**Industry**		**Bottom 5 brands**	**Industry**	
Fujifilm	Tech	0.006	Danone	F&B	0.001
Canon	Tech	0.008	Heinz	F&B	0.001
Danone	F&B	0.011	Johnnie Walker	F&B	0.001
Texas Instruments	Tech	0.026	Skoda	Auto	0.003
Ericsson	Tech	0.037	Purina	CG	0.003

A first fact that can be drawn from the data is that there is a huge difference in the magnitude of values presented by brands Facebook in comparison to those of Twitter. This result is due to different active user base for each platform, being Facebook much more largely used than Twitter and thus having intrinsically more

reach for brands. Furthermore, it is possible to drawn an insight that top 5 brands on both platforms are either from Technology or from Food & Beverage industry, showing that perhaps brands in these industries are more attractive to users of social platforms. A consistent presence of Tech brands among the top rankings can also be identified as a potential case of homophily, since social networks were created for and are used through technological products meaning that being interested or at least comfortable with technology is an almost pre-requisite for users of these platforms.

4.1.4. Customer engagement scores

Similar to customer reach, customer engagement score is represented by two different variables, each one representing scores from a different platform, Facebook and Twitter. Customer engagement scores were calculated as depicted in section 3.3.3 and all the scores were standardized in order to ensure comparability among different metrics prior to being weighted and computed as a final score. Below, a set of descriptive statistics for both engagement score variables is presented, combined once again with a view of top 5 and bottom 5 ranked brands in customer engagement in each platform:

Table 5 Customer engagement scores descriptive statistics

Facebook engagement scores			Twitter engagement scores		
Mean		-0.003	Mean		-0.184
Median		-0.320	Median		-0.274
Std. deviation		0.783	Std. deviation		0.920
Minimum		-0.777	Minimum		-0.552
Maximum		3.376	Maximum		6.724
Top 5	**Industry**		**Top 5**	**Industry**	
Nintendo	Tech	3.376	Bud Light	F&B	6.724
Canon	Tech	1.854	Corona	F&B	3.376
BMW	Auto	1.778	Budweiser	F&B	2.833
Renault	Auto	1.677	Johnnie Walker	F&B	2.282
Budweiser	F&B	1.618	Kit Kat	F&B	1.432

Bottom 5	Industry		Bottom 5	Industry	
Dove	CG	-0.777	Hershey's	F&B	-0.552
Lipton	F&B	-0.775	Google	Tech	-0.546
Blackberry	Tech	-0.772	Samsung	Tech	-0.540
Dell	Tech	-0.764	Blizzard	Tech	-0.537
Kit Kat	F&B	-0.763	Texas Instruments	Tech	-0.529

This overview of engagement scores provides some insights regarding particular brands and industries. Firstly, there is a dominance of Food & Beverage brands in the top 5 scores for Twitter engagement, as opposed to a dominance of Tech brands in the number of followers (i.e. customer reach) pointed out in the previous section. Furthermore, these results hint that there are potentially significant differences on the mechanisms of engagement and customer reach, as no brand is positioned in the top 5 regarding both of those metrics. On the contrary, we can see that both Google and Samsung detain a top-5 customer reach on Twitter, but a bottom-5 rank in engagement scores. A particular relevant case is that of Budweiser, which is the only brand to hold a top-5 score in customer engagement both on Facebook and Twitter.

4.2. Differences across industries

In order to check for different levels of engagement across industries, a One-Way analysis of variance (ANOVA) was conducted to compare the means of engagement scores using Industry as a categorical variable. Results show that both Facebook engagement score (F=2.877; p=0.040) and Twitter engagement score (F=5.589; p=0.001) are significantly different across industries – indicating that industry potentially play a role in defining engagement with brands on social media. In other words, consumers tend to engage more on social media with brands from some specific industries over others. To investigate this effect even further, a means plot was used followed by a post-hoc analysis firstly For Facebook data and secondly for Twitter data:
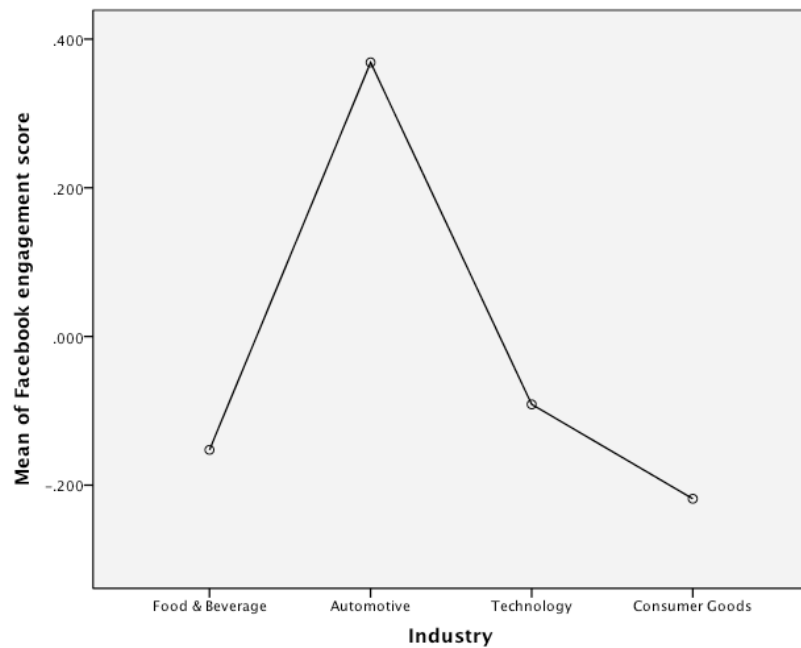
Figure 6 Means plot of Facebook engagement score

