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THE ROLE OF SOCIAL NETWORKS IN ENHANCING BRAND EQUITY

A hybrid approach toward analysing tweets

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ABSTRACT

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Social networking has attracted the attention of many industries as well as researchers. Advances in communication technology from one side and availability and popularity of information technology devices and platforms from the other side have caused the social networking activities to be an inseparable part of brands' strategies. Analyzing the data extracted from these social interactions can provide valuable information to help managers to decide about future developments and branding actions. This is what makes this subject considerably important during the past decade.

Most of the previous researches which studied the role of social network in brand value only focused on the monetary value of the brands. This simply is not a comprehensive approach. While this research has presented a multi-dimensional approach toward brands by using the brand equity and its consisting dimensions instead. Furthermore, many of the researches only confine a case study with related dimensions and a single quantitative or qualitative data analysis method. Maintaining the case study part by collaborating with a case company using Twitter for its social networking activities, this research however, has included a hybrid approach towards social networks interactions data analysis. This research summarized the literature of brand equity and social network and developed the proper model of brand equity dimensions. Finally, the relation of brand equity dimensions and social network's data has been analyzed.

The results of this thesis showed that all of the brand equity dimensions mentioned in literature can be driven by the social network's data analysis. However, in order to analyze the relation among them, neither of quantitative nor qualitative approaches are not individually effective enough. For this purpose, this thesis recommended a hybrid approach not only towards data gathering but also for the analysis. In addition, the comprehensive process of using social media data analysis to improve the brand equity along with the efficient way of its implementation presented in this thesis.

PREFACE

Working and studying industrial engineering followed by multiple projects and degrees in different industries, thought me many things. However, I have never had the chance to experience the branding subject even though it has been one of my favorite area of research. Thus, I would like to thank Tampere University of Technology, my teachers, and the case company for providing this opportunity to work on this subject.

Writing this thesis could not be achieved without generous support and guidance of my advisor Prof. Nina Helander and her assistant Henri Pirkkalainen.

I want to dedicate this thesis to my dear wife whose love, patience, and motivation has been always a gift of life for me.

Tampere, May 6th, 2019

Amir Akbari

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LIST OF SYMBOLS AND ABBREVIATIONS

E/R	Engagement/Reach ratio
L/R	Like/Reach ratio
RT/R	Retweet/Reach ratio
C/R	Comment/Reach ratio
M/R	Mention/Reach ratio
SS	Sentiment Score
B2B	Business to business

1. INTRODUCTION

1.1 Background of the study

A brand, as the American Marketing Association (AMA) defines, is a “name, term, sign, symbol, or design, or a combination of them, intended to identify the goods and services of one seller or group of sellers and to differentiate them from those of competition.” However, brand has been known as a much more comprehensive concept in some of the practicing managers approach since it is potentially capable of creating awareness, reputation, preference, ... for their products. (Keller, 2013)

As a result, branding has become one of the major research fields in marketing and practical strategies while brand, by its more comprehensive meaning rather than a logo or a name, is all backed up and empowered by another entity called brand equity. In other words, branding is all about presenting a product or service with the power of brand equity (Keller, 2013). Mudambi et al. defined brand equity as “the total value added by the brand to the core product.” In fact, brand value is an intangible asset which provides added value leading to competitive advantages and long-term profits through differentiation of their products and services (Hanaysha and Hilman, 2015; Chen, 2008). All the advantages, benefits, and competitiveness which are provided by brand equity have been impressive for researchers to notice it as one of the most researched topics in marketing in recent years. Moreover, brand equity has been increasingly considered by many organization managers as a part of their managerial toolbox in order to measure, analyse, and improve the performance of their organizations (Khan et al, 2009)

Building a strong brand equity requires creating customer preference by presenting a significant difference in the value presented over other competitors in the industry. In other words, as Keller declares, listening to the voice of customer, making unique products or services, communicating the benefits, advantages, and their needs to be addressed, building strong and positive ties in customers’ minds, and other similar marketing actions are ways to reinforce the brand equity of an organization (Keller, 2013 and 1999). Brand equity is formed in consumer’s mind where all the thoughts, feelings, experiences, expectations, interpretations, and communications are embraced (Keller, 2013) and this can potentially influence their decision-making process and preference of a brand over the others. Thus, communication plays a critical role in enhancing brand equity both for customers and organization similar to any other management concept. Communication provides chances for the organizations to hear the customer voice, understand and develop solutions based on their needs, collect information about the competitors, present the value and benefit which is delivered by their products and services, make brand aware-

ness, and receive feedbacks to improve their performance which can influence their market leadership and their brand. On the other hand, whether in a B2B or B2C environment, customers can share their experiences and feelings which can affect decision making process, loyalty, trustworthiness... and these are all possible thanks to the opportunity and ability that communication provides. Researchers and practical managers have been always looking for the most appropriate way of relationship between customer and organizations. However, the first attempt to challenge the traditional customer- organization relationship was done by Grönroos (1994) who introduced relationship marketing instead of the marketing mix. He believed that marketing is a social process and the traditional 4Ps due to the business trends such as strategic alliance and networks are no more relevant (Grönroos, 1994 cited in Odhiambo, 2012). This social interaction should be considered as a continuous process which requires commitment and trust (Morgan and Hunt 1994; Grönroos 2005, cited in Odhiambo, 2012). However, the communication has evolved significantly in recent years due to the advanced technologies, while its importance and nature has remained the same. By the venture of internet, and later social media, people are more than ever connected and close.

All the opportunities provided by this phenomenon have influenced not only the way people communicate, but also the way businesses are operating in a more complex and connected network environment. Being a part of business management operations, while traditional marketing methods are encountered a threat, social media has also provided enormous new opportunities for brands. People exchange ideas, share their information and experiences, and inevitably directly or indirectly among these experiences there are companies' products or service involved which could be potentially promoted in case of positive experiences or cost millions of dollars in case of an unpleasant experience. As Yoo et al. (2000) mentioned social media communications can affect consumers decision making process by shaping a brand preference and narrowing their set of choices. Furthermore, according to the global nature of a social media, it exposes the brand to the audiences around the world. Sending the message of brand and its value to a certain target market is now efficiently and effectively possible through social media communications and internet has made the customer relationship to convey more benefits (Keller, 2003; Smith and McFee, 2003). That is some of the reasons why many of the organizations become more active in social media and are interested in analyzing their social interaction data.

However, while there is an increasing interest of researches about the importance of branding in improving organization physical revenue, little is known about how social media and its data analysis can lead to brand equity improvement as an intangible asset. Considering the past literature, it is observed that not many researches have dedicated to demonstrating the effect of social network communications on brand equity. As Rios and Riquelme (2010) mentioned that the number of researches which have studied the effect of social networks communications on brand equity are limited. This is also true about the practical managers and their organizations. While organizations are more and more getting involved in their social networks platforms in order to promote or advertise their

products or services for higher revenue, brand equity is the concept which is usually neglected. As an intangible asset, brand equity is not easy to be measured and on the other hand, the data available is not easy and cheap to be acquired and analyzed. Thus, in lack of a suitable vision, studying how social media interactions influence the brand equity could even seem not feasible for not brand-oriented businesses.

1.2 Research problems and Objective of the study

With millions of transactions per day in social media, even data extraction and collection are an expensive and extensive job to be handled by the company itself. As a result, these tasks are usually outsourced to third party companies to provide the data which can be raw, semi-processed, or processed data in form of quantitative measures derived directly from the social media platform or indirectly from statistical analytic applications. On the other hand, some of the other companies have chosen another approach and used qualitative data. Different methods and techniques such as questionnaire, interview, and surveys are utilized during campaigns in order to gather the required data to shape the brand equity model. However, both of the mentioned approaches have their own advantages and limitations which raise this question as the main research question that...

