Brand Equity and Co-Creation Potential in the Social Media Environment: An Analysis of Brand Engagement with Community Influencers

Igors Skute
University of Twente
P.O. Box 217, 7500AE Enschede
The Netherlands
i.skute@student.utwente.nl

ABSTRACT
Social media introduced several notable changes to the digital marketing. The new technological developments facilitate an increased connectedness and empowerment of the social media users. This fosters a development of brand communities in the social media environment where users are enabled to participate in collaborative creation and sharing of value. Often, online communities possess a special subgroup of users with a high authority, credibility and a large number of connections who are empowered to influence the actual development of brand’s social media community, thus being identified as social media influencers. The sustainable and collaborative relationships with community influencers present marketers with remarkable business potential from one perspective and yet relatively unexplored challenges from another. The purpose of this paper is to address the issue of brand engagement with its community influencers in the social media environment and analyse the impact of collaborative engagement on the brand’s social media equity and co-creation potential development. The research study investigates two industry-leading information technology (IT) and business analytics software and services suppliers. Findings reflect a positive impact of brand engagement with community influencers on brand equity and co-creation potential, thus contributing relevant insights for academics and practitioners to the novel and developing concept of digital marketing and social media in particular.

Supervisors: Dr. A.M. von Raesfeld Meijer
Ms. A. Ridder, MSc

Keywords
Social Media, Digital Marketing, Brand Equity, Co-Creation, Twitter
1. INTRODUCTION

"With every day that passes, it seems that we are introduced to yet another mobile device or new social network or must-have mobile app. Welcome to the digital lifestyle" (Solis, 2013, p.3).

During the last decade of an evolving landscape of technological developments, social media became a cornerstone of the modern digital marketing that revolutionised not only web user experience, but also forced a wide range of industries to change the common business practices. Social media gave consumers more control, information and power over the market processes, posing marketers with a number of important dilemmas and challenges (Constantinides, Romero, & Boria, 2009). The networked and social nature of social media enables the groups of users to form inter-connected online communities centred on certain brands and generate new business value by collaborating with firms and other users (Habibi, Laroche, & Richard, 2014a). This led to a shift in a digital marketing where consumers gained a more important voice that brand managers can no longer afford to ignore (Gensler, Völckner, Liu-Thompkins, & Wiertz, 2013). Consumers engage in and maintain social networks and become deeply involved in immersive virtual experiences. Brand social community members participate in social media in collaboration, pooling knowledge and constructing content that is shared between them, which is subsequently remixed, redistributed and re-consumed (Harrison & Barthel, 2009). The information co-generated by firms’ social media community impacts the firm’s brand equity in the social media environment encompassing valuable business potential for marketers. This requires a strategic approach from brands engaging in various Web 2.0 platforms. B2C and increasingly also B2B firms are challenged to master new forms of highly collaborative mechanisms and network structures necessary for developing sustainable brand-customer relationships (Romero & Molina, 2011). Successful and innovative adopters of social media collaboration mechanisms can grasp notable business benefits by engaging with their brand communities in co-innovation activities, thus enabling firms to foster new product and value co-development. In turn, strategic and collaborative engagement with brand communities enhances firms’ product and service development capabilities, offering new chances to achieve sustainable competitive advantage and improve the financial performance by mastering social media engagement practices.

However, the social media environment and the business practices related with it is not a clear-cut issue, due to a dynamic development of Web 2.0, an increasing amount of Big Data, and the often lacking necessary competencies of firms to effectively manage their business practices and social customer communities in a turbulent online environment. In an era of connected consumerism, at any moment, customers can ask questions or suggestions; compare prices through mobile devices, read reviews by trusted sources and watch videos with product information and customer experiences, all in the social media environment. “In theory, they could decide to buy from [a firm] without ever visiting the website or speaking to a company representative” (Solis, 2013, p.10). It means that social media requires marketers to change traditional one-to-many engagement practices and adopt many-to-many networked relationships without direct control of communication within the community. The key challenge for firms engaging in the broad Web 2.0 environment is mastering new engagement strategies, becoming the moderating member of their online customer communities by participating in collaborative communication with customers and fostering sustainable relationship development. Strategic online brand community management is an additional challenge. “The sea change in consumerism has ushered in a genre of connected consumers. As a result, customers are learning about [firm] or [its] competitors differently. How they make decisions does not follow a linear path at all. How they are influenced and, in turn, how they influence others are profound in their reach and effect. What was once a simple process is now a complex customer journey that is much more dynamic and connected” (Solis, 2013, p. 12). These conditions force the marketers to recognise the key influencers within their communities who have a role similar to lead-users in traditional marketing understanding and engage with them to grasp new business value (Kietzmann, Hermkens, McCarthy, & Silvestre, 2011; Von Hippel, 1986).

Brand engagement with its social media community and influencers within it has an inevitable value for brands social media equity. Strategic brand engagement with the key actors of the social media community stimulates enhanced buyer-seller relationships, thus leading to higher brand equity. Research indicated that higher brand equity leads to positive behaviour towards the product/service by a target audience, for example, in higher retention rates, favourable e-Word-Of-Mouth etc. (Aaker, 1991; Keller, 2008; Kim & Hyun, 2011). However, it is vital to recognise that consumers now seek to exercise their influence in every part of the business system that social media environment is offering. Armed with new tools and dissatisfied with available choices, an increasing number of brand customers want to interact with firms and thereby “co-create” value (Prahalad & Ramaswamy, 2004). Social media allows empowered users to participate in product and service development processes, starting from idea generation to commercialisation activities (Hoyer, Chandy, Dorotic, Krafft, & Singh, 2010). This new social media landscape challenges marketers to manage their brand communities at strategic level in order to grasp the co-generated value in return offering superior value than competitors to build trust and commitment for long-term mutually beneficial relationships (Sashi, 2012). Therefore, this research paper is intended to address the following research questions:

RQ1: What is the impact of brand engagement with its social media community influencers on the brand’s social media equity?

RQ2: What is the impact of brand engagement with its social media community influencers on the brand’s social media co-creation potential?

RQ3: What are the factors influencing brand equity and co-creation potential development in the social media environment?

The paper is organised as follows. First, an extensive literature review of the key concepts will be conducted to contribute new insights to the existing knowledge on Web 2.0. The social media landscape will be reviewed with corresponding analysis of brand online communities and the influencer role within these communities. The literature review further describes different research streams and explains the potentially positive impact of brand engagement with online brand communities on brand equity and co-creation potential in the social media environment. This section ends with presenting a causal model and hypotheses tested in this study. Then data methodology is presented, elaborating on the study objects and applied research methods. Next, the results of study are presented. Finally, the concluding section provides an in-depth discussion of the key findings that are targeted to minimise the gap in the research, the main implications for researchers and marketers, limitations of the research and avenues for future research.
2. LITERATURE REVIEW

2.1. Social Media Concept

Social media is a sophisticated system of online tools that made a shift in the way people create, use and share content, and also shifted industries from broadcast mechanism to a many-many model, changing the relationships between the involved parties (Solis, 2007). The importance of social media platforms for sales & marketing purposes is continuously increasing. According to DEI Worldwide study (2008), 70 per cent of customers have visited social media sites to get information; 49 per cent of these consumers made a purchase decision based on the information they found through social media sites; 60 per cent of people in the study stated they are likely to use social media sites to pass along information to others online; and 45 per cent of people who searched for information via social media sites engaged in word of mouth compared to 36 per cent who found information on a company or news site (‘DEI Worldwide’, 2008), and these numbers are only expanding.