The main insight drawn from this analysis is a major difference from the automotive industry to all of the other three industries regarding Facebook engagement. In fact, a post-hoc analysis shows that the only statistically significant differences in means lie on comparisons with the automotive industry ($p=0.015$, $p=0.020$, $p=0.030$, for comparison of means of Facebook engagement score of the Automotive industry with respectively Food & Beverage, Technology, and Consumer Goods industries). Hence, it is clear that Automotive brands are able to obtain a significantly higher customer engagement on Facebook than brands from the other industries present in the study. On the other hand, Twitter engagement presents the same behavior but with different results:
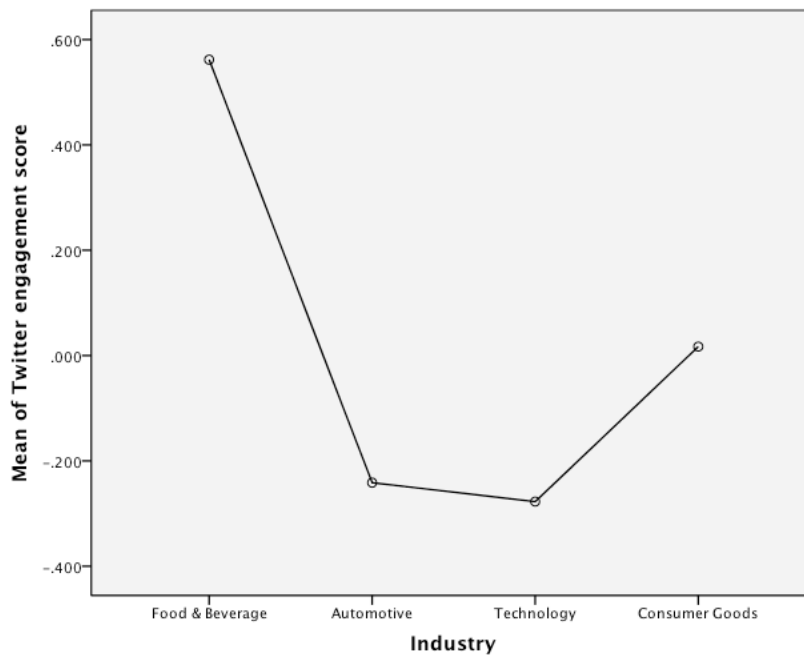
Figure 7 Means plot of Twitter engagement scores

Similarly to Facebook engagement, Twitter engagement scores have also shown differences across industries on the One-Way ANOVA analysis (F=6.531, p=0.000). Twitter engagement also reflects one industry with a dominating higher score, but unlike on Facebook, the Food & Beverage brands are the ones with higher engagement scores on Twitter. A post-hoc analysis shows that Food & Beverage brands' engagement scores are significantly different from all three other industries, namely Automotive, Technology and Consumer Goods industries (respectively p=0.000, p=0.000 and p=0.039). In order to better isolate this industry effect as peculiar to social media engagement, another One-Way ANOVA was conducted to compare the means of brand value across industries. Results show that means of brand value are not statistically different across industries (p=0.120), ruling out that an industry related effect on social media engagement could be due to differences in how strong brands are across industries.

4.3. Customer reach models

4.3.1. Facebook customer reach model

The results of the regression analysis show that a model using the total number of Facebook fans of a brand as the dependent variable, and following the concept depicted in section 3.2 is significant (F=6.107; p=0.000), with an R^2 = 0.280, which can be considered a fair fit to the data. Moreover, no problems with correlation on the residuals were found (Durbin-Watson = 1.548) and collinearity was discarded as all VIFs among the independent variables were found to be lower than 3. An overview of the model's independent variables and their coefficients is shown below:

Table 6 Facebook customer reach model summary

Variables	Beta *(in mil)*	t	Sig.	95% CI (Beta)
(constant)	-10.27	-2.282	0.025*	± 8.94
Brand value	1.89 E-4	2.040	0.043*	± 1.99 E-4
Dummy**: Hedonic Brands**	9.64	3.666	0.000**	± 5.22
Months on Facebook	0.22	2.947	0.004**	± 0.15
Dummy: Automotive	-0.83	-0.254	0.800	*(Not sig.)*
Dummy: Technology	3.73	1.165	0.247	*(Not sig.)*
Dummy: Consumer Goods	-0.61	-0.154	0.878	*(Not sig.)*

* Significant on 0.05 level (two-tailed) ** Significant on 0.01 level (two-tailed)
DV = Facebook fans

Brand value

Results show that Brand value has a positive and statistically significant influence on the number of Facebook fans a brand can amass (p=0.043). In fact, using the beta value of the factor "Brand value" it is possible to roughly estimate that each extra million dollars in brand value produces close to 190 extra fans to a brand's audience. To put this result in perspective, the difference observed in the sample between the most valuable brand and less valuable brand is close to 54 billion US dollars. In that value difference, more than 10 million more fans could be added to the brand due to

that increase in value. Most importantly, these results confirm the hypothesis H1 for Facebook platform and show that stronger brands are able to capture more consumers to "like" their brands on Facebook than lower value brands.

Hedonic brands

This regression model also indicates that hedonic brands are able to capture significantly more fans than more utilitarian brands ($p=0.000$). Looking at the beta coefficient of the hedonic dummy variable it is possible to estimate that, on average, hedonic brands produce over 9.5 million more fans than non-hedonic brands. This difference is sound, and to put this magnitude in perspective: this value is higher than the average number of brands' fans in the dataset, which is close to 6.4 million fans.

Time

Another factor that also influences the number of fans a brand can amass on Facebook is time. This model indicates that the sooner a brand has made itself available on the platform, the more fans it will have. In this case, this result reflects the "snapshot" taken from the brand Facebook pages in the end of the data collection period, present in the model as the "Months on Facebook" variable ($p=0.004$). This result can be explained by the fact that consumers who opted-in in the platform create an immediate increase in exposure of the brand and also social proof to each other potential consumer that is connected to them in the network – resulting in even more fans opting-in or "liking" a brand page over time. This effect can be understood as similar to a contagion effect or simply as a natural growth across time of each brand page on Facebook.

Industry variables

On the other hand, none of the dummy variables included in the model to track differences across industries turned out to be significant, meaning that the Automobile, Technology and Consumer Goods industries do not have statistically different total number of fans in comparison to the baseline values, which are based on the Food & Beverage industry. This result shows that the particular industry from which a certain brand belongs doesn't influence its ability to gather fans on Facebook.