How companies can improve their brand equity by analyzing their social media interactions data?

The main research question is broken down into the following questions:

1. *What are the main dimensions of brand equity driven by the social media interactions data analysis?*
2. *What are the advantages and limitations of qualitative and quantitative social media data analysis?*
3. *What approach do companies follow to optimize their brand equity model based on social media data?*

The thesis has two purposes. First, is the theoretical goal to develop an optimized solution to utilize social media data in order to study the brand equity. Second, is the framework which could be used by many companies operating in different industries.

1.3 Scope of the study

This thesis is mainly focused on developing a framework to study the brand equity by analyzing social media data. Most of the discussions in this thesis are theoretical and they are not particularly the outcome of a case study done directly by the researcher; however, they are strongly supported by various literature reviewed in this thesis. Nevertheless, the thesis consists an empirical part which is collaborated by a Finnish company sharing its social media data. The quantitative data used in this study is derived from the tweeter page of the company and it is provided by a third-party analytical company; thus, other social media interactions of the company are not considered. The tweeter page of the company is operating in a B2B cooperation although the models, solutions, and other outcomes of this thesis could also be applied in B2C cooperation.

1.4 Structure of the thesis

This thesis consists of six chapters. After the first chapter which is introduction, the second chapter is literature review. The purpose of literature review is to provide a general insight to the topic of the research and to construct the theoretical frame work for the empirical part. This chapter summarized most of the literature regarding the thesis' topic by focusing on two main aspect of it. The first part studies the literature regarding the brand and brand equity. The second part then focuses on social networking and its role in value creation. The third chapter is research methodology in which the research strategy, approach, and data gathering method is introduced.

Chapter four contains the research results and analysis. In this chapter the designed criteria are measured and analyzed. In the next chapter, chapter five, the subordinate research questions will be answered comparing the research findings with the others in the literature in order to assess the connection with the prior studies. In addition, the brand equity model is developed. Finally, in the last chapter, the main question of the thesis is answered. In conclusion chapter it is also tried to combine the academic research findings with the managerial aspects of the thesis by presenting a practical process by which the case company can achieve its goal in improving its brand equity. Research limitations and some ideas for future studies are also described in this chapter.

2. LITERATURE REVIEW

2.1 Brand characteristics

A brand is identified as a term, name, logo, design, or a combination of them to distinguish a company's products or services among other competitors. However, from a more practical perspective, a brand is more than all mentioned above; even more and more different than patents or copyrights as some of the company's intangible assets. In fact, brand can identify the organization and considering it only as a name is simply a mistake since the developing a truly deep meaning for a brand can bring competitive advantage for the organizations as it outstands company's products and services in customers' minds. This is the reason that branding has always been one fundamental part of marketing researches and professional marketers constantly improve their distinctive skills to create, maintain, protect, and improve brands. (Kotler, 1994)

In order to be a successful brand, customer should perceive unique added value which is matched with their needs and expectations. For instance, a good experience of customer by providing satisfying products and services over a usually long period of time can lead to values of familiarity and reliability. There are many elements which define this added value such as experience, demographics, believes, appearance, and company's name and reputation, etc. For example, user experience can deliver familiarity, reliability, and risk reduction or demographics can identify the scope of the value for instance luxury or values for certain type of life style. (Bradley, 1995; de Chernatony – McDonald, 1992; Doyle, 1998; Jones, 1986 cited in Tuominen, 1999)

Regarding this added value delivered by the company's products and services, researchers have considered four levels. The first is the generic or core level which is the product itself addressing customer's basic needs. The second level is the expected level in which the products are value engineered in a way that target purchase conditions such as functionality, availability, price... are delivered to the customer. Since customers have become demanding and sophisticated, brands should be augmented by meeting both functional and emotional needs of customers as the third level of added value. This is provided by services beyond what is delivered in core brand level such as customer support, installation, training, delivery, credit, and purchase terms. And last but not the least level is the potential level in which the brand can grow to mature level by more and deeper experience while the only barrier is the creativity. (Bradley, 1995; de Chernatony – McDonald, 1992; Christopher et al., 1991; Doyle, 1998 cited in Tuominen, 1999)

Brands are complex entities and the power and value of them is different in a marketplace although they ultimately are located in customers' minds. Customers are an active part of marketing activities and not only they react to these activities, but also cooperate in them

through brand evolution stages. Some customers have a high degree of brand awareness for a particular brand and this brand is known for most customers. Going along with the brand evolution, some customers show no resistance to a brand since it has a high degree of acceptability. Beyond this, there are brands which has a high degree of preference meaning that customers prefer buying them over their similar or sometimes totally different products and services. Finally, in the summit, some brands have delivered such a remarkable value in a long time and have built an unbreakable relationship with their customers that have acquired a high degree of brand loyalty meaning that customers would choose them at first and usually with high degree of trust and even with bias. (de Chernatony, 1993; Kotler, 1994 cited in Tuominen, 1999)

As discussed above, customers have become rapidly more experienced and smarter. On the other hand, marketing techniques have become more complicated matching the speed of technology advances. Thus, brand is not only a name, logo, symbol, or a trade mark anymore and carries multiple functions. de Chernatony and McDonald (1992) introduced eight different functions for brands as below:

- 1) ownership
- 2) differentiating
- 3) communication of functional capability
- 4) delivering voice of customer
- 5) risk reduction
- 6) shorthand communication
- 7) legal entity
- 8) strategy

To provide a comprehensive literature review about the perspective of brand definitions, de Chernatony and Dall'Olmo (1998a) analyzed over one hundred papers from both trade and journals and categorized twelve main brand elements. This illustrated the vast range of brand definition in the literature by combining the brand functions and its other concepts within. These elements are as below:

- 1) legal instrument
- 2) logo
- 3) company
- 4) shorthand
- 5) risk reducer
- 6) identity system
- 7) image
- 8) value system
- 9) personality
- 10) relationship
- 11) adding value

12) evolving entity (Tuominen, 1999)

It worth noting that the brand elements introduced above are not exclusive and for different companies, brand can carry some or all the elements. Furthermore, each of these elements could be seen from both company and customer perspectives and this matters even more in B2B relations where companies are the provider and customer in the chain in the same time. A brand is created during a continuous and iterative process of defining the values and expectations embedded in the brand by company's activities while customers are always changing and redefining these values and expectations. As a result, company's activities and customer interpretations could be seen as the two boundaries for the brand (de Chernatony – Dall'Olmo Riley 1998a cited in Tuominen, 1999).

To sum up, creating a successful brand requires a multidimensional long-term approach considering the relation with both brand's stakeholders and the rivals. In the same way, the brand success measures should also be considered by an interrelated perspective between business-based and customer-based measures since naturally the business-based measures such as profit and market share are the outcome of customer-based measures such as acceptance, preference, loyalty, etc. (de Chernatony et al., 1998 cited in Tuominen, 1999)

2.2 Brand pyramid

A brand is mistakenly considered as a product and as a result, it is usually assessed by its derivatives such as name, logo, packaging, etc. However, brand is rather the product's source, meaning and direction which can define the product's identity. Thus, brand management is a process which starts much earlier than product management with a consistent strategic vision toward its core concept called brand identity. A brand identity is defined as the message which the brand sends out. (Doyle, 1998; Kapferer, 1992 cited in Tuominen, 1999) In order to analyse the concept of brand identity, the brand pyramid model along with identity prism (Figure 1.) is used and discussed in the following lines.