Research studies on social media concept distinguish several key aspects that have an inevitable impact on the digital marketing and marketing practices in general. Social media as the key component of the whole Web 2.0 has been identified as “a collection of open-source, interactive and user controlled online applications expanding the experiences, knowledge and market power of the users as participants in business and social processes” (Constantinides & Fountain, 2008, p. 232). Social media enabled users to communicate real-time with low or no costs and utilise various formats and platforms to achieve a global reach of the content in more active ways that had been apparent previously to traditional media producers and technology innovators (Habibi et al., 2014a; Harrison & Barthel, 2009; Kaplan & Haenlein, 2010; Mangold & Faulds, 2009). Kietzmann et al. (2011) provide a critical point stating that “social media employ mobile and web-based technologies to create highly interactive platforms via which individuals and [groups] share, co-create, discuss, and modify User-Generated Content” (p. 241). Social media introduced a new technological advancement that allows users to be active co-creators of content and not consumers of brand content only.

The customer empowerment and tremendous technological capabilities available for users in the social media environment require marketers to place this topic on top of their agendas (Kaplan & Haenlein, 2010). Social media platforms are open for consumer participation in creation of new business value or new products, by evaluating ideas, elaborating, evaluating or challenging product concepts, discussing and improving optional solution details, selecting or individualising the preferred prototype, testing and experiencing new product features all in the e-environment (Füller, Mühlbacher, Matzler, & Jawecki, 2009). Thus, social media is a vital component of the whole digital environment influencing the online brand equity and providing a key source for new product and service development ideas.

The Web 2.0 offers marketers and users a notable amount of possibilities and platforms for designing an active collaborative community. The Conversation Prism (2013) reflects the majority of the Web 2.0 platforms in different categories that marketers can choose for targeting their potential social collaborators and involve the existing ones (See Figure 1 in Appendix).

2.2. Brand Customer Communities

The customer empowerment and emerging new technological capabilities enabled by social media and other Web 2.0 innovations stimulate a remarkable development of brand-focused customer communities. The concept of customer communities from a traditional marketing perspective was notably researched and can be characterised as “[…] real living laboratories where multiple users (consumers) of the same or different products or services can come together to discuss the quality and satisfaction level of their current products and services, or comment about ideas for new ones, outside of the commercial negotiation” (Romero & Molina, 2011, p. 462). In the last decade, the virtual communities received the key attention. Digital or virtual communities possess four common characteristics: (1) it exists in the cyberspace; (2) it uses information technologies; (3) it is used for communication and interaction around common interests, and most of its contents are user generated; and (4) it allows the formation of social relationships (Lu, Zhao, & Wang, 2010). The most well-known example of virtual communities is Open Source Software (OSS) communities. OSS projects are performed by communities of volunteers from many different locations and organisations where the project results are in the open access and every volunteer is able to contribute his coding to the project (Franke & Shah, 2003). Research studies of virtual and especially OSS communities proved a success and high importance of communities as a valuable source of innovation (Andersen-Gott, Ghinea, & Bygstad, 2012; Bitzer, Schrett, & Schröder, 2007; Granitz & Ward, 1996).

However, the importance and effectiveness of brand customer communities in the social media environment is still relatively unexplored, thus making this research interesting and valuable. For instance, Muniz and O’Guinn (2001) identify brand community as a “specialised, non-geographically bound community, and based on a structured set of social relations among admirers of a brand” (p.412). Brand community members often have a strong interest in the product and in the brand. They usually have extensive product knowledge and engage in product-related discussions; they support each other in solving problems and generating new product ideas (Füller, Matzler, & Hoppe, 2008). Thus, social media is a perfect platform for fostering a development of brand communities and co-generation of new business value. The brand community is important both for consumers and marketers. Brand communities in the social media environment potentially can provide many benefits for the brand and marketers such as sharing of relevant information, keeping in touch with highly devoted consumers, integrating consumers into the brand identity and enhancing their loyalty, obtaining valuable market research insights from customers for product and service development and co-innovative activities (Andersen, 2005; Habibi et al., 2014a; McAlexander, Schouten, & Koenig, 2002; Schau, Muñiz Jr, & Arnould, 2009; Von Hippel, 2005). One of the key research studies conducted on social media brand communities is by Habibi et al. (2014), distinguishing five unique social media brand community characteristics: (1) social context of the landscape and the social relationships within it; (2) dynamic structure; (3) scale of social media reaching remarkable number of users worldwide; (4) interactive, content-rich and real-time storytelling; and (5) affiliated brand communities that represent subgroups and smaller communities within the brand communities. Special influential (sub)groups of users represent an additional research topic in this paper.

2.3. Brand Community Influencers

A less explored topic in the academic research of the social media landscape is the social media influencers and their impact on brand social media presence, thus it is intriguing to explore this phenomenon in more details in this paper. Although “the
term “influencer” is used everywhere, and it has become ubiquitous in how we discuss valuable relationships on social media” it is still unclear what does influencer mean for different brands and communities and how to identify them, and also how to measure their impact on firm’s social media communities (Smitha, 2014). It is important to recognise that the concept of social media influencers is similar and can be traced back to the concept of lead-users (Von Hippel, 1986). A research of lead users identified that many commercially important products are initially thought of or even prototyped by users rather than firms and additional research studies discovered that such products are often developed by lead users – companies, organisations and most importantly, individuals who are well ahead of market trends and have needs that go far beyond those of the average user (Von Hippel, Thomke, & Sonnack, 1999). In the social media environment, lead users or influencers often share similar characteristics, but the social environment of digital media enables the influencers not only to engage in product development activities, but also to influence the entire brand community, activities and sentiment within it almost or in a real-time.

Referring to Kietzmann et al. (2011), the numbers of connections the brand social community users have and their position in their network of relationships can determine the social media influencers. Research proved that “the denser and larger a user’s portfolio of relationships is, and the more central his or her position in the portfolio, the more likely that user is to be an influential member (‘influencer’) in their network” (p. 246). Smitha (2014) provides three important qualities that influencers must possess in the social media environment: (1) relevance – ability to create content relevant to brand and its community; (2) reach – ability to reach a wider audience and majority of the brand community; and (3) resonance – ability to generate sufficient reaction from the community. Thus, the social media influencers are the users who in most cases will determine the topics actively discussed in the community, they will build an overall sentiment and attitude towards the brands’ products and services, and will have a major impact on how the community is developed and structured, influencing also the brands’ online brand equity and customer buying behaviour. Also, it is of critical importance for firms to identify these users and engage with them in order to grasp the insights that could be used as an input for a new product or service development or stimulate the influencer involvement in more active co-creation processes, and also reduce the risk of anti-branding (Morin, 2012).