4.3.2. Twitter customer reach model

A similar approach was used to analyze the total number of Twitter followers. Results of regression analysis show that a model using the total number of Twitter followers of a brand as the dependent variable, and following the concept depicted in section 3.2 was found to be significant (F=7.719; p=0.000), with an R^2 = 0.330, which can be considered a decent fit to the data. Moreover, no problems with correlation on the residuals could be found (Durbin-Watson = 1.633) as well as no collinearity was as all VIFs among the independent variables were found to be lower than 3. An overview of the model's independent variables and their coefficients is shown below:

Table 7 Twitter customer reach model summary

Variables	Beta *(in mil)*	t	Sig.	95% CI (Beta)
(constant)	-1.25	-3.716	0.000**	± 0.67
Brand value	2.84 E-5	3.578	0.001**	± 1.58 E-5
Dummy**: Hedonic Brands**	0.81	3.968	0.000**	± 0.41
Months on Twitter	0.02	3.015	0.003**	± 0.01
Dummy: Automotive	-3.25 E-3	-0.013	0.990	*(Not sig.)*
Dummy: **Technology**	0.52	1.985	0.050*	± 0.52
Dummy: Consumer Goods	0.22	0.686	0.494	*(Not sig.)*

* Significant on 0.05 level (two-tailed) ** Significant on 0.01 level (two-tailed)
DV = Twitter followers

Brand value

Results regarding Twitter reach model show that Brand value has a positive and statistically significant influence on the number of Twitter followers a brand can acquire (p=0.001). In comparison to Facebook, this Brand value effect is smaller in magnitude, with an estimation that each extra million dollars in Brand value would produce close to 30 extra followers to a brand Twitter profile, in comparison to almost 200 for Facebook. This difference can be explained by the sheer size distinction between the two platforms, with Facebook boasting 1.1 billion monthly active users[4] while Twitter recently got over 200 million[5], roughly a fifth of Facebook. Nonetheless, this result can also be put in perspective using the difference between the most valuable brand and less valuable brand (54 billion US dollars), estimating that an increase of value of that amount would amass an extra 1.6 million followers. Fundamentally, this model also agrees with the hypothesis H1, in which stronger brands are able to capture more consumers on Twitter than lower value brands. Regardless of the platform, high value brands can achieve more reach on Social Media and enjoy a larger consumer base on these platforms.

Hedonic brands

The model shows that hedonic brands on Twitter are able to capture significantly more fans than more utilitarian brands (p=0.000) on Twitter. By looking at the coefficient of the hedonic dummy variable it is possible to estimate that, on average, hedonic brands produce over 800.000 more followers than non-hedonic brands. This difference is also significant in magnitude, since the average number of followers in the dataset is about 365.000 followers.

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[4] Source: Facebook investors page (http://investor.fb.com/releasedetail.cfm?ReleaseID=761090). Accessed in Jun/2013.

[5] Source: The Guardian (http://www.guardian.co.uk/technology/2012/dec/18/twitter-users-pass-200-million). Accessed in Jun/2013

Time

Like on Facebook, Twitter follows the rule of the older the better regarding customer reach. Likewise, brands that have been around for longer have also a higher number of followers, as expressed by the factor "Months on Twitter" (p=0.003). Similarly to Facebook, this effect can be a result of extra exposure and social proof, being a natural growth across time of each brand profile on Twitter.

Industry variables

On the other hand, none of the dummy variables included in the model to track differences across industries turned out to be significant, meaning that Automobile, Technology and Consumer Goods industries do not have statistically different total number of fans in comparison to the baseline value, which is Food & Beverage. This result shows that the particular industry from which a certain brand belongs doesn't influence its ability to gather fans on Facebook.

4.4. Customer engagement models

4.4.1. Facebook customer engagement model

A regression analysis was conducted according to the conceptual model for customer engagement outlined in section 3.2 of the present study. The model using Facebook variables was found to be significant (F=3.389; p=0.001), with a decent fit in explaining the variation in Facebook engagement scores, resulting in an R^2 of 0.295. Furthermore, a Durbin-Watson of 1.900 indicated no correlation between residuals and all predictors presented VIFs lower than 3, within the acceptable threshold of 10 and therefore ruling out collinearity problems within the model. An

overview of the model coefficients is presented below followed by the main findings derived from the results:

Table 8 Facebook customer engagement model summary

Variables	Beta	t	Sig.	95% CI (beta)
(constant)	-0.74	-1.445	0.152	*(Not sig.)*
Brand value	-9.58 E-6	-1.432	0.156	*(Not sig.)*
Facebook fans	**-2.02 E-8**	**-2.961**	**0.004****	**± 0.00**
Dummy: **Hedonic Brands**	**0.54**	**2.776**	**0.007****	**± 0.39**
Months on Facebook	-0.01	-0.950	0.345	*(Not sig.)*
Average posts per day	-0.07	-0.851	0.397	*(Not sig.)*
Response rate	-0.22	-0.928	0.356	*(Not sig.)*
% Photo posts	**0.95**	**2.098**	**0.039***	**± 0.84**
% Video posts	1.32	1.554	0.124	*(Not sig.)*
Dummy: **Automotive**	**0.62**	**2.805**	**0.006****	**± 0.45**
Dummy: **Technology**	**0.43**	**2.012**	**0.047***	**± 0.47**
Dummy: **Consumer Goods**	0.05	0.206	0.838	*(Not sig.)*

* Significant on 0.05 level (two-tailed) ** Significant on 0.01 level (two-tailed)
DV = Facebook engagement score

Brand value

Results obtained with the regression model show that the hypothesis H4 of the conceptual model – which expected a positive relationship between the strength of a brand (i.e. brand value) and customer engagement on Facebook – could not be confirmed. The *Brand value* variable in the regression model turned out not statistically significant ($p > 0.050$), pointing out to a lack of relationship between brand strength and Facebook engagement scores. Moreover, interaction terms between *Brand value* and both *Facebook fans* also showed no statistical significance. This result answers one of the two research questions and shows that – on Facebook – stronger brands do have a wider audience (shown in section 4.3), but having more brand power does not produce more engaged consumers on Facebook.

Customer reach and time

An interesting fact present in the regression results is a significant (p=0.005) but negative coefficient for the variable *Facebook fans* (i.e. Facebook customer reach) effect on Facebook engagement scores. This means that a higher number of fans on Facebook would produce lower engagement scores for a particular brand. Nonetheless, this result confirm the hypothesis H5 of a relationship between customer reach and customer engagement, but shows a different valence – negative influence rather than positive. In order to fully understand this result, we need to get back to how engagement scores were calculated in the first place. As depicted in section 3.3:

$$Facebook\ engagement = \frac{total\ interactions}{total\ fans} \div total\ posts$$

A negative coefficient for the variable *Facebook fans* in the regression represents that as the total number of fans grow (denominator of the equation above) the total number of interactions (numerator) performed by these fans doesn't grow with the same rate, producing a lower Facebook engagement score.

Another important analysis of the results is to fully evaluate also the relationship of the time variable *Months on Facebook,* as this variable is strictly related to customer reach. In this model, this variable is statistically not significant (p>0.050), showing that there is no direct relationship between a brand's lifetime on Facebook and customer engagement. This result disconfirms hypothesis H7, even though results of the customer reach model depicted in section 4.3.1 points out to a possibility that the variance present in the time variable (*Months on Facebook*) is captured in the model by the customer reach variable (*Facebook fans*), making the former variable not significant while the latter is significant.