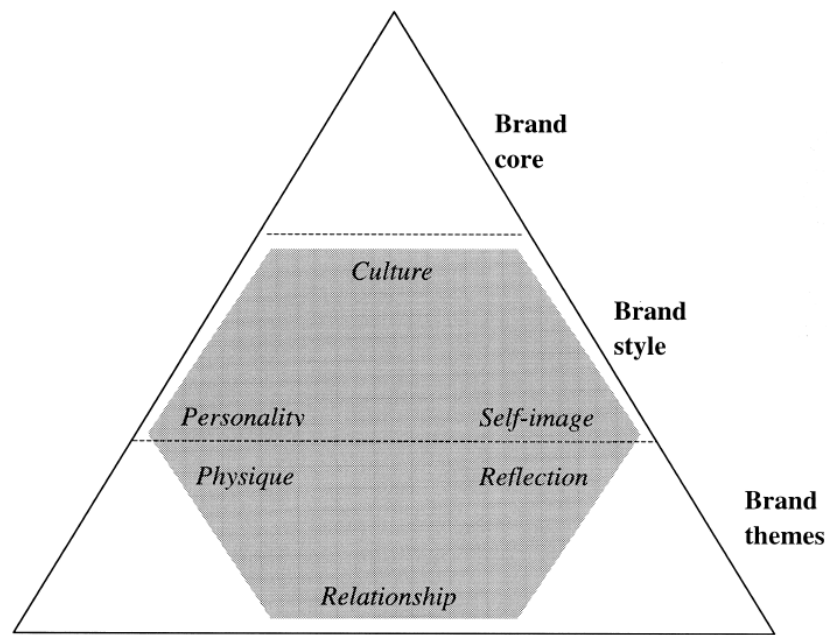


Figure 1. Brand pyramid and identity prism (adopted from Tuominen, 1999)

As shown in Figure 1., There are three tiers consisting this pyramid model: brand core, brand style, and brand theme. The brand core is the most fundamental part of this pyramid which usually remain the same or with little changes over long periods of time. The middle tier of the brand pyramid is the brand style which communicate the brand core in terms of brand culture, personality, and self-image. The last but not least is the brand themes constructing the most changing tier in the bottom of brand pyramid. Brand themes include three characteristics of the brand. First is the physics of the brand which is for instance, color, logo, packaging, etc. Second is the brand reflection meaning the image and how the brand is being advertised. And the third characteristic is the relationship identifying how the brand build relationship with its stakeholders, communication, feedback, market segments, etc. Going down from the top of the pyramid, the flexibility will increase. In other words, brand themes are more flexible and easier to change according to fashion, fad, or technology rather than in turn brand style and brand core. (Doyle, 1998; Kapferer, 1992 cited in Tuominen, 1999)

Describing the brand identity prism, three characteristics of brand style from the middle tier and the other three from the brand themes forming a six-sided prism with the facets of culture, personality, self-image, physique, reflection, and relationship. The first three facets are more concentrated on the brand itself while the later three are more focus on the social facets expressing the brand external, explicit and visible communication with its environment (i.e. stakeholders, competitors, etc.) (Doyle, 1998; Kapferer, 1992 cited in Tuominen, 1999)

Since the component of physique is included in the first stages of creating a brand process, the other more-intangible components are more valuable referring to the meanings, expectations, and interpretations in customers' minds. For instance, brand personality reinforces customer self-image and encourage them to represent the brand to others. (de Chernatony – Dall'Olmo Riley, 1998a; de Chernatony – Dall'Olmo Riley, 1998b; Doyle, 1998 cited in Tuominen, 1999)

By the aid of brand pyramid model and identity prism, managers will be able to first understand their brand, the strengths and weaknesses, and the opportunities and threats. Then they can develop and formulate corresponding strategies to send a consistent and valuable message by their products and their aligned marketing activities in order to extend the brand to other market and product segments. (Doyle, 1998) Finally, these models provide an opportunity to manage the brand equity as a valuable intangible asset through improved communication with the customers.

2.3 Brand equity

Brand equity has been one of the most popular marketing topics in recent decade since its advent in the 1990s. In the beginning there was not a clear definition for it however in practice it emphasized the brand as a financial asset and suggested that it should be considered as such in financial statements of a company. In addition to the brand value, the value of the technological knowledge, patents, trademarks, manufacturing know-hows, and other intangible assets is included in brand equity concept. (Aaker, 1996; Keegan et.al, 1995; Kerin–Sethuraman, 1998)

Knowing that the monetary value of a brand depends on the brand strength, investing in product quality and marketing activities such as advertising can make the brand stronger while price promotions could only increase the sales not to strengthen the long-term brand equity. (Barwise ,1993) In a general definition, brand equity is determined by a set of marketing activities implemented uniquely to the brand. In other words, it relates to the difference between the marketing activities outcome results attributed uniquely to the brand comparing to that outcome in case there was no brand identification for the product. Searching through the brand equity literature, almost all of the researchers believe that brand equity represents the value added to products and services due to a long-term investment in brand marketing activities. They also agreed that there are many different ways that this added value is generated for a brand and then represents to the stakeholders in different shapes. Furthermore, in most studies brand equity is considered as a great tool for interpreting the marketing strategies and brand value assessment. Finally, it is widely agreed that different organizations have different ways to illustrated and utilize their brand equity to benefit the company. (Keller, 1993; Keller, 1998)

According to the literature, there are many different definitions for brand equity however most of the researchers used two common approaches to define the brand equity. First,

both the company and its customers benefit from the value that brand equity presents. Second, to define the brand equity, there is usually an existence versus non-existence situation. In other words, researchers focus on the effects of the brand on the product comparing to what customer perceive from the product without the brand or marketing brand activities. (Barwise, 1993) Furthermore, brand equity concept has been used in different context however there are three main viewpoints when the brand equity is considered: the financial perspective, consumer-based perspective, and the combined perspective (Kim et al., 2003). The following table (Table 1.) is a literature review of different definitions of brand equity however brand equity is best described by a comprehensive definition by Aaker (1991) as bellow:

“a set of brand assets and liabilities linked to a brand, its name and symbol that add to or subtract from the value provided by a product or service to a firm and/or to that firm’s customer”

Table 1. Brand equity definitions in literature (Cited in Tuominen, 1999)

Definition	Author
A utility not explained by measured attributes/ a differentiated, clear image that goes beyond simple product preference	Barwise, 1993
The value a brand name adds to a product	Broniarczyk – Alba, 1994
The added value that a brand endows a product with	Farquhar, 1990; Farquhar et al., 1990
The differential effect that brand knowledge has on consumer response to the marketing of that brand	Keller, 1993; Keller, 1998
The combination of brand awareness, liking and perceptions	Moore, 1993
The added value endowed by the brand to the product as perceived by a consumer	Park – Srinivasan, 1994
The value attached to a brand because of the powerful relationship that has been developed between the brand and customers and other stakeholders over time/ the incremental price that a customer will pay for a brand versus the price for a comparable product or service without a brand name on it/ a long-term relationship with those people who loyally buy the brand over and over again	Keegan et al., 1995
The accumulated brand support by all stakeholders, not only by customers	Duncan – Moriarty, 1997
A product of the total net brand support of customers and other stakeholders that is determined by all communication interactions of the company	Duncan – Moriarty, 1998
Off-balance sheet intangible brand properties embedded in a company’s brand	Kerin – Sethuraman, 1998

As shown in table 1, it could be comprehended that brand equity has different perspectives. It can be regarded as a financial intangible asset or as a managerial, customer oriented, or relationship concept. Furthermore, a deeper investigation on the brand equity literature reveals that most of the definitions are generally consistent with the value added by the brand to the product. The prior literature also concludes the brand equity as a multidimensional concept depending on, customers' knowledge structure and the company's efforts to emphasize the potential of these knowledge structure in customer's minds. (Park – Srinivasan 1994, cited in Tuominen, 1999)