2.4. Brand Engagement

The unique features of social media, increasing the empowerment and connectivity of brand community users, changed the communication between brand and its customers significantly. In order to succeed, marketers are required to adopt a new communications and engagement paradigm, acknowledging these changes (Mangold & Faulds, 2009). Therefore, it is crucial to understand the brand community’s expectations and develop a strategic approach towards this issue. Nevertheless the fact that social media influencers are able to influence entire brand communities and brands engaging in the social media environment have less control, firms are not restricted to just listening customer-generated stories by actively monitoring its digital community (Gensler et al., 2013; Mangold & Faulds, 2009). Firms should try to actively influence and manage consumer-generated content and its impact on brand performance by stimulating and promoting user-generated content (UGC) that benefits the brand, as well as reacting and dealing with negative UGC that harms the brand (Gensler et al., 2013).

The main challenge for marketers is a strategic engagement with community’s key influencers. The well-collaborative engagement with influencers might lead to notable business benefits and help to develop the necessary background for co-creative activities (Füller et al., 2009). An important factor for establishing collaborative engagement with key actors is trust and commitment. Previous research has identified that there are at least two mechanisms that enable marketers to increase brand trust by means of enhanced relationships between customers and brand elements (Laroche, Habibi, & Richard, 2013). First, repeated interactions and sustainable long-term relationships are vital for developing trust, which triggers brands engaging in social media activities with their brand communities to work towards retention and development of their digital user base (Holmes, 1991; Laroche et al., 2013). Secondly, active information sharing and dissemination between different elements of the brand decreases information asymmetry, reduces uncertainty and increases predictability of the brand, resulting in trust enhancement (Ba, 2001; Laroche et al., 2013; Lewicki & Bunker, 1995). Firms can also perform a set of additional activities to enhance the social media engagement with users and the overall performance. For example, firms can engage their community members in conversation by being more in sync with customer behaviour, thus strategically addressing their needs and expectations (Rodriguez, Peterson, & Krishnan, 2012). Hence, strategic engagement is expected to positively affect the community influencer engagement that presupposes a development of positive online brand equity and generation of co-creating activities that are crucial research aspects of this study.

2.5. Social media brand equity

The crucial aspect that is explored in this paper addresses an analysis of brand engagement with social media influencers and its impact on the brand’s social media equity. Similar to the previous concepts discussed, brand equity has received notable attention from researchers in a traditional marketing setting, but lacks an in-depth analysis from digital and social perspective (Aaker, 1996; Keller, 2009; Kim & Hyun, 2011; Michell, King, & Reast, 2001). Although an understanding of brand equity in social media requires a specific approach, it is useful to analyse a traditional definition of this concept. Budac and Baltador (2013) state that brand equity is a set of assets and liabilities linked to a brand, its name and symbol that add something to the value provided by it. These assets and liabilities can be grouped into five categories: brand loyalty, name recognition, perceived quality, brand associations and other brand assets such as patents, trademarks, relationships within distribution channels. It is vital to recognise that these assets and liabilities are directly related also with the social media environment. If brand has a strong loyalty and recognition on social media with active engagement channels, it is possible to expect that brand equity will be higher. And when brand equity is high enough, target customers behave positively towards the brand and its products (Aaker, 1996; Kim & Hyun, 2011). In the social media environment this leads to more active and favourable engagement by community users. This, in turn, helps to enhance firm-customer relationships enabling firms to retain their customers online and turn them into valuable online community members (Bruhn, Schoenmueller, & Schäfer, 2012; Kim & Hyun, 2011; Webster & Keller, 2004). Interesting and relevant point is presented by Hollis (2012), stating that brand equity on social media is influenced by advocacy and talkability. It means that brand engagement with community
influencers might generate higher brand advocacy. The more users appreciate the brand and experience positive reactions, the more willing to recommend and share the content the users will be. Additionally, brands engaged with the key actors of their communities can enhance the brand’s online exposure, triggering associations of a successful and important brand. Thus, it is expected that brand engagement with community influencers have a positive effect on brand equity, which leads to increased online and offline performance by the firm.

2.6. Co-creation potential in the social media environment

Social media empowered the users to actively participate in content co-creation with firms and other users by means of new interactive technologies, thus leading to generation of new co-created brand value, challenging the marketers to adopt new business strategies to grasp the strategic benefits offered by the Web 2.0. Molka-Danielsen (2011) defines co-creation as a process where individual members of communities engage in and contribute to the creation of products and services, along with organisational members. Social media provides a unique platform for users who can contribute to various product/service innovation processes starting from idea generation, developing and testing prototypes, and suggesting future improvements (Füller et al., 2008; Nambisan, 2002). An ability to integrate customer insights into new product/service development processes provides a chance to develop a new sustainable competitive advantage. Previous research discovered that co-creation practices can provide insights from different perspectives that can help to design and introduce new products or improve the existing offerings. Additionally, co-creation in social media can help to optimise the new product development processes by increasing the efficiency and reducing various types of production costs and enhance the customer services (Hoyer et al., 2010; Jussila, Kärkkäinen, & Aramo-Immonen, 2014; Sawhney, Verona, & Prandelli, 2005).

The key research study on this subject was conducted by Hoyer et al. (2010) who identified that co-creation activities can be performed on four various product/service development stages: (1) idea generation stage; (2) product development stage; (3) commercialisation stage; and (4) post-launch stage. Social media supports active user participation along the whole product development cycle due to high interactivity and exchange of feedback. A crucial aspect for development of efficient and sustainable co-creating brand community is engagement with lead users and influencers who are willing to participate in co-innovative activities, being motivated by a set of extrinsic and intrinsic motivators (motivators are out of scope of this paper) (Füller, 2010). In order to optimise the co-creation performance in the social media environment, marketers should follow the four following steps: (1) prepare foundation by exploring the markets and stakeholders needs; (2) determine trends of technological and business requirements on the market; (3) identify lead users (influencers) who will actively participate in the co-innovation activities, and (4) develop breakthroughs by engaging in collaborative activities (Von Hippel et al., 1999). Thus, it is expected that brand engagement with community lead users and influencers possesses sufficient co-creation potential in the social media environment.

2.7. Model and Hypotheses

Research findings and theoretical insights are summarised in the following model and a set of three hypotheses. Model A explores the relationship between brand engagement with brand social media (SM) community influencers and its impact on social media brand equity, while Model B explores the impact of brand engagement with brand social media (SM) community influencers on the firms’ co-creation potential in the social media environment.

![Figure 2. Causal model, version A](image)

![Figure 3. Causal model, version B](image)

The causal model presented above is tested and analysed with the following hypotheses:

**H1:** Brand engagement has a positive effect on brand’s community influencer engagement in the social media environment?

**H2:** Brand community influencer engagement has a positive effect on the brand’s equity in the social media environment.

**H3:** Brand community influencer engagement has a positive effect on the brand’s co-creation potential in the social media environment.