Nonetheless, the overall effect of time can still be understood as a positive driver of customer reach, while customer reach is itself a driver with a negative impact on customer engagement. This major effect can be understood as a low engagement of the average consumer and reflects a reality of social media: most of the consumers that become a fan of a branded page on Facebook don't produce "interactions" or more specifically, don't engage with the brand. In order to provide a visual aid for understanding the magnitude of this effect, Figure 8 simulates using the beta coefficient from the regression how Facebook customer engagement scores would drop with the increase in customer reach. The green line on the top of the graph represents the maximum customer engagement score achieved by a brand in the sample, whereas the red line depicts the lowest score. It is possible to see that a drastic drop on customer engagement scores would depend upon a steep increase of Facebook fans, but it still shows a significant relationship between a wider audience and lower engagement.
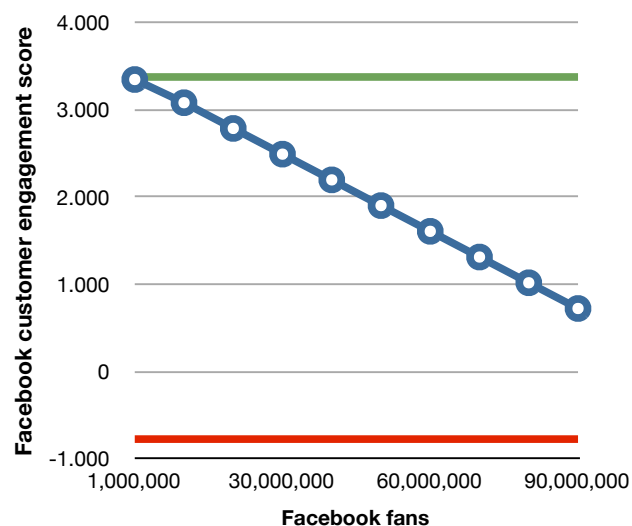

Figure 8 Simulating impacts of increased reach on engagement

Thus, a question that follows this finding is that with so much focus on growing 'bigger' audiences, does increasing customer reach really drives value for brands? These results point out to a need of marketers to double-check their objectives – is it more important to broadcast content to the largest audience possible or to engage a smaller, but core group of consumers?

Hedonic brands

The hypothesis H6 regarding hedonic brands having higher engagement rates on social media was confirmed, with the variable presenting a statistically significant coefficient (p=0.006) with a considerable magnitude. This result shows that social media is also a place where consumers seek pleasure and fun, by connecting themselves with brands that have more hedonic traits.

Brand activity

Out of the four variables used to track brand activity impacts on customer engagement, three of them turned out not significant in the regression analysis. The average posts per day (i.e. frequency) made by the brand, the response rate and the usage of video content on posts did not have a significant impact on creating customer engagement (all three variables have p > 0.050). This result shows that the mere activity of posting content is hardly significant in creating engagement, even if it is in response to consumers, putting automatically a higher importance on the content of the posts in order to achieve that goal. On the other hand, the variable indicating use of photos showed statistical relevance (p=0.046) and proved a positive relationship between using more photos and obtaining more engagement. Apparently, this is the preferred type of content if the intention is to generate engagement among consumers. An explanation for this result is a reflection of

natural human preferences for richer stimuli versus only plain text, but also a shorter attention span that translates in less engagement over rich media contents that demand longer attention such as videos.

Industry variables

Confirming the results of the ANOVA on section 4.2, differences across industries also shows up as relevant in the Facebook engagement regression model. A significant dummy factor in the industry variables represents a statistically significant difference of engagement scores from the baseline industry, which was arbitrarily chosen to be the Food & Beverage industry. A positive beta coefficient for the dummy factor indicates higher engagement than the baseline, and a negative coefficient a lower engagement than the baseline. As expected, Automobile industry has the highest levels of engagement as shown by a significant, positive, beta coefficient (p=0.003) agreeing with the results of the ANOVA analysis. Brands from the Tech industry also enjoy higher engagement levels than the baseline, with a significant and positive beta coefficient factor (p=0.047), but lower in magnitude than the Automobile industry. On the other hand, Consumer Goods brands do not differ significantly from the Food & Beverage industry ($p > 0.05$), and therefore also experience lower engagement scores.

4.4.2. Twitter customer engagement model

A regression analysis was conducted according to the conceptual model outlined in section 3.2 of the present study. The model was found to be significant (F=5.117; p=0.000), with a decent fit in explaining the variation in Facebook engagement scores, holding an R^2 of 0.362. Furthermore, a Durbin-Watson of 2.510 indicated no correlation between residuals and all predictors presented VIFs lower or equal than

3, below the acceptable threshold of 10 and therefore ruling out collinearity problems within the model. An overview of the model coefficients and findings are presented below:

Table 9 Twitter customer engagement model summary

Variables	Beta	t	Sig.	95% CI (beta)
(constant)	**1.65**	**4.977**	**0.000****	**± 0.66**
Brand value	-8.00 E-6	-1.022	0.310	*(Not sig.)*
Twitter followers	-1.72 E-8	-0.018	0.986	*(Not sig.)*
Dummy: Hedonic Brands	0.22	1.082	0.282	*(Not sig.)*
Months on Twitter	**-0.03**	**-4.807**	**0.000****	**± 0.02**
Average tweets per day	-0.01	-0.210	0.835	*(Not sig.)*
Average replies per day	-0.01	-1.153	0.252	*(Not sig.)*
Average retweets per day	-0.02	-0.360	0.720	*(Not sig.)*
Dummy**: Automotive**	**-0.50**	**-2.043**	**0.044***	**± 0.40**
Dummy: Technology	-0.33	-1.322	0.190	*(Not sig.)*
Dummy: Consumer Goods	-0.39	-1.294	0.199	*(Not sig.)*

* Significant on 0.05 level (two-tailed) ** Significant on 0.01 level (two-tailed)
DV = Twitter engagement score

Brand value

The Twitter engagement regression model agrees with results of its Facebook counterpart and shows that the hypothesis H4 of the customer engagement conceptual model could not be confirmed, meaning that a relationship between the strength of a brand (i.e. brand value) and customer engagement on Twitter does not exist. Once again, the *Brand value* variable in the regression model turned out not statistically significant ($p > 0.050$). This final result allows generalizing an answer to both of the proposed research questions, showing that stronger brands are able to drive a wider audience (as shown in section 4.3), but on the flipside brand strength does not necessarily imply a more engaged base of consumers – a result confirmed on both social media platforms studied. More about the implications of these results are discussed further on chapter 5.