In addition, Bagozzi et al. (1998) implied that both the customer and the company benefit from the value which is provided by the brand equity. Enhancing efficient information processing and shopping, making confidence in decision making, reinforcing purchasing, and self-esteem are some of those value provided by the brand equity for the customer. On the other hand, increasing marketing activities efficiency and effectiveness, creating brand loyalty, improving the profit margins, leveling retailers, and leading to competitive advantage over rivals are samples of the values provided by brand equity for the companies. (Bagozzi et al., 1998 cited in Tuominen, 1999)

Continuing with the brand equity value for the companies, Keegan et al. (1995) believed that brand equity not only supports strategic and marketing activities but also offers benefits to companies in this matter. For instance, brand equity can extend the product life cycle of a product when it is in declining stages or in an economic crisis situation brand equity can guarantee a longer profitability time for the product in comparison to the competitors' which lack a strong brand equity. They also reminded that brand equity is a remarkably important concept in globalization and international marketing since it facilitates the market expansion. Moreover, premium brands are able to charge premium prices since customers consider them as quality products which is correlated with the brand image and brand knowledge in the customers' minds. (Keegan et al., 1995)

Higher marketing costs and increasing competition have made the companies to seek ways to improve the efficiency of their marketing activities. For this purpose, companies need a deeper and wider understanding of customers' behavior to map the strategies and define the target market and product position. Keller (1993) implied that brand equity is perhaps one of the most valuable assets in this regard since it includes all the brand knowledge, image and value created by brand marketing investments in customers' minds.

To sum up, it could be concluded from the literature that brand equity enables the companies to achieve competitive advantage by differentiation; acts as a quality filter; creates positive images in customers' minds; enhances customer loyalty; provides opportunity to charge premium prices; supports brand extension and globalization; preserves the profitability of a product in downturn economical situations and intensive competition, and finally, facilitates the marketing communication.

2.4 Brand equity dimensions

According to Aaker (1991), brand equity is created by five intangible asset dimensions. He introduced these assets as: brand loyalty, brand awareness, perceived quality, brand associations, and other assets such as patents, trademarks, and relationships. By managing these assets in a suitable manner, companies can add value to their products and services and are able to both satisfy their customers and benefit their stakeholders. (Aaker, 1991) Each of these asset dimensions are described thoroughly in the following lines.

2.4.1 Brand loyalty

Some brands are so strong that the customers believe that only that particular brand can satisfy their needs. As a result, customers manifest a positive attitude which is followed by a consistent purchase of the brand in long-term. There are mainly two dominating approaches in brand loyalty literature: behavioral approach and cognitive approach. In the first approach, behavioral approach, customers behavior is examined and the sequence and portion of the purchase of the brand over time is considered as the indication and measure of brand loyalty. Since customer behavior is a very complex conceptual system, according to this approach, this repetitive purchase is acknowledged to reflect the strong loyalty as a result of brand marketing activities while this could be only because of bias and inertia. This is exactly what the second approach, the cognitive approach, is all about. This approach emphasize that brand loyalty cannot be understand and measured only based on the consistent repetitive purchasing pattern. For instance, some customers are very price-sensitive and their repetitive purchasing behavior for a particular brand reflects the low price of the brand rather than commitment or brand loyalty. (Assael, 1992; Samuelsen – Sanvik, 1997 cited in Tuominen, 1999)

Since, as a rule of thumb, retaining the existing customers is much cheaper than attracting new ones, brand equity creating value by reducing the marketing costs. Moreover, current satisfied customers are one part of the marketing activities themselves since they can be considered as a sample of successful brand or by advising the brand to others. On the other hand, brand loyalty brings competitive advantage for the brand since it is difficult for the competitors to motivate them to try new alternatives. (Aaker, 1992)

Residing in the customers' minds, brand equity is a complex concept. Dickson (1994) named seven different types of brand loyalty based on various grounds which is presented in the table below:

Table 2. Brand loyalty types (Dickson, 1994)

Brand loyalty type	Description
Emotional	Creating an emotional link with the brand through unique, pleasant, and memorable experiences.
Identity	Using the brand as a self-expression to reinforce the self-esteem and manage the emotions.
Differentiated	Presenting superior values and features to the customers. Demonstrations and trials are very important.
Contract	Making the customer believe that a long-term loyal relation can bring superior treatment.
Switching costs	Customer is loyal to prevent the costs or efforts of adapting to other solutions.
Familiarity	Brand loyalty highly depends on brand awareness which is the result of constant advertising and promotions.
Convenience	Presenting easy and convenient purchasing solutions.

Looking at Table 2., it can be concluded that although initially brand loyalty creation is a difficult and resource-demanding process, some types of loyalty are surprisingly easy to change or ruined by the competitors. Thus, there are at least five levels of loyalty introduced by Aaker (1991). They are not purely distinctive, but they can present the different types of loyalty and their effects on the brand equity.

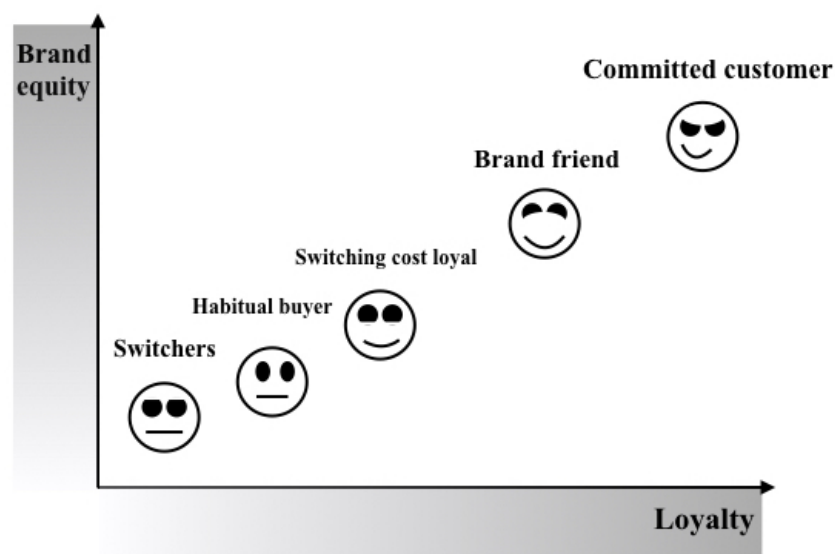


Figure 2. Brand loyalty levels (Aaker, 1991)

As illustrated in Figure 2., the first level is the non-loyal buyer whose buying is irrelative to a typical brand. Regardless of the brand, they switch between the cheapest and most reachable products. Thus, they are called switchers. The second level, habitual buyers, are customers who are satisfied with the product or at least not bothered. They are not motivated of buying a particular brand and the purchase process is mainly based on their buying habits. As a matter of fact, the first two levels are barely influenced by the brand marketing activities of the company and the value they add to the brand equity is likewise in a low level. The third level, switching cost loyal, are the customers who are satisfied with the brand also do not bother themselves switching to another brand. There is a potential for this level to be shifted to upper levels and benefit more value brought to the brand equity. In the fourth level, there are brand's friends who like the brand and prefer it over the competitors based on favorable experiences or a high perceived quality and value. Finally, the last but not the least, are the committed customers who feel the brand as their expression. The confidence in the brand is so high that not only they feel pride using it but also recommend it to others. The last two levels are one of the most precious intangible assets of the brand equity and if they are managed in an appropriate manner it can lead to remarkable brand equity enrichment. Loyal customers keep the marketing costs down, create brand awareness by recommending the brand to potential customers, and preserve company's competitiveness in competition threats by providing adequate reacting time. (Aaker, 1991; Dekimpe et al., 1997)