3. RESEARCH METHODOLOGY

3.1. Subjects of study

Oracle (founded in 1977) is the global leading supplier of optimised and fully integrated stack of business hardware and software systems. With more than 400,000 customers in more than 145 countries - including 100 of the Fortune 100 – Oracle generated US$ 37.2 billion total GAAP revenue in FY13 (‘Oracle Data’, 2014). Oracle provides best-in-class products and services for B2C and B2B markets that help their customers to benefit from the latest technology developments that drive businesses to better performance. Oracle provides business solutions for operational excellence, business analytics and risk compliance management; public, private, and hybrid cloud solutions; notable range of industry solutions that address the unique business requirements of specific industry segments, like healthcare, automotive or utility segment. Oracle’s technology solutions are designed to address complex application and systems integration requirements across diverse enterprise environments. It is well-known with several industry leading developments, e.g. Oracle Database, MySQL, Oracle Cloud and other enterprise and industry applications (‘About Oracle’, 2014).

SAP (founded in 1972) is the world leading company in enterprise applications in terms of software and software-related services, operating also on B2C and B2B markets. Based on market capitalisation, SAP is the world’s third largest independent software manufacturer. With more than 253,000 customers in 180+ countries, SAP had annual revenue (IFRS)
of €16.82 billion in 2013 (‘SAP Data’, 2014). From back office to boardroom, warehouse to storefront, and desktop to mobile device, SAP empowers people and organisations to work together more efficiently – and use business insight more effectively. This is realised by extending the availability of software across on-premise installations, cloud and on-demand deployments, and mobile devices. The SAP’s people knowledge, products, and partners help to achieve the growth and create significant new value for their customers, entire industries, and the economy at large (‘About SAP’, 2014).

The two chosen companies (Oracle & SAP) for this research are the industry-leading information technology (IT) and business analytics software and services suppliers. Both companies represent best-in-class products and services with a highly dominant market position. From the perspective of online presence, both companies have mature and very active user communities consisting of various social media platforms, divided into specific business divisions or departments for more focused and professional communication, ranging up to 40 different social media accounts on different platforms such as Twitter, Facebook, Google+, YouTube etc. In this research, the main focus will be devoted to the main corporate Oracle and SAP social media accounts on Twitter – @Oracle and @SAP respectively. Twitter is a global platform for public self-expression and conversation in real time, available in more than 35 languages with more than 240 million monthly active users. Twitter is famous for its simplicity and engagement with tweets consisting of up to 140 characters (‘Twitter Annual Report’, 2013). The purpose of choosing these accounts for a detailed analysis is based on the fact that Oracle and SAP are considered not only as the main enterprise software and business analytics providers in the industry, but also both companies have state-of-the-art social media strategies and adopted practices. Both firms represent a valuable source of analysis of the social media techniques and co-generated business value in the digital environment.

3.2. Data measurements

The key focus of this research paper is to investigate how brand engagement with its social media community influencers affects the brand’s equity and co-creation potential in the social media environment. Therefore, a set of Twitter based metrics was applied to investigate the hypotheses with additional selection of the most influential Twitter users within brands’ communities. **Independent variable**

The independent variable tested in this research study is brand engagement (See Table 1 in appendix for additional definitions) and it was measured by the number (sum) of Twitter posts (tweets) per day during the 65 days period by Oracle and SAP respectively in order to investigate the causal relationships between the variables. Additionally, content analysis technique was used to conduct a descriptive analysis of the brand engagement and its various types. Thus, a new typology model was designed, based on the previous research studies by Naaman, Boase and Lai (2010) and Jansen, Zhang, Sobel, and Chowdury (2009). The adopted model enables to distinguish 10 various brand engagement types: answer/comment; anecdote/entertainment; corporate/financial update; competitor-related update; industry-related update; market research update; product/service update; question/request; recommendation/suggestion and visual update (See Table 2 in appendix for additional definitions). This distribution enables to identify and code most of the brand engagement with its social media community. In order to conduct an analysis, a sum of tweets per day for each subtype was collected during the 65 days period. Additional percentage measurement was implemented to make the results standardised. Tweets that were not categorised into one of the subtypes were excluded.

**Mediating variable**

The mediating variable in this research study is brand social media community influencer engagement (See Table 1 in appendix for additional definitions) and it was measured by the number (sum) of replies and retweets per day targeted to the brand during the 65 days period by brand community influencers with an impact score at least 50. The purpose of this mediating variable is to investigate how brand engagement affects the reaction of brand community influencers and their further actions in the social media environment, therefore the retweets and replies metrics were used which can identify the level of user reaction on social media (Fisher, 2009; Hoffman & Fodor, 2010). However, as the purpose of the research is to investigate a special group of community influencers, the number of retweets and replies were counted from the users with an impact score at least 50 (out of 100). The impact score is a unique metric developed by Brandwatch Analytics (‘Brandwatch’, 2014), and is assigned automatically based on the users’ online credibility that takes into account a set of additional parameters such as KredScore and MozRank, and the potential of the retweet and/or reply, based on the number of user connections on the social network and reactions generated (Eslami, 2013; Fisher, 2009).

**Dependent variable A**

The dependent variable A in this research study is brand equity (See Table 1 in appendix for additional definitions) and it was measured by the number (sum) of brand mentions per day during the 65 days period by the brand social media community, not including actions by influencers. Based on the research, it is expected that the more reactions brand engagement generates by brand community influencers, the more awareness and exposure the brand receives. It means that more users will discuss, engage and participate in brand-related activities with the brand, thus leading to higher operational and financial performance (Bruhn et al., 2012; Kim & Hyun, 2011; Webster & Keller, 2004).

**Dependent variable B**

The dependent variable B in this research study is brand co-creation potential in the social media environment (See Table 1 in appendix for additional definitions) and it was measured by the number (sum) of brand mentions with co-creation potential (related with one of the following stages: ideation, product development, commercialisation, post-launch stage) per day during the 65 days period by brand community influencers with an impact score at least 50 (explained above). Based on the research, it is expected that brand community influencer engagement influences also the level of co-creation potential in the mentions (tweets) by influential users. Thus, influential users can engage in conversations with brand and other users to suggest product and service related insights that might be implemented in the existing or new product/service development (Nambisan, 2002; Prahalad & Ramaswamy, 2004; Sawhney et al., 2005). In order to increase the validity of mention analysis with co-creation potential and conduct additional content distribution analysis, a model of co-creation potential stages was adopted from Hoyer et al. (2010). It enables to code and subdivide a mention by a certain user in one of the following product/service development stages:
ideation; product development; commercialisation; post-launch (See Table 3 in appendix for additional definitions). In order to conduct an analysis, a sum of tweets per day for each subtype was collected during the 65 days period. Additional percentage measurement was implemented to make the results standardised. Tweets that were not categorised into one of the subtypes were excluded.