Customer reach and time

In potential contradiction to results of the Facebook model, the variable *Twitter followers* turned out not statistically significant (p>0.050), indicating at first glance a lack of relationship between customer reach and customer engagement on Twitter. This interpretation doesn't paint the full picture, though. Looking further on other factors, it is possible to see that the variable *Months on Twitter*, i.e. time that a given brand joined the platform, has a significant (p=0.000) and negative beta coefficient, showing that as time passes by brands tend to lose customer engagement. Drawing from previous results of the Twitter customer reach regression model (section 4.3.2), it is demonstrated that time is also a significant and positive driver of customer reach. This allows to infer that the regression model uses the variance in the variable *Months on Twitter* to capture essentially the same result presented on the Facebook customer engagement model: an increase of customer reach penalizes customer engagement. Once more, this means that an increase in the number of followers on Twitter produces increasingly lower engagement scores for a particular brand. Using the same rationale as for Facebook engagement, this effect can be understood as a lower engagement of the average consumer, reflecting that customer engagement is something to be only by a minority of highly involved consumers. Results show that the quest for engagement has to go through a more narrow and specific search for those highly involved consumers – they have to be understood and have to have their interests addressed in order to engage actively with the brand.

Hedonic brands

Opposed to what happened in the Facebook customer engagement model, hedonic brands do not enjoy higher engagement scores on Twitter than more utilitarian

brands, as showed by a not significant factor in the model (p>0.05). This mean that the hypothesis H6 regarding hedonic brands having higher engagement rates on social media was confirmed on Facebook but disconfirmed on Twitter. This result shows that on Twitter consumers are not engaging differently based on the hedonic/utilitarian traits of a brand, also pointing out to a different user behavior when comparing Facebook and Twitter platforms. On Twitter, interactions tend to be less personal than on Facebook. The platform is used more as a listen exercise, in which users listen in on what the target audience or brand is discussing, staying up-to-date on an industry or a brand. Hence, users are less worried about having fun or showing off pleasurable activities on Twitter, but more interested in engaging with relevant information and content from brands that might serve a purpose of keeping that user informed.

Brand activity

All three variables used to track brand activity on Twitter showed no statistical significance (p > 0.050). This result points out to an absence of relationship between these metrics – tracking only the amount of content that is broadcasted by a brand – to increase customer engagement. Once more, the quality of the content seems to be the underlying reason behind creating engagement, thus showing that brands that tweet, retweet or reply their followers more frequently do not enjoy higher engagement scores than brands that do it less frequently. This result also allows drawing insights that consumers are probably not able to track if a brand is more "social" or active on a given platform, or even if they are, that doesn't seem to be a relevant incentive for them to engage more with the brand.

Industry variables

Results of the ANOVA on section 4.2 that showed differences across industries regarding Twitter customer engagement are also confirmed on Twitter engagement regression model. A significant beta coefficient of in the industry dummy variables represents a statistically significant difference of engagement scores from the baseline industry, which was arbitrarily chosen to be the Food & Beverage industry. In this case, the Automotive industry was found to be significantly different from the baseline values of engagement (p=0.045) with a negative beta coefficient, in an agreement with the ANOVA results proving that the Automotive industry has lower engagement scores than the Food & Beverage industry (baseline). Nonetheless, no statistical significance was found regarding the dummy variables of Technology and Consumer goods industries (both variables had p > 0.050).

4.5. Success cases

As an effort to provide further insights on the mechanisms and underlying relationships of customer reach and engagement on social media marketing, two success cases are described below, supported by quantitative data collected during the present study as well as by a more in-depth qualitative analysis of their respective social media profiles and content strategy. These cases are not meant to be exhaustive analyses of social media marketing, but are intended as a more practical approach, in light of the results of this research. The first case to be presented is about BMW, which was able to display very high scores of Facebook customer engagement, while also having a top-20 customer reach, proving that it is possible to grow customer reach and to keep high levels of engagement at the same time. The second case is about Budweiser, a brand that displayed top-5 customer engagement scores both on Facebook and Twitter, showing that it is possible to have an effective cross-platform strategy, and how a consistent content can be better used to generate engagement.

4.5.1. BMW

Proving to be an exception to the reality presented by the results in this study, BMW has been able to obtain a sound performance in terms of engagement on Facebook, securing the 3rd highest score, while also displaying a massive number of fans on the platform, having the 14th highest number of Facebook fans (close to 13 million) among all 101 brands in the sample. These facts show that it is not impossible to combine high engagement with a broad audience, even though strong brands struggle to maintain high levels of engagement as their audience grows.

BMW has a rather low posting frequency. The brand has an average of 0.76 posts per day while the average of the sampled brands combined is 1.25 posts per day. The company also uses consistently rich media in their communications on Facebook, having a very high amount of photos (91% of posts) combined with a small portion of videos (5% of posts).