2.4.2 Brand awareness

Aaker (1991) defined the brand awareness as a characteristic of brand to be recognized and recalled by the customer. Brand awareness is not a concrete concept meaning that it can range from uncertainty to a strong belief between the brand and the product category. (Aaker, 1991) As defined above, there are two elements in the brand awareness. First is the brand recognition which is the customer's ability to identify previous exposure to a certain brand. In other words, brand recognition means that the customer distinguishes a set of information leading to the knowledge that whether the brand has been seen or heard before. Actually, brand recognition is in the lowest level of brand awareness however it is specifically important in the purchasing point. The second element of brand awareness is the brand recall. Brand recall is related to the ability to retrieve the brand as the customer thinks about the product category or the needs to be addressed. Since brand recall is generated in the customer's mind without any aid, it is more difficult to achieve. Brand recall creates the brand awareness outside the store. (Keller, 1993; Keller, 1998)

In order to characterize the brand awareness more easily, Keller (1998) mentioned two characters for the brand awareness. First is the depth of brand awareness meaning how likely and easy a brand is able to come to mind. A deeper level of brand awareness means that it can be recalled rather than just recognized. The second characteristic of brand

awareness is the breath which identify the extent of the usage and the purchase situations when a brand element comes to customer's mind. (Keller, 1998 cited in Tuominen, 1999)

Brand awareness benefits the brand by three ways of influencing the customer's decision-making process. First, brand awareness links the brand to the product category and by this it increases the chance of the brand to be selected. Second, brand awareness can affect the purchasing process in the consideration set by providing a sense of familiarity for the customer. Last but not the least, it can affect the decision making by strengthening the brand associations in the brand image. (Keller, 1993)

2.4.3 Perceived quality

According to the literature, generally, perceived quality is defined as the quality or the superiority of a product over the other competitors' and how the customer defines the quality. In many cases the perceived quality is the only reason that customers choose a particular product. One of the dimensions of a brand is its positioning in the market and the perceived quality not only can affect the customer's consideration set but also it provides the opportunity for the brand to charge premium prices which then the resulted benefits can be reused in the process of brand improvement activities. On the other hand, perceived quality is also important for the distribution channel where the retailers are willing to collaborate with the brands which have well-established perceived quality in the customers' mind. Moreover, a high level of perceived quality can enable the brand in market or product extensions since a quality product have a higher probability of success in new segments and product portfolios. (Aaker, 1991)

2.4.4 Brand associations

According to the fact that the purchasing process happens in customer's mind, there are many elements which connect the brand to the customer's mind. Any mental link which connects the brand to the customer to influence the purchase decision-making process, is called brand association. Brand associations potentially influence the information process and recall, present the differentiation strategies, provide a buying reason, create a supportive feeling, and support the extensions. a well-established brand association can lead to a higher satisfaction and more favorable customer behavior. (Aaker, 1991; Aaker, 1992 cited in Tuominen, 1999)

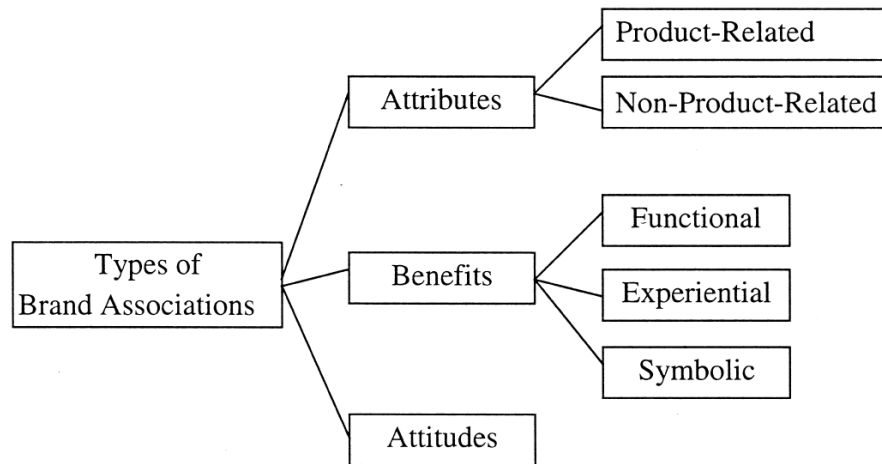


Figure 3. Types of brand associations (Dickson, 1994; Keller, 1993; Keller, 1998 Adopted from Tuominen, 1999)

As illustrated in Figure 3., brand association can be categorized into three main types. (Dickson, 1994; Keller, 1993; Keller, 1998) The first class are the brand attributes meaning the descriptive features which form the product characters. These attributes can be again classified into two other class. First are the product related attributes which identify the and influence the performance of the product. Second are the non-product-related attributes which do not affect the performance of the product instead they affect the external aspects of the process such as price, packaging, user segment, usage segment... and thus can influence the purchasing process of the customer. (Keller, 1993; Keller, 1998)

The second type of brand associations are the brand benefits meaning the value which is represented by the brand according to the customer perception. Brand benefits then are divided into three categories of functional, experiential, and symbolic benefits. Functional benefits are the most basic benefits which the customer receive from the functionality of the product. This type of benefit is usually related to the physical aspects of the product and thus it is corresponded to the product-related attributes. Experiential benefits refer to the feelings and experiences when the product is used. This type of benefits is related to both product-related and non-product-related attributes. Finally, the symbolic benefits refer to the most external advantages of product which are corresponding to the non-product-related attributes. Usually this type of benefits is very important for the socially visible products or services since they fulfil self-expression and social relations. (Keller, 1993; Keller, 1998)

Finally, the third and the most abstract types of brand associations are the brand attitudes. Brand attitudes are defined as the overall evaluation of the brand which can consequently form the behavior and the approach of the customer to the brand. It worth noting that brand attitudes correspond to all the benefits (i.e. functional, experiential, and symbolic) about product-related or non-product-relates attributes. (Keller, 1993; Keller, 1998)

2.5 Brand equity models

Since brand equity was coined, in early 1980s, it has been one of the most popular research areas in marketing studies and many researchers and also practical managers have tried to define, describe, and measure the brand equity. As discussed before in previous parts of literature review, brand equity has been defined in many different ways due to the era and functionalities. Likewise, according to the considerable volume of publications in this matter, many researchers have tried to develop a model for brand equity based on their needs to describe and measure the brand equity. Therefore, each of these models include some elements (dimensions) which can represent the brand equity. Table 3., includes some of these brand equity models.

Table 3. Brand equity models in literature.

Brand equity model's dimensions	Author
<ol style="list-style-type: none"> 1. Brand awareness 2. Brand loyalty 3. Perceived quality 4. Brand associations 5. Other proprietary brand assets 	Aaker (1991)
<ol style="list-style-type: none"> 1. Brand performance 2. Brand attachments 3. Social image 4. Trustworthiness 5. Brand value 	Lassar et al. (1995)
<ol style="list-style-type: none"> 1. Brand image 2. Brand loyalty 	Shocker and weitz (1988)
<ol style="list-style-type: none"> 1. Brand image 2. Brand loyalty 3. Brand performance 4. Brand leadership 	Hanaysha and Hilman (2015)

As it is obvious in Table 3., it worth noting that most of these models share the same or similar dimensions hence there are some different approaches due to the researchers' needs and available information.

2.5.1 A five assets model of brand equity

According to the literature, the five asset dimensions model of brand equity, developed by Aaker (1991), is one of the most comprehensive brand equity models in this research field. Having described all its dimensions in the previous sections of chapter 2., following lines are dedicated to a deeper explanation of this model and understanding how the brand equity creates value to both customer and company. Figure 4., illustrates the five assets model of brand equity.