3.3. Data Collection
This research paper is focused on the analysis of two major brand performances in the social media environment, therefore an extensive amount of primary qualitative and quantitative social media data for @Oracle and @SAP was gathered over a period of 65 days (April 18, 2014 – June 21, 2014). During the research process, relatively innovative data collection method for academic research was used. The necessary raw social media data were collected by means of the leading web-based social media monitoring and analysis platform – Brandwatch Analytics. It is a powerful social media analytics platform enabling to monitor, analyse and utilise all the relevant communication about the researched brands, companies, topics and its user communities, thus proving a superior representation and access to extensive social media analysis (‘Brandwatch’, 2014). Using the Brandwatch RESTful API (Application Programming Interface) the necessary metadata and metrics were exported for additional statistical analysis. Collected data quality is ensured by Brandwatch crawler covering more than 70 million sources of blogs, forums, sites, and major social networks. A special Twitter partner certification allows to access full Twitter data in real-time with additional options for historical data access. In addition to Brandwatch Analytics, another social media marketing analytics tool – Wildfire by Google was used for data collection (‘Wildfire’, 2014). Wildfire tool was used to track a numerical development of brand communities. The raw social media data collected during the research period included a full coverage of monitored social media account engagement with the social media environment and the reactions generated by the social media community. Collected data also includes a multilingual data coverage, influence scores and demographic overview of the users. During the data collection period more than 5’000 tweets by brands and more than 50’000 tweet by brand community members were collected and filtered manually for further statistical analysis.

3.4. Data Analysis
To test the causal model and proposed hypotheses, linear regression was selected as the method of analysis, using the SPSS 22 software package. Linear regression analysis is suitable to predict the outcome of one variable from another and understand the relationships between them (De Veaux, Vellemen, & Bock, 2005; Field, 2009) and since the hypotheses in this research study are focused on investigating the impact of one variable on another (i.e. brand engagement on community influencer engagement, and community influencer engagement on brand equity and co-creation potential), linear regression analysis is an applicable method. Additionally, content analysis method was used to identify 10 brand engagement subtypes used by Oracle and SAP respectively, based on the adopted typology by Naaman et al. (2010) and Jansen et al. (2009), and also to identify 4 co-creation potential subtypes in Twitter mentions, based on typology developed by Hoyer et al. (2010). Some descriptive statistics are used in the research to describe Oracle and SAP user communities.

4. RESULTS
The monitoring of Oracle and SAP social media communities revealed the following demographic and professional insights. 74% of Oracle community members are men and 26% women, while SAP community consists of 71% men and 29% women respectively. Additionally, both firms have similar distribution pattern of user professional profiles. 26% of Oracle community members represent executive level, compared to 33% in SAP community. Furthermore, 24% and 19% of Oracle community members represent software development & IT industry and sales and marketing industry, while the members of SAP community account for 12% and 22% in the same categories. Web artists have similar distribution between two communities ranging around 8% of the total number of members.

Hypothesis 1 suggested that brand engagement has a positive effect on the brand social media community influencer engagement. The regression results indicate a positive relationship both for Oracle and SAP (b = 6.499 and 5.044 respectively), which states that brand engagement positively influences the brand community influencers’ engagement on the social media environment (See Table 4) Next, the results suggest that in the case of Oracle 79.8% of variability in the community influencer engagement is accounted for the level of brand engagement ($R^2= .798$), while in the case of SAP it accounts for 66.3% ($R^2=.663$). Data analysis also shows that results are significant both for Oracle and SAP (p = .000 and p = .000 respectively), therefore it is possible to state that Hypothesis 1 is confirmed. It leads to conclusion that brand engagement generates sufficient level of reactions from the community influencers.

| Table 4. Summary of linear regression results for brand engagement and community influencer engagement (H1). |

<table>
<thead>
<tr>
<th></th>
<th>Oracle</th>
<th>SAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R squared</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R adj.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Additional content analysis of brand engagement was conducted, which reveals the brand communication strategies by means of representing a distribution of tweets, based on 10 different engagement subtypes, adopted by Jansen et al. (2009) and Naaman et al. (2010) (See Table 5). Results indicate that both Oracle and SAP engage with their communities more often by posting corporate & financial updates (24.22% and 30.98% respectively) announcing corporate news, events or financial performance. Then both companies use posts with visual materials included, accounting for 16.10% and 14.26% respectively. Furthermore, there are some variations in patterns. Oracle is engaging with community by means of product/service updates (15.61%), direct interaction answering or commenting to other users (14.30%) and community entertaining updates (6.85%). SAP five most common engagement types additionally include industry-related tweets (12.11%), answers or comments to community questions or topics (8.76%), and raising questions or making requests to the digital web (8.22%). It is interesting to see that both firms engage less with competitor-related updates (4.13% and 3.87%) and market-research updates (2.06% and 2.24%).
Hypothesis 2 proposed that brand social media community influencer engagement has a positive impact on the brand’s social media equity. As it turns out, there is a positive relationship between these variables both for Oracle and SAP (b = .757 and b = 2.972), supported by the results of data analysis (Table 6). Further, it is possible to state that in the case of Oracle 51.4% or variability in brand social media equity is accounted for brand community influencer engagement ($R^2 = .514$), while in the case of SAP, it accounts for 71.3%, indicating that influencer engagement has a notable positive impact ($R^2 = .713$). Additionally, data analysis reveals that results are significant both for Oracle and SAP (p = .000 and p = .000 respectively). Thus, it is possible to confirm Hypothesis 2, enabling to suggest that brand community influencer engagement has a strong positive impact on the brand’s social media equity.

Table 6. Summary of linear regression results for brand community influencer engagement and brand equity in the social media environment (H2).

<table>
<thead>
<tr>
<th>Content Subtypes</th>
<th>Code</th>
<th>Oracle</th>
<th>SAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Answer/Comment AC</td>
<td>14.30%</td>
<td>8.76%</td>
<td></td>
</tr>
<tr>
<td>Anecdote/Entertainment AE</td>
<td>6.85%</td>
<td>6.45%</td>
<td></td>
</tr>
<tr>
<td>Corporate/Financial Update CFU</td>
<td>24.22%</td>
<td>30.98%</td>
<td></td>
</tr>
<tr>
<td>Competitor-related Update CRU</td>
<td>4.13%</td>
<td>3.87%</td>
<td></td>
</tr>
<tr>
<td>Industry-related Update IRU</td>
<td>6.83%</td>
<td>12.11%</td>
<td></td>
</tr>
<tr>
<td>Market-research Update MRU</td>
<td>2.06%</td>
<td>2.24%</td>
<td></td>
</tr>
<tr>
<td>Product/Service Update PSU</td>
<td>15.61%</td>
<td>6.33%</td>
<td></td>
</tr>
<tr>
<td>Question/Request QR</td>
<td>4.37%</td>
<td>8.22%</td>
<td></td>
</tr>
<tr>
<td>Recommendation/Suggestion RS</td>
<td>5.53%</td>
<td>6.78%</td>
<td></td>
</tr>
<tr>
<td>Visual Update VU</td>
<td>16.10%</td>
<td>14.26%</td>
<td></td>
</tr>
</tbody>
</table>

Hypothesis 3 assumed that brand social media community influencer engagement has a positive impact on brand’s co-creation potential in the social media environment. The results indicate a positive relationship both for Oracle and SAP (b = 4.118 and b = .30), confirming an expectation that brand community influencer engagement should affect the co-creation potential with a positive direction (See Table 7) Data analysis results show that in the case of Oracle 28.9% of variability in the brand co-creation potential is accounted for the level of brand community influencer engagement ($R^2 = .289$), while in the case of SAP it accounts for 62.2% ($R^2 = .622$). The results proved to be significant in both cases (p = .000 and p = .000), therefore it is possible to confirm Hypothesis 3, and conclude that brand community influencer engagement has a positive effect on the brand co-creation potential in the social media environment.