The brand has reached the highest place regarding numbers of likes-per-post, either if evaluated in absolute terms or in relation to the number of fans. Furthermore, BMW detains also the number one spot in terms of shares-per-post in absolute value, while being in the top 5 brands if you take into account shares-per-post relative to the size of the fan base. On the other hand, BMW is not so successful in engaging consumers via comments, as the brand figures in the bottom half of the sample in terms of comments-per-post relative to the number of fans. This points out to the fact that consumers engage with interest in the content using likes and shares, but not so much into social media conversations with the brand. Nonetheless, BMW still engages 14.6% of their fan base on a monthly basis if accounted all types of interactions – that is more than double of the average performance of 6.7%.
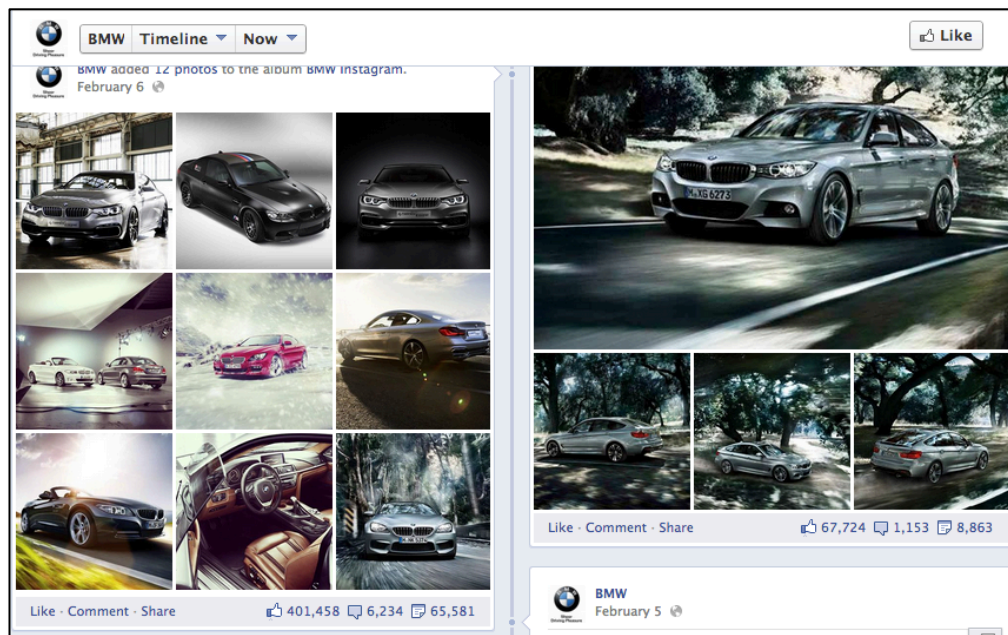
Figure 9 BMW Facebook content

After carefully analyzing the content posted by the brand, it is possible to infer that the most likely reason behind such good numbers in engagement is a very aligned content with their target audience. BMW's content and communication strategy is pretty consistent, self-centered, solely based in their own product line, picturing cars, concepts, new designs, and even parts such as engines. Clearly, BMW has identified and cultivated a very precise target group – fans of cars – and deliver to that audience exactly what they like to see. This alignment is what produces engagement, especially of likes and shares. On the other hand, the brand absents itself to use a more conversational approach to their Facebook page, such as directing questions, asking for opinions or providing challenging content to the audience. The result is a good performance regarding engagement via likes and shares, but not so many comments or conversations with consumers. Nonetheless, apparently BMW's strategy and objective is to work social media towards creating more exposure to the brand and raising awareness, and that objective is definitely being successfully achieved.

4.5.2. Budweiser

Budweiser can be considered the champion brand across social media platforms, based on data collected for the present study. Displaying high levels of customer engagement both on Facebook (5th highest out of 101 brands) and Twitter (3rd highest out of 101 brands), the brand is able to impressively drive interactions among their consumers on both platforms.

On Facebook, Budweiser posting frequency is not different from the average of all other brands (around 1.3 posts per day), but the brand consistently uses rich media – a massive usage of photos (90% of posts) combined with a small portion of videos (10% of posts). The content posted by the brand was able to generate a solid performance in terms of likes-per-post and comments-per-post, but where Budweiser really excels is in terms of shares – the brand had a share-per-post ratio of over 2,800 during the period analyzed, having also a very high average of more than 5,000 post shares made by consumers daily. For these reasons, Budweiser achieved a high score of engagement showing mainly that the content posted by the brand resonates well with the audience. Despite the evident success case, it is possible to gather insights on how engagement is hardly achieved on social media – considering all types of interactions (or engagement actions) on Facebook, Budweiser was able to engage only 0.74% of its fan base on a daily basis. Nonetheless, an important factor that could explain this success has to do with the obvious hedonic traits of the brand and of its marketing communication on Facebook. Budweiser's posts are related not only to the hedonic product itself, but also chiefly to hedonic activities such as sports and music that surround the product. As expected, this type of content promotes a pleasant feeling on the consumers and also stimulates a "share behavior", as consumers try to associate themselves with these hedonic activities and expose that to their network of friends.
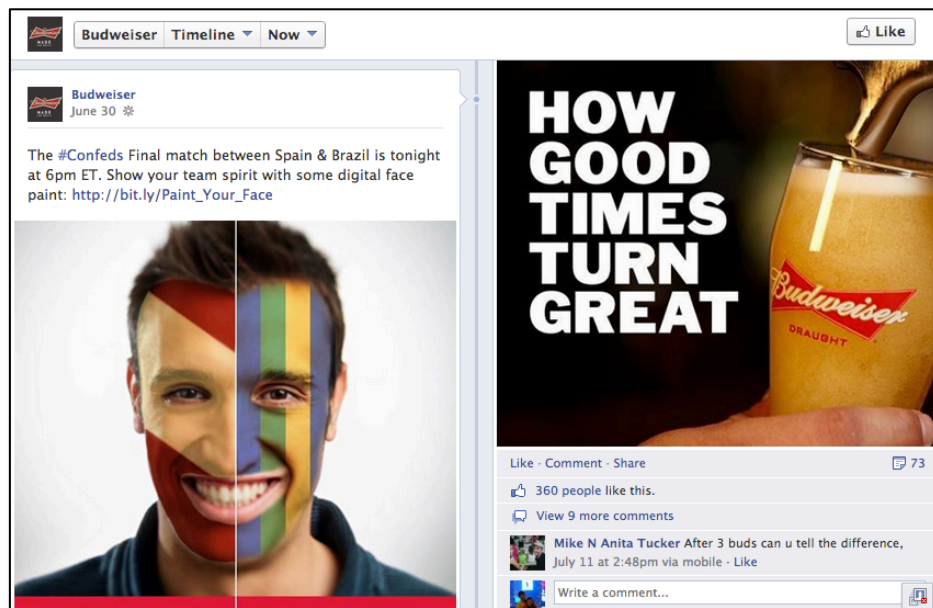
Figure 10 Budweiser Facebook content

On Twitter, Budweiser enjoys a rather small but fierce follower base. The brand's tweeting frequency is roughly half of the average (1.55 tweets per day versus 3.04 tweets per day on average), but produces good interactions with the consumer base. This good performance on engagement scores can be attributed majorly to its rather small number of followers, which can be explained by the fact that the Twitter account analyzed had only 7 months of activity during data collection. When accounted only replies and retweets, the brand was able to engage 0.58% of its follower base on a daily basis. Nonetheless, the number of tweets mentioning the brand was very high in comparison to its amount of followers, driving engagement scores up. Similarly to Facebook, the content of the tweets follow a communication and marketing strategy deeply attached to hedonic activities such as music and sports, using associations on their tweets with famous pop singers such as Rihanna and Jay-Z, while also recently tweeting about football during the FIFA Confederations Cup.