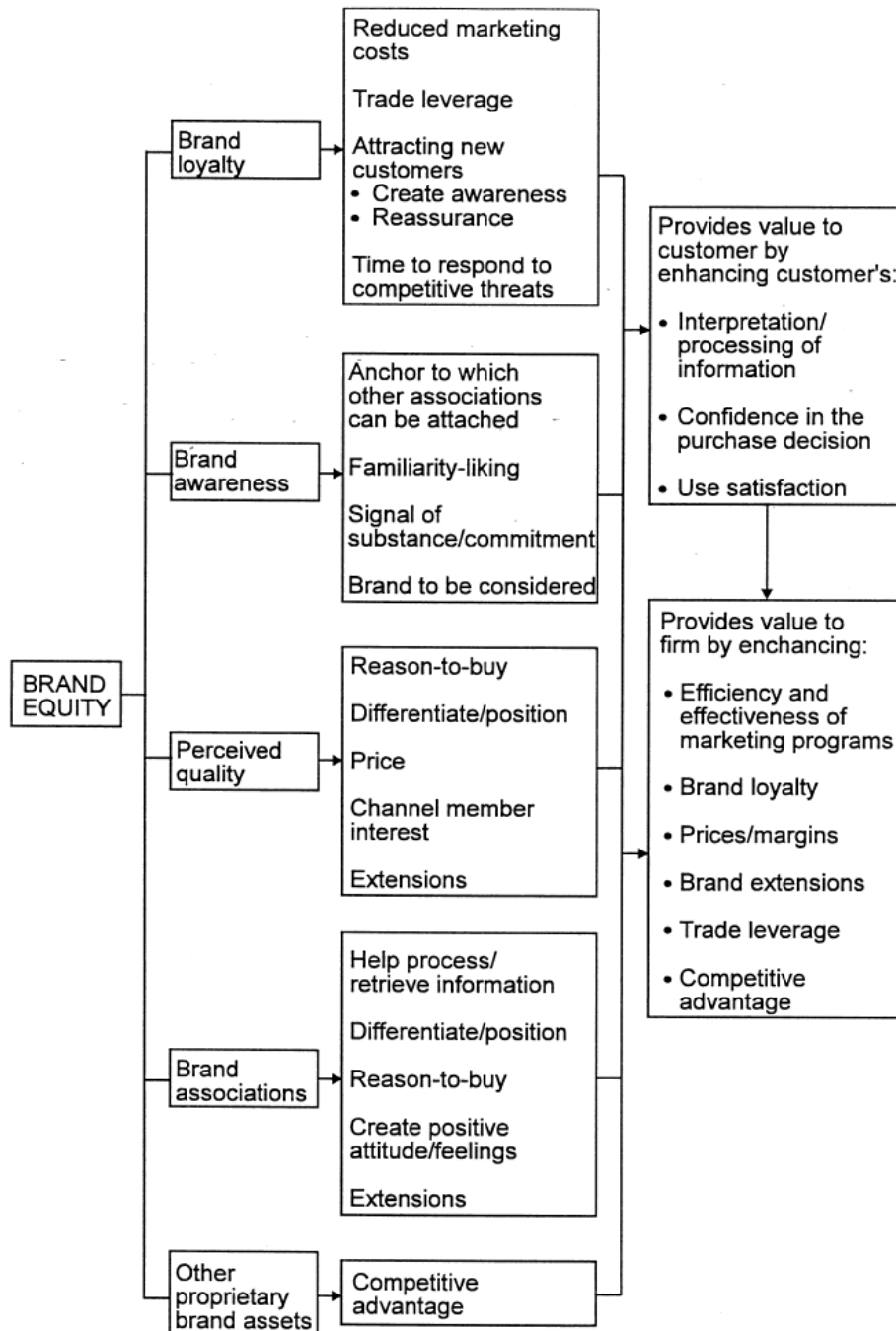


Figure 4. Five assets model of brand equity (Aaker, 1991) Adopted from (Tuominen, 1999).

This model signifies the fact that the brand equity creates value both for the customer and the company. This addresses the importance of value chain in brand equity model since managing the brand equity requires the managers to know how the value is created in order to make correct decisions about branding activities. (Aaker, 1992) As shown in Figure 4., the value to the customer is created in three ways. First, brand value assets support the customer interpretation of the brand and facilitate the brand and product information retrieving, storing, and processing. Second, since the customer feels more relaxed and secure to buy a high quality or familiar product, brand assets can increase the customer's confidence in the purchasing decision making process. Finally, third, brand equity assets can create value to the customer by increasing the satisfaction.

On the other hand, according to Aaker (1992), brand equity can create value to the company through six channels. First is by improving the productivity (i.e. efficiency and effectiveness) of the marketing activities. For instance, advertising of a new product will be more effective in a case that the customer has a memorable and positive perception of the brand. Second, brand equity assets can enhance the brand loyalty by increasing customer satisfaction and generating solid reasons to buy. Third, a higher brand equity provides the opportunity to charge premium prices and with that the company can benefit of higher margins. Furthermore, a company with a low brand equity has to spend more in promotions in order to compete in the market. The fourth way that brand equity can provide value to the company is that it facilitates the market and product family extensions. Simply, a well-established brand with high brand equity benefits a higher chance of success in new market, product, and customer segments. Fifth, brand equity balances the demand by distribution channel leverage. Every channel member feels more confidence and pleased distributing or purchasing a well-established brand and to reduce the uncertainty. Last but not the least, brand equity provides competitive advantage for the company and secure the brand in extreme competition.

2.6 Social Media

Rapid evolution of internet and internet-based products, services, and even businesses have provided new opportunities for the customers and the businesses during the past decade. Internet is used not only for more traditional usages such as information search and communication but also for expressing feeling and thoughts through social media in a remarkably growing manner. Social media is a complex system of online or offline tools which has change the way people interact, and create, use and share content. While facilitating the interactions, collaborations, and content sharing, they include variety of platforms such as weblogs, wikis, RSS feeds, podcasts, pictures, videos, ratings, and social tags (Richter & Koch, 2007). Kaplan and Haenlein (2010) defined the social media as “a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0 and allow the creation and exchange of User Generated Content.”

Constantinides and Fountain (2008) defined the Web 2.0, coined by O'Reilly (2005), 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. Web 2.0 applications support the creation of informal users’ networks, facilitating the flow of ideas and knowledge by allowing efficient generation, dissemination, sharing and editing/refining of the informational content.”

Applications based on Web 2.0 are intuitive, flexible, less formal, user friendly, and social oriented (Kaplan & Haenlein, 2010; Dewan & Ramaprasad, 2014). Social media are classified into six categories of 1) collaborative projects such as Wikipedia, 2) blogs and microblogs like Twitter, 3) Content communities (e.g. YouTube), 4) Social networking sites/systems such as Facebook, 5) Virtual game worlds, and finally 6) virtual social worlds (e.g. Second Life). Noting that these tools are initially developed for individual users they have proven to be useful for self-expression, social interaction, and identifying skills and talents (Boughzala, 2010a).

Social network applications (mobile apps, sites, services, and platforms) is one of the most popular Web 2.0 applications which has gained remarkable notice both in research and practical areas. (Kim et al., 2010) In a more detailed definition, Boyd and Ellison (2008) defined SNSs (Social Network Sites/Services) as “web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list 4 of connections and those made by others within the system.” Richter and Koch (2008) also defined the SNSs from a different point of view as “application systems that offer users functionalities for identity management and enable furthermore to keep in touch with other users.”