Table 7. Summary of linear regression results for brand community influencer engagement and brand co-creation potential in the social media environment (H3).

<table>
<thead>
<tr>
<th>Content Subtypes</th>
<th>Code</th>
<th>Oracle</th>
<th>SAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ideation I</td>
<td>27.17%</td>
<td>34.79%</td>
<td></td>
</tr>
<tr>
<td>Product Development PD</td>
<td>30.84%</td>
<td>28.51%</td>
<td></td>
</tr>
<tr>
<td>Commercialisation C</td>
<td>17.78%</td>
<td>16.88%</td>
<td></td>
</tr>
<tr>
<td>Post-launch PL</td>
<td>24.21%</td>
<td>19.82%</td>
<td></td>
</tr>
</tbody>
</table>

Additionally, analysis of tweets with co-creation potential was conducted to identify the stage of product/service production cycle with the highest potential for co-innovative activities. According to Table 8, in the Oracle community the highest co-creation potential is related to product development stage (30.84%), then with relatively close distribution to idea generation stage (27.17%) and post-launch stage (24.21%), and final, commercialisation stage (17.78%). In the SAP community, distribution is somewhat different. The highest co-creation potential is related to idea generation stage (34.79%), then product development stage (28.51%). Co-creation potential related with post-launch and commercialisation stages ranges at 19.82% and 16.88% respectively.

Table 8. Summary of co-creation potential distribution.

<table>
<thead>
<tr>
<th>CCP Subtype</th>
<th>Code</th>
<th>Oracle</th>
<th>SAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Idea</td>
<td>27.17%</td>
<td>34.79%</td>
<td></td>
</tr>
<tr>
<td>Product Development</td>
<td>PD</td>
<td>30.84%</td>
<td>28.51%</td>
</tr>
<tr>
<td>Commercialisation</td>
<td>C</td>
<td>17.78%</td>
<td>16.88%</td>
</tr>
<tr>
<td>Post-launch</td>
<td>PL</td>
<td>24.21%</td>
<td>19.82%</td>
</tr>
</tbody>
</table>

5. CONCLUSION

Social media became a key revolutionary element of the modern marketing practices. Dynamic environment of social media with empowered and inter-connected users engaging in networked relationships and new methods of information distribution, present marketers and researchers with notable challenges from one perspective, and superior business value potential from another. This requires marketers to devote a strategic attention to this mass phenomenon in order to grasp the benefits of the co-generated social capital and possess several intriguing questions for researchers that have been addressed in this paper within a specific scope. In general, the research results support an expected positive impact of brand engagement with its social media community influencers, which stimulates a positive brand equity and co-creation potential development.

An important component of brand success in the social media environment is a proactive and strategic approach of brand engagement with its online customer community and its key actors or influencers. Research indicates an expected strong positive impact of brand engagement on community influencers’ reaction and further engagement with the rest of the community. In both cases, investigated in this research, an active brand engagement led to a growth of the engagement level of the brand community influencers. It means that key actors of the brand communities are strongly related to the
information shared and promoted by the firm, and taking into account that influencers possess a superior authority and reach inside the certain groups of users, an active participation of brands in initiating and developing valuable conversations potentially has a strong impact on developing firm’s social media capital (Gensler et al., 2013; Romero & Molina, 2009). It is critical not to underestimate the importance of brand participation in the information development and distribution within brand communities. The new model of many-to-many interaction without a clear hierarchy in the social media brand community increases the importance of strategic brand engagement. Facilitation and management of communication can not only enhance the social capital of the firm, but also can decrease negative comments and value disrupting sentiment (Fournier & Avery, 2011; Habibi, Laroche, & Richard, 2014b).

Moreover, brand engagement with community members stimulates stronger sustainable relationships with customers that increases the level of trust and loyalty towards the brand (Habibi et al., 2014a).

The research also empirically supports the proposition that brand community influencer engagement positively influences brand equity and co-creation potential. Results show a strong positive impact of brand community influencer engagement on the brand’s social media equity, thus proving a crucial role of community influencers in the brands’ social media capital development. This finding is partially explained by the fact that social media is perceived by costumers as a more trustworthy source of information concerning different products and services than firm-sponsored communications transmitted with traditional elements of the promotion mix (Fouix, 2006). Therefore, users with higher credibility, proven track record and authority among other community users are considered as an inevitable source of information, new trends and activities. Influencers possess a vital ability to influence decisions of other users and their actions related with a certain brand or a product, therefore marketers should develop strategies for engaging with influencers that benefit and enhance the value of firms assets in the social media environment (Budac & Baltador, 2013). For instance, an important focus of this research study is to investigate social media brand equity from the perspective of brand awareness and brand advocacy by influencers. The analysis revealed that higher interaction between the brand and its community influencers leads to higher level of brand awareness among the whole community. This finding allows developing a proposition that a continuous collaborative engagement between brand and key influencers and discussion of the brand and its products/services enables to increase the customer retention rates, attract new customers and conduct business activities in an optimised way spending less production resources (Bruhn et al., 2012; Keller, 2009; Michaeilidou, Siamagka, & Christodoulides, 2011). However, research results show that in the case of weaker and lower brand performance, influencer activities might generate an opposite negative effects, leading to a notable decrease of brand equity in the social media environment. However, it is also important to understand the relationships between firms’ traditional offline brand equity and social media equity. The key point is that different brands with different customer groups might be more influenced by the offline brand equity than the social media equity and vice versa. Additionally, the research indicates that brand social media equity is mainly associated with the brand intangible value that helps to determine the potential financial performance of the firm. Hence, marketers should strive for developing competencies that would enable them to integrate brand’s digital equity into the fostering of firms financial performance (Callarisa, García, Cardif, & Roschchina, 2012; Hoffman & Fodor, 2010; Rodriguez et al., 2012).