5. CONCLUSIONS

5.1. Summary of findings

As observed from results obtained using data from Facebook and Twitter, brand value (or brand strength) has a positive impact on customer reach in these two platforms, with a considerable magnitude of the effect. This means that more valuable brands are able to generate more fans or followers on these social media platforms than less valuable brands, providing a positive answer to the first research question of this study. This first finding can be presented as:

Finding #1

Brand strength has a significant and positive influence on acquiring customer reach, both on Facebook and Twitter.

On the other hand, brand value was identified as having no relationship with customer engagement, meaning that stronger brands do not necessarily enjoy a more engaged group of customers on these platforms. This finding provides a negative answer do the second research question of this study and point out to reasons different than brand strength to drive customer engagement on social media platforms. This non-finding can be presented as:

Finding #2

Brand strength does not have an influence in generating customer engagement on Facebook or Twitter.

Brands with more hedonic traits have higher customer reach than utilitarian brands on both platforms, while customer engagement is affected positively by hedonic traits only on Facebook, a result that shows that Twitter might be a platform where hedonic motives are less salient, in favor of a more utilitarian use such as keeping up-to-date with news and industries. Regarding how hedonic traits of a brand influence the research variables, the finding can be summarized as:

Finding #3

Hedonic traits of a brand influence positively the ability to acquire higher customer reach on both Facebook and Twitter. On the other hand, the same effect is observed for customer engagement only on Facebook, but not on Twitter.

An increase in customer reach has a negative effect on engagement, as the average user on social media platforms do not engage actively with a brand – therefore larger audiences of a given brand will yield proportionally less engagement. Moreover, time influences positively the acquisition of customer reach, so as time passes by brands are also observing a consequent decrease in customer engagement relative to its audience size. This finding can be summarized as:

Finding #4

Customer reach has a significant negative impact on customer engagement, corroborating that the average customers do not engage actively (frequently) with brands, both on Facebook and Twitter.

None of the variables used to track brand's actions on social media (frequency of communication, response rate, etc.) have shown to have no influence or impact on

customer engagement, except for a positive benefit on creating engagement through the use of photos on Facebook posts. This result hints that determinants of engagement are strictly content-related, independent of volume or frequency of brand posting activities. This finding can be summarized as follows:

Finding #5

Brand posting behavior does not influence customer engagement both on Facebook and Twitter. The exception is using more photos on Facebook posts, which can lead to more engagement, making this the preferred type of content for this platform.

Finally, the case study of BMW on Facebook sheds a light on factors that can create a large customer reach while maintaining higher levels of engagement, mostly related to a very precisely targeted content, well aligned with the customers' interests and solely focused on the brand's core products, successfully driving engagement to generate awareness. The case study of Budweiser shows that higher customer engagement can be achieved by exploring secondary associations with a brand, in this context via focusing on hedonic activities that resonates with the audience and foster conversation among users.

5.2. Managerial implications

Implications for customer reach

The present study shows that having more valuable brands, i.e. more equity, can lead to a better performance in terms of customer reach – in other words, better results in getting users to join your brand and open themselves to brand-related content. Furthermore, customers that reach out on social media are also showing self-manifested interest into being attached to the brand and, as expected, this effect is more salient with

stronger brands showing that customers are willing to advocate more for higher equity brands. In fact, customer reach apparently is guided by rules of the offline world, meaning that efforts in improving brand equity will spill over to better results regarding generating organic reach on social media. Given the competitive landscape of social media, increasingly bombarded by brands and marketing-related messages, it is very important for managers to keep improving brand equity throughout all channels, not only social media but also offline, pushing for stronger brands. As demonstrated in this study, this action can impact positively on customer reach on social media and ultimately work as an important lever for raising brand awareness, improving especially brand awareness breadth.

Another aspect of customer reach that has to be addressed by managers regards the viral reach. Customer viral reach is also important, and for that a specific type of engagement can be used in likes/shares but no comments (BMW case);

Implications for customer engagement

Results from this research show that strong brands apparently don't have direct advantages regarding customer engagement on social media. This fact points out to a slightly different mechanism that comes into play online: brand messages that will be deemed relevant enough for customers to engage with might not be influenced by the brand strength, but seem to be dependent on the content of the messages. Relevance of the marketing message to the customer appears to be the single most important feature that can produce engagement. In fact, Taylor et al. (2011) shows that social network advertising messages should provide some sort of explicit value to customers in order to be effective. Opposite to traditional media which is fully brand-centered, social media proves itself once more totally customer-centered – customers will engage only with content that have value for them, this value coming mostly from pleasures of

entertainment, or by informative value. Valuable content are able to promote engagement, and clear ways to deliver value for customers is to focus on hedonic or entertaining content, with features such as photos being a good complement to the message.

If engagement is an objective for brands in social media, brands must center their actions and efforts around understanding in-depth their customers who are part of the brand's reach online. Moreover, these customers don't necessarily have the same profile as the typical offline brand customer. After identifying who they are, it is of utmost important to deliver value to them. Even when that alignment can be achieved, this research has shown signs that engagement is still not a behavior that can be expected from the average user. The study conducted by Nelson-Field & Taylor (2012) concur this statement, showing that a very small part of the audience is actually engaged in frequent visits to brand profiles on Facebook. These results point strongly to an implication for managers regarding tracking and targeting the core customers on these social media platforms in order to extract the maximum of engagement with efficiency of resources.

Another contribution from this study is to show that as customer reach increases, the total audience of a brand proportionally loses in customer engagement. To address this problem, managers can also make use of segmentation techniques, creating smaller audiences on different brand pages. These new brand touch-points could be addressed to specific facets of the brand, preferably gravitating towards aspects of the brand that are meaningful even apart from the core brand profile. Another potential effect that has been captured by the study is that of time on customer engagement. It is possible that social media marketing suffers also from "wearing-out" effects in excitement, similar to what is experienced in brick-and-mortar stores. In fact, Creamer (2012) shows that around only 1% of customers have actually "gone back" and interacted with the brand after initially opting-in and becoming a fan on Facebook. Hence, it is an important aspect

for managers to think how to overhaul their brand touch-points on social media, in order to keep interests high and engage consistently customers over time.