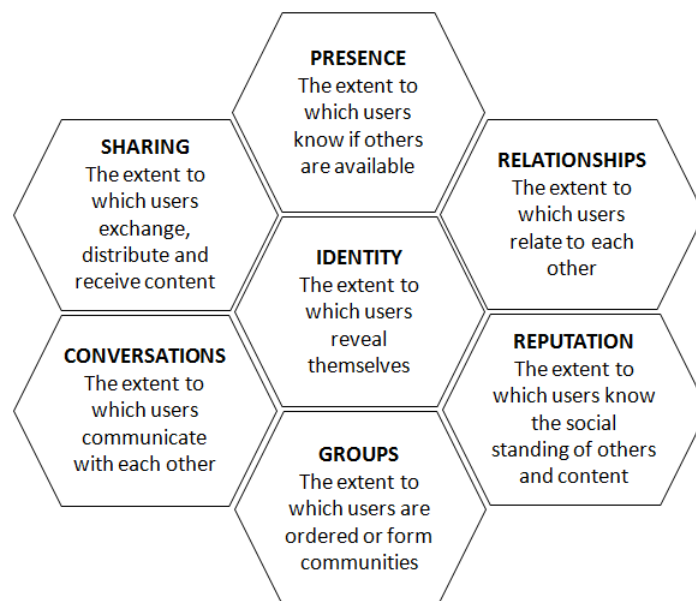


Figure 5. Honeycomb framework of social media (Kietzmann et al., 2011(Adopted from Boughzala, 2011)

Later in 2010, Kaplan and Haenlein classified SNS by its functionality approach into four categories: 1) self-presentation, 2) self-disclosure, 3) social presence and 4) media richness. In order to provide a comprehensive framework to categorize the SNS, Kietzmann et al., (2011) introduced the honeycomb model and divided this concept into seven functional building blocks as illustrated in Figure 5.

2.6.1 Social media as a business tool

Along with the rapid development of social media in society (Dickey and Lewis, 2010) in a domestic form, companies also start using social media platforms as one of their marketing activities even though, as Kaplan and Haenlein stated, companies have not got used to the new environment yet. Companies benefit from the social media by engaging loyal customers in their marketing activities to share information, to stimulate customers' perception about the products, and to understand customer's need more deeply (Algesheimer et al., 2005). In fact, this information expansion caused the social media to be used as a great tool due to its high reachability potential comparing to traditional media (Brodie et al., 2013; Keller, 2009; Oliver, 1999). In other words, social media connect the companies with the customer using richer media with a great reach (Thackeray et al., 2008). The interactive capabilities of social media networks transform the communication between company and customer from dialogue to a triologue meaning that the customers themselves become engaged communicating with the company and other customers (Hlavinka and Sullivan, 2011; Lipsman et al., 2012; Mangold and Faulds, 2009 cited in Tsimonis and Dimitriadis, 2014).

Basically, there are two main forms of communication interaction in social media according to Godes and Mayzlin (2009). First is the firm-created content which usually focuses on word of mouth (WoM) and second is the user-generated social media communication content usually called the contents which are not produced professionally to express feelings, experiences, advices, etc (Balasubramanian & Mahajan 2001; Chu & Kim 2011). These kinds of interaction have changed the traditional definition of seller and customer for instance customers add value to the networking channels by generating content such as reviews, PoVs (Point of Views), and other non-interactive behaviors such as reading other's comments and experiences to affect other customers' purchasing decision making process (Sashi, 2012; Nambisan and Baron, 2009; Park and Cho, 2012)

According to Burson-Marsteller agency report (2012), at least one kind of social media platform is used by 87% of the Fortune 100 best companies. 82% of these companies have tweeter accounts. In the second place, 79% of these companies have established their own YouTube channel. In addition, 74% of the Fortune 100 companies have developed their Facebook page. This become more interesting by knowing that in average there are 152'146 users per page and 6'100 people as the potential advertisers who talk about their brands in social media (Burson-Marsteller, 2012 cited in Tsimonis and Dimitriadis, 2014).

In order to explain clearly why social media are not only used by personals but also by companies, Gillin (2007) identified five reasons which are discussed in the following lines. The first reason lies behind the difference between traditional online and social-media based marketing activities of the companies. While due to such problems like spams, disinterest, or pester existed in online marketing (e.g. website banners, email, etc.) these marketing activities are increasingly ignored by the customers. Regarding the technology developments, the second reason is the developing IT infrastructures, new tools, and increasing online population originated from the attractiveness and high reachability of social media. Third is the demographic shifts as the younger generations, previously known as “Generation Y”, have changed their taste from traditional online channels to social media. The fourth reason is originated from this fact that customers show more trust towards other customers’ experiences, feelings, and reviews (peer-to-peer advertisement) rather than what companies try to advertise. Last but not certainly the least is due to the high efficiency and cost effectiveness of social media marketing activities in comparison to traditional channels (e.g. television advertisements). Companies can attract much more potential customers in a social media campaign (reachability) with much less costs (efficiency). (Tsimonis and Dimitriadis, 2014)

Table 4., summarized a more comprehensive literature review of the expected benefits for businesses delivered by social media.

Table 4. Literature review of social media benefits for businesses (Tsimonis and Dimitriadis, 2014)

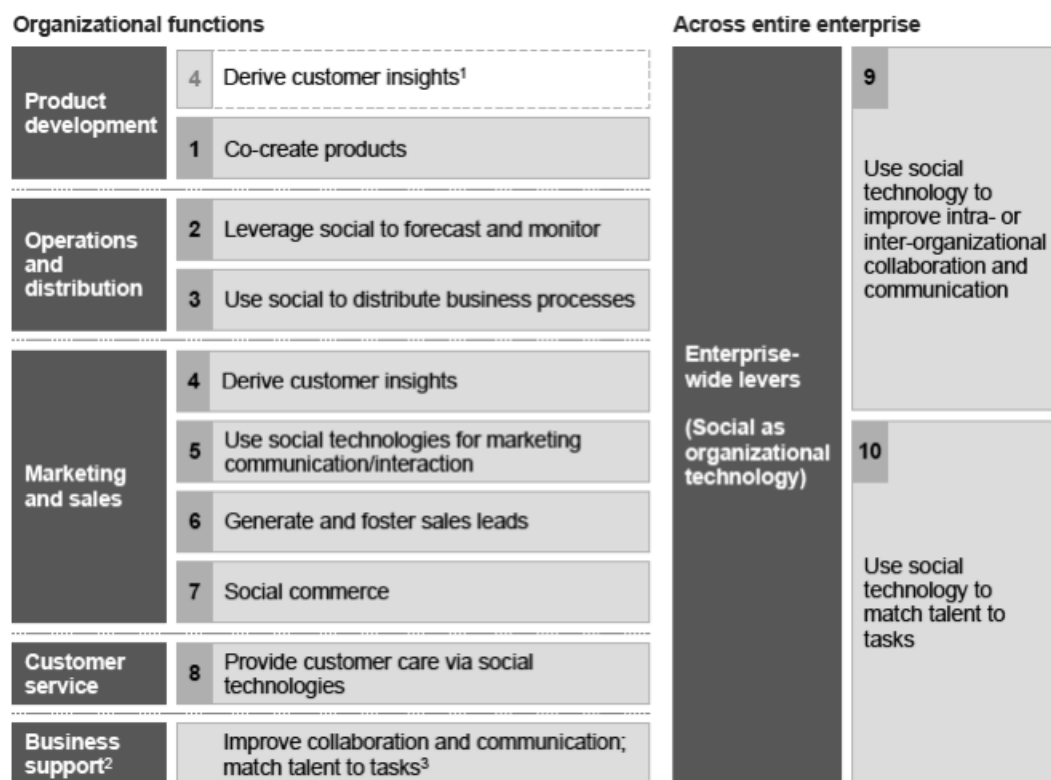
Social media benefits for businesses	Author
Improving the existing firm-to-customer and customer-to-firm relationships, ease of contact, volume, speed, and nature of these interactions	Gallaughar and Ransbotham (2010)
Improving reachability; making the network development faster and information share easier	Dong-Hun (2010); Newman (2003)
Establishing brand awareness; improving brand visibility	Fanion (2011); O’Flynn (2012)
Increasing profitability through boosting the sale and decreasing the marketing costs	O’Flynn (2012)