Next, the research results indicate that brand community influencer engagement has a positive impact on the brand’s co-creation potential. Although the positive impact was expected, one might be surprised that Oracle and SAP has rather strong co-creation potential with their social media communities. This might be explained by the fact that both Oracle and SAP have the state-of-art social media communities that consist of industry experts, professionals and passionate enthusiasts who are motivated by a set of intrinsic and extrinsic factors to collaborate and engage in co-innovative content creation and distribution. Thus, it is important to make co-creation potential estimation based on the firm’s social media community size and interactivity levels, type of industry and presence of influential users (Füller, 2010; Füller et al., 2008). Another factor is related with the characteristics of the social media environment. Virtual environments and social media in particular provide the extended reach, enhanced interactivity, greater persistence, increased speed, and higher flexibility that can be combined into three benefits for collaborative innovation in the social media environment: (1) direction of communication; (2) the intensity and richness of the interaction; and (3) the size and scope of the audience (Sawhney et al., 2005). Thus, in the digital environment of Web 2.0 brands can develop networked relationships with influential users who can help to grasp the product/service related insights from the various customer perspectives worldwide on a continuous basis. Furthermore, a mediating role of influencers stimulate a generation of relevant feedback that increases the sense of brand connectedness to the community and presents marketers with relevant insights that can be turned into commercial product and service releases (Mangold & Faulds, 2009). Additionally, co-creation potential can be explained by the roles that users can play in the collaborative innovation activities. According to Conway and Steward (2009), users can have different roles in the firms’ innovation process, including users who represent the source of ideas, users who are product or service analysers, users who perform the role of new product or service co-developers, users who lead the process by innovating new product and services, and finally users who become entrepreneurs themselves by commercialising their ideas and business concepts. Therefore, brand engagement with influential community members in the social media environment can stimulate and positively impact a generation of co-created information and insights that present sufficient business value that can be turned into new designs, products and services or used for the improvement of existing offerings (Hoyer et al., 2010; Prahalad & Ramaswamy, 2004; Romero & Molina, 2011).

5.1. Theoretical and Managerial Implications

The purpose of this paper was to highlight an increasing importance of social media in the B2C and B2B markets, investigate the concept of brand engagement and analyse the role of brand social media community influencers and their impact on brand equity and co-creation potential in the social media environment. In addition to discussion above that presents several interesting insights, this paper has a number of theoretical and managerial implications that contribute to the developing field of academic social media studies and also to the often lacking practical insights for marketers operating in the turbulent social media environment.

First, an in-depth analysis of brand engagement, social media influencers, brand equity and co-creation potential in the social media environment was conducted, building up on the existing knowledge. This research paper analyses these key concepts.
from relatively unexplored perspective, by adopting traditional marketing insights to explore them and their relationships in the social media environment. The key focus of this research study is to analyse the social media influencers and their specific role in the brand communities. This concept can be traced back to the traditional concept of lead users who represent a relatively small fraction of users engaging in co-innovative activities, having superior knowledge and skills, positioning ahead of the general market trends and benefiting from the new product/service releases (Franke & Shah, 2003; Von Hippel, 1986). The brand community influencers might possess similar characteristics, but the social aspect of Web 2.0 enables a larger group of users to participate in the new or existing product or service development directly or indirectly by sharing valuable information and experiences online. A co-creation potential typology adopted from Hoyer at al. (2010) presents interesting input for researchers identifying that Oracle and SAP social media communities possess the highest potential for collaborative product and service development during the idea generation and product development stages (27.17% & 30.84% for Oracle and 34.79% & 28.51% for SAP respectively), only partially supporting the results of the previous research by Kärkkäinen, Jussila, and Väisänen, (2010). Secondly, in addition to the co-creation potential, brand equity was analysed from the social media perspective as well. Research led to conclusion that brand social media equity has a strong focus on developing brand awareness that is affected by the engagement level between the brand and the community influencers whose cooperation determines the potential level of impact on the actual sales levels of the firm.

This article also draws practitioner’s attention to several important topics. The relevance of the brand engagement with its social media community and the key actors was discussed and supported by the research results. Therefore, the new designed brand engagement typology adopted from Naaman, Boase and Lai (2010) and Jansen, Zhang, Sobel, and Chowdhury (2009), possess a strategic importance for marketers. Brands engaging in social media can integrate this typology of 10 various engagement types on social media to analyse their social media strategies and engagement effectiveness by comparing the influencers’ reaction per type or the brand social media equity generated by certain engagement types. This research is based on analysing two IT-service firms performance on Twitter, therefore it is interesting to take into account a suggestion developed by Hanski (2014), stating that Twitter can be considered as a really loud, rambunctious cocktail party. Because everyone is talking at once, firms probably only manage superficial, impersonal relationships, therefore in order to establish meaningful connections, it is necessary to work at it. It means that marketers engaging on behalf of their brands on social media with customers should design well-planned strategies for stimulating sustainable relationship development with the key influencers and also other users interested in the brand. According to Sashi (2012), marketers should follow a cycle with the following stages: Connection; Interaction; Satisfaction; Retention; Commitment; Advocacy; Engagement. Thus, the relationship between the brand and its customer (or a community) is developed in a cyclical way, starting with first interaction, i.e. posting a tweet related to the brand. Then, brand starts to interact with users, addressing their issues. Users will evaluate the level of service and based on their experience will continue or stop the relationship. Only in case of positive collaboration, a certain level of commitment is created, leading to continuous process of engagement and collaboration, enabling parties to start co-innovation activities, improving the brand’s equity and inevitably the co-creation potential. Also, social media is about networked relationships that are not easily managed and controlled by brands, therefore firms should develop competencies that would allow to effectively monitor and appropriately react to certain user discussions almost in a real-time. This research paper provides some insights into the social media analytics and the available software. With social media analytics, marketers have a comprehensive method to turn the social media ‘buzz’ into actionable insights and build stronger connections through content that’s guided by tangible data (“Adobe Social”, 2013). Finally, this research paper presents a model helping to measure the brand equity and co-creation potential. Nevertheless the model provide relevant insights, marketers should continuously search for new efficient metrics and methods helping to optimise the social media performance and its results.

5.2. Limitations and Further Research

There were a number of limitations that should be addressed. First, this research study was based on analysing two industry-leading information technology (IT) and business analytics software and services suppliers, Oracle and SAP respectively. Both companies provide a specific range of products and services and share a highly dominant market position. This means that results presented in this paper might be different for other industries and less dominant market players. Therefore, the findings presented in this paper should be generalised carefully. Additionally, Oracle and SAP are recognised as best-in-class social media performers with mature and active social media communities. This also leads to conclusion that other firms, even in the same industry, might receive different results, based on the differences between community members and the levels of their interactions. Next, data was gathered during the 65 days period, which was sufficient to collect the necessary details about the firm social media performance. However, during this period special events like webinars, expositions, and conferences generate an increased level of interactivity that might influence data distribution and its analysis, therefore a larger sample of data, collected during more than a year might be beneficial for such studies. It is also critical to understand that social media data provides a limited overview and understanding of the firms’ performance offline; therefore some deviation in results might be possible due to the influence of brand’s offline equity. Also, the measurement of brand equity is a common issue in the social media research studies. This paper suggests relatively simple model for identifying causal relationships and efficiency, therefore additional metrics might improve the accuracy of findings.