Lastly, drawing from results of the success case study of BMW, it is possible to move a step further into the consideration that customer engagement on social media is not always desirable, at any costs. In fact, engagement can be used to achieve basically two marketing objectives: increasing viral reach and fostering customer interaction (e.g. customer feedback, customer co-creation, etc.). In the case of BMW, the content posted by the brand is oriented towards getting a lot of "likes" and "shares", but not a lot of comments or customer conversations are being held. This makes sense for brands that are more connected to luxury or any other conspicuous consumption context, in which distancing themselves from engagement with customers is a brand building necessity. Nonetheless, BMW shows that even for luxury brands getting engagement can be beneficial, as it will improve customer viral reach and consequently impact positively on brand awareness without damaging the brand associations.

5.3. Implications for marketing research

The present study adds one more layer to the research about strong brands and their impact in consumer behavior. This time, impacts of having strong brands are studied empirically on a social media environment for the first time in the literature, even if still in a rather simplified way. Findings show, however, that a model like the one proposed by Hoeffler & Keller (2003) on how strong brands affect results of marketing efforts still remains to be proven true regarding customer engagement online. This points out to a possible different set of rules of customer engagement on social media, with different mechanisms than those of consumer behavior reacting to traditional advertising. Marketing has had a lot of transformations imposed by these new communication platforms, having consumers taking more and more a central role in the relationship with

the brands and participating more actively. These changes are deemed to be impactful on established research results regarding consumer behavior. Much interest has been shown for the topic of customer engagement among researchers and practitioners alike, but empirical works are still not available both in quality and quantity. The present study also proposes a method to calculate customer engagement on social media platforms, which can also be expanded and connected to different topics regarding consumer motivation. Nevertheless, as concluded by Gambetti & Graffigna (2010) consumer brand engagement should be seen as an integrated concept of engagement in the marketing literature, linked not to any particular medium or advertising message, but to a comprehensive brand strategy. In this sense, the present study shows that are still disagreements on how strong brands affect engagement on traditional media versus social media, showing that further research is needed in order to fully integrate these concepts into one holistic understanding of customer brand engagement.

5.4. Limitations and future research

Some limitations faced in the present study have to be further acknowledged. Firstly, due to the novelty of the topic and lack of academic research in social media, conclusions that are made in this study have to be made with caution. The empirical models created for both customer reach and customer engagement cannot be immediately generalized, requiring further testing in alternative contexts, with different brands, industries and different periods of time. Regarding the conceptual models, results show that there is still a large portion of variance not explained by the models, which had the amount of variables reduced to make data collection feasible. Future studies should therefore attempt to capture the missing parts of the model and identify variables that could potentially affect customer engagement or customer reach in order to create a more explanatory model. Due to limitations in data collection, a full month of social media

activity was included in the study, but stronger results could be achieved by expanding in time the observations or by repeating the study in different points in time to rule out more precisely time-related or extraneous factors. Finally, results were obtained using data from Facebook and Twitter, but little is known whether these results can be generalized and applied to other online social media platforms. Furthermore, very little is known about how the intrinsic mechanisms and incentives present on these platforms are influencing customer behavior and therefore what are their impacts on the relationships established in the models presented in this study.

APPENDIX A: List of brands in the sample

Samsung	Gillette	Citroën
Google	Philips	Sprite
Microsoft	Canon	GMC
IBM	LG	Estée Lauder
GE	Budweiser	Yahoo!
Amazon.com	Danone	Rolls-Royce
Coca-Cola	Ericsson	PlayStation
Toyota	Peugeot	Ferrari
Volkswagen	Dell	Skoda
BMW	Chevrolet	Mountain Dew
McDonald's	Nivea	PayPal
Intel	Fiat	Xerox
Mercedes-Benz	Heinz Ketchup	Mazda
Hyundai	Subway	Motorola
Mitsubishi	Bud Light	Subaru
Ford	Cadbury	KFC
Pepsi	Facebook	Blackberry
Nestlé	Lancôme	Texas Instruments
Nissan	Huawei	Corona
Honda	KIA Motors	Nokia
HP	Avon	Fujifilm
Oracle	Kraft	Adobe
Toshiba	Purina	Lenovo
Cisco	Xbox	Lexus
Olay	Colgate	Volvo
eBay	Audi	Fanta
SAP	Suzuki	Pantene
Sony	Johnnie Walker	Gatorade
Panasonic	Kit Kat	Tropicana
Kellogg's	Dove	Harley-Davidson
L'Oreal	Heineken	Blizzard
Starbucks	Hershey's	Lipton
Renault	Nescafé	Nintendo
Johnson & Johnson	HTC	

APPENDIX B: List of variables used for measuring social media activity

FACEBOOK	
Facebook fans	The total number of Fans on the last day of the research time range.
Total posts	Shows the total number of posts made by a page administrator during the researched time range.
Average posts per day	Shows the average number of posts made by a page administrator per day during the researched time range.
Post types - Photo	The total photos posted by the page administrator during the researched time range
Post types - Video	The total videos posted by the page administrator during the researched time range
Post types - Link	The total links posted by the page administrator during the researched time range
Post types - Status	The total status posted by the page administrator during the researched time range
Post type - Question	The total questions posted by the page administrator during the researched time range
Facebook likes	The total number of Facebook Likes during the researched time range.
Facebook comments	The total number of Facebook Comments during the researched time range.
Facebook shares	The total number of Facebook Shares during the researched time range.
Average shares per day	The average number of Facebook Shares per day during the researched time range.
Response rate	The percentage of users questions (posts containing "?") the monitored page responded to during the researched time range.
TWITTER	
Followers	The total number of Followers on the last day of the researched time range.
Total tweets	The total number of tweets made by the Brand during the researched time range.
Average Tweets per Day	This shows the average number of tweets made per day by the Profile during the researched time range.
Outgoing average replies per day	This shows the average number of Outgoing replies per day made by the Brand during the researched time range. A reply is a Brand's reply to a user's tweet.
Outgoing average retweets per day	This shows the average number of Outgoing retweets per day made by the Brand during the researched time range. A retweet is a retweet of a user's tweet made by the Brand.
Outgoing average mentions per day	This shows the average number of Outgoing mentions per day made by the Brand during the researched time range. A mention is a mention of a user in the Brand's tweet.
Incoming average replies per day	This shows the average number of Incoming replies per day made about the Brand during the researched time range. A reply is a reply to the Brand made by a user.
Incoming average retweets per day	This shows the average number of Incoming retweets per day made about the Brand during the researched time range. A retweet is a retweet of the Brand's tweet made by a user.
Incoming average mentions per day	This shows the average number of Incoming mentions per day made about the Brand during the researched time range. A mention is a mention of the Brand in a user's tweet using a "@" sign. (e.g. "I love @cocacola" is a mention).

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