Delivering these precious values to the businesses, yet, it is important to remember that they also come with some risks such as insubstantial negative comments. Researches shows that these comments are usually either neglected or deleted by the company. Furthermore, most of the times companies marketing strategy lacks suitable reactions to these

comments in order to transform them to beneficial opportunities. (Dekay, 2012 cited in Tsimonis and Dimitriadis, 2014)

2.6.2 Social media value creation sources

As discussed in previous parts of literature review, social media is used widely not only in a personal form but also remarkably used by companies as a tool in order to add value to their functions and value chain both within the organizational functions and across the entire company in recent years. McKinsey Global Institute (2012), identified ten value creation ways, called value levers, which is mostly used by companies to generate value by utilizing social methods and technologies as presented in Figure 6.



1 Deriving customer insights for product development is included in customer insights (lever 4) under marketing and sales.

2 Business support functions are corporate or administrative activities such as human resources or finance and accounting.

3 Levers 9 and 10 apply to business support functions as they do across the other functional value areas.

Figure 6. Ten value levers in organizational functions (Adopted from McKinsey global institute (2012)).

According to the figure above, eight of these value levers are related to the four parts of value chain (i.e. product development, operations and distribution, marketing and sales, and customer service) while the remaining two value levers are applicable to the entire enterprise and across the value chain. Following lines are dedicated to the explanation of these value levers mentioned in this model.

- 1) *Co-creation*: Under the function of product development is where the first lever laid. Social media technologies and techniques provides an opportunity for the companies to gather a large community together which can be used in product development problem solving especially in such circumstances that solving the problem requires resources beyond the company's capabilities; this is referred as "crowdsourcing". This communities are not limited to the R&D staffs and includes many of the enthusiasts, specialists, and even customers thus as a result, the idea of a new product, an existing product development, or solving the products defects could be originated from any member of the community. On the other hand, companies can also achieve value by analyzing the tracked data of the community members interaction. This lever is addressed more in the marketing and sales part.
- 2) *Demand forecasting*: Companies can acquire a higher level of certainty of the possible demand of their products or services by gathering various information through social media platforms in order to improve the efficiency and agility of their distribution channels and inventory control. As a result, by analyzing the data in social interactions and also facilitated communication between different members of the distribution network (e.g. retail stores, logistics, customers, etc.) companies can respond to the changes in demand, prevent shortages, and control the surpluses.
- 3) *Business model (processes) distributing*: The third value lever is when companies decide to engage a third party outside of the organization to share information and to collaborate. Companies can use social media platforms to benefit the potential resources of third parties in order to develop new products or perform their tasks such as finding errors through customers feedbacks or test featuring a new product through a trial campaign.
- 4) *Market research and customer insight*: Social media interactions are a valuable source of information about the company's products, the brand, competitors' activities, and market segments. In a passive approach, as an outcome of listening, the analyzed social media interactions are used as the guidelines in marketing activities such as product design, pricing, packaging, advertisement, etc. on the other hand though, some of the other companies follow a more active approach and engage directly in social interactions to influence the market and business environment and then to ask for feedback about their activities.
- 5) *Marketing communication*: Social media provide the opportunity of a low-cost, efficient, and explicit messaging platform in which special promotions and pricing, for instance, can be advertised for a certain market segment. Furthermore, it is used to engage the customers (users) to promote the company's products or services through reviews, self-expressions, and games. On the other hand, as discussed above, companies can benefit from the online customer communities later in product development

processes. Despite the rapid growth of online customer communities, utilizing social media platforms for marketing activities is a relatively new concept. It should be noted that a successful social marketing campaign must be coupled with creative ideas, decent implementation, and most importantly high-quality products or services. As a result, a set of metrics and criteria should be developed to assess the success of social campaigns and return of investment on social media technologies.

- 6) *Lead generation*: Social media can be helpful in generating leads for both B2C and B2B relations. Regarding B2C relations, consumers share information about different situations, feeling, experiences, and life events which then could be generate a proper signal lead for the companies in order to present their products and services based on the consumer's needs under current or future circumstances. On the other hand, in B2B relations, social media platforms provide an opportunity for businesses to collaborate and to empower cross-selling, build referrals, and access common contacts related to their businesses. (Shih, 2009)
- 7) *Social commerce*: Companies can facilitate their marketing and sales interactions with their customers by using social media. (i.e. by adding a purchasing function to the company's social media platform or, in reverse, by adding social features in company's website). For instance, companies can use their customers social media accounts in order to recommend suitable products based on what they have liked in social media or show the company's products which are bought by the customer's social friends.
- 8) *Customer care*: Companies are able to improve their customer service functions by utilizing social media technologies in different ways. As an example, social media can replace the traditional phone customer service by acting as a dedicated customer service channel to improve efficiency and effectiveness of customer service processes. Social media giving the companies the chance to recruits their loyal and enthusiastic customers in order to play the role of customer service and help the new customers dealing with unknowns and providing solutions based on their previous experiences. These social interactions are fundamentals of a data base providing a valuable source of knowledge. Furthermore, social customer service channels are a way to listen to the customers, to identify their service problems, and to troubleshoot the system before the defects affect the sales or reputation of the brand.
- 9) *Collaboration and communication*: As discussed earlier, social media value levers are not limited to the organization's functions (i.e. those described above) and they can create value in a bigger measure as the enterprise-wide value levers. Social media techniques and platforms have a magnificent effect in improving organizational performance. Companies can benefit of this potential to align their communication channels and to facilitate collaboration both within the organization internally and beyond

the organization's boundaries. Social platforms reinforce co-creation, improve efficiency by reducing the time and other resources needed in face-to-face meetings, and provide a channel to share the knowledge and experiences between colleagues and also many roles outside of the organization. Training of new staff (e.g. by sharing co-workers experiences, manuals, instructions; forming discussion groups and forums), gathering teamwork, knowledge sharing, and gamification to enhance engagement are some of the opportunities provided by social technologies. In addition, distant working is also possible through social technologies since people can communicate and collaborate in different projects regardless of the physical presence.

10) Matching talent to roles: Human resources are the most valuable resource for the organizations thus recruiting professional, skillful, and talented staff is an important task. By venture of social media, especially professional social media, in recent years, companies are endowed a great channel in order to access the available skills in the labor market and to seek for the competent candidates. Illustrating the candidate's resume, the professional connections visible through social graphs, and the recommendation garnered, social media provides a proper package of information about a candidate and facilitate the recruitment process. This also will enable companies to identify best potential candidates even if they are not job hunting which is called "passive job-searching". Even though this value lever seems to be relevant to the outside of the organization, indeed it is also very helpful internally for instance, assigning various tasks to employees of building a team from different departments of the organization. (Jue et al., 2009)

2.6.3 Social media and brand equity

As discussed in previous parts of this chapter, brand equity has been one of the most popular concepts in research area of traditional marketing however a comprehensive approach to the digital and social perspective of brand equity which is supported by an in-depth analysis of new social platforms has been barely dealt with (Aaker, 1991; Keller, 2009; Kim & Hyun, 2011; Michell et al., 2001). Despite the lack of academic research, in business