Some relevant avenues for further research were identified during this project. It is advisable to explore the differences between the role of social media influencers in B2C and B2B markets. The new insights might identify the key strategies for optimising the social media presence. Furthermore, the link between brand offline and online equity is still unclear, therefore additional research could help to improve the estimation of brand engagement effectiveness with community influencers and their impact on brand online equity and co-creation potential. Additionally, continuous analysis of social media metrics should be conducted to increase the accuracy of the measurements. Research also led to conclusion that different brands have various follower growth rates that were not affected by the level of brand activity or the number of existing followers, thus it provides an interesting research direction for academic studies. Finally, the new business concepts are introduced to the business and innovation studies. A concept of lean start-up received some increased attention by academics...
and practitioners (Blank, 2013). The lean start-up approach uses a new business development methodology. “It favours experimentation over elaborate planning, customer feedback over intuition and iterative design over traditional ‘big design up front’ development” (Blank, 2013, p. 4). Since this methodology includes continuous connection and communication with potential product users, social media integration into the business development might be valuable; therefore it would be interesting to investigate this proposition.

6. ACKNOWLEDGMENTS

I would like to thank Dr. Ariane von Raesfeld Meijer for continuous support and supervising during this research project, Annemarie Ridder for being a second supervisor, Siraj Zubair for assisting with data analysis and Brandwatch company for providing access to the relevant social media data.

7. BIBLIOGRAPHY


## Appendix

### Table 1. Data measurement table & definitions

<table>
<thead>
<tr>
<th>Variables</th>
<th>Metrics</th>
<th>Definition of metrics</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Brand Engagement</strong></td>
<td>Number of Twitter posts (tweets) per day during the 65 days period.</td>
<td>A posting (up to 140 characters) done by a certain user of social media network - Twitter, including retweets, replies and mentions.</td>
</tr>
<tr>
<td>(Independent variable)</td>
<td>See Table 2 below for additional subtype distribution.</td>
<td></td>
</tr>
<tr>
<td><strong>Brand Social Media Community</strong></td>
<td>Number of replies and retweets per day targeted to the brand during the 65 days period by brand community influencers with an impact score at least 50.</td>
<td>Replies and Retweets are special type of engagement technique on Twitter. Users can reply to a Tweet created by another user by clicking the “Reply” button on the Tweet, which users refer to as an @reply, building on the original content and sharing their thoughts and opinions with the sender. A Tweet can also be resent, or retweeted, by a user that has received it by clicking the “Retweet” button on the Tweet, which enables users to redistribute the original Tweet to their followers.</td>
</tr>
<tr>
<td><strong>Influencer Engagement</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Mediating variable)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Brand Social Media Equity</strong></td>
<td>Number of brand mentions per day during the 50 days period by the brand social media community (not including mentions by influencers).</td>
<td>Mention, similar to retweets, is a specific Twitter engagement type. Users can refer to, or mention, other users in their Tweets without reacting on a certain tweet, but instead creating a tweet, related with another (other) user(s) by means of implementing @ sign in a tweet or including a brand name in a tweet.</td>
</tr>
<tr>
<td>(Dependent variable A)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Brand Social Media Co-Creation</strong></td>
<td>Number of brand mentions with co-creation potential (related with one of the following stages: ideation, product development, commercialisation, post-launch stage) per day during the 65 days period by brand community influencers with an impact score at least 50.</td>
<td>A mention with co-creation potential is a unique metric designed for this research purposes. This metrics refers to a Twitter mention (see above) that includes specific product or service related content that stimulates and initiates co-creating activities with community, targeted directly to a certain brand. A special typology was designed to identify co-creation potential in a mention, based on Hoyer at al. (2010). This typology identifies co-creation potential in one of the following product or service development stages: idea generation; product/service development; commercialisation; and post-launch.</td>
</tr>
<tr>
<td>Potential</td>
<td>See Table 3 below for additional subtype distribution.</td>
<td></td>
</tr>
<tr>
<td>(Dependent variable B)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subtype</td>
<td>Code</td>
<td>Definition</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Answer/Comment</td>
<td>AC</td>
<td>Brand reaction on a certain users post. This includes answers or comments to user direct questions or generic posts that attract firm's attention. This type of brand posts include also retweets or replies by the brand.</td>
</tr>
<tr>
<td>Anecdote/Entertainment</td>
<td>AE</td>
<td>Brand posts that include anecdote or entertaining purpose. These types of posts are targeted mainly to attract readers' attention and generate positive sentiment. However, it might be related with the brand itself or its products/services, but the main idea is to provide interesting social media content.</td>
</tr>
<tr>
<td>Corporate/Financial Update</td>
<td>CFU</td>
<td>Corporate announcements, related with upcoming news, financial results, invitations to upcoming events or general statements about the daily firms routine.</td>
</tr>
<tr>
<td>Competitor-related Update</td>
<td>CRU</td>
<td>Firm posts directly and indirectly related with competitors and their performance. This type covers the posts that mention the competitor and/or posts that review, compare with and promote the brand over its competitors.</td>
</tr>
<tr>
<td>Industry-related Update</td>
<td>IRU</td>
<td>Firm posts that cover the topics that are relevant for the whole industry, and might be interesting not only for customers of the brand, but also to customers of competitors.</td>
</tr>
<tr>
<td>Market-research Update</td>
<td>MRU</td>
<td>Firm posts that present industry-relevant research, results and other key details.</td>
</tr>
<tr>
<td>Product/Service Update</td>
<td>PSU</td>
<td>Social media posts including the firm product/service-related information. This type of content includes announcements of the new product releases, reviews of existing products, and other type of announcement related with firms product/services.</td>
</tr>
<tr>
<td>Question/Request</td>
<td>QR</td>
<td></td>
</tr>
</tbody>
</table>
Table 3. Co-Creation potential typology (Hoyer et al., 2010)

<table>
<thead>
<tr>
<th>Subtype</th>
<th>Code</th>
<th>Definition</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ideation</td>
<td>I</td>
<td>Twitter mention expressed in various ways (e.g. announcement, question, response etc.) that includes content that brand can use an insightful and relevant input for new product/service concept generation or optimisation of existing concept ideas.</td>
<td>Our company is struggling with automated sentiment analysis, would be great to find a reliable solution.</td>
</tr>
<tr>
<td>Product Development</td>
<td>PD</td>
<td>Twitter mention expressed in various ways (e.g. announcement, question, response etc.) that includes content that brand can use an insightful and relevant input for updating, optimising existing product and services, or adding new features and development that are lacking on the moment.</td>
<td>SAP should seriously work on the user-interface of the platform.</td>
</tr>
<tr>
<td>Commercialisation</td>
<td>C</td>
<td>Twitter mention expressed in various ways (e.g. announcement, question, response etc.) that includes content that brand can use an insightful and relevant input for new commercial technique development or enhancement of the existing ones.</td>
<td>Why are not they selling this over Twitter? Huge potential, who would like to support this?</td>
</tr>
<tr>
<td>Post-launch</td>
<td>PL</td>
<td>Twitter mention expressed in various ways (e.g. announcement, question, response etc.) that includes content that brand can use an insightful and relevant input for evaluating and improving the new product/service releases and customer service.</td>
<td>The new 4.3. release still should be optimised. Any experts ready to code?</td>
</tr>
</tbody>
</table>
Figure 1. The Conversation Prism: Social media network types (Solis, 2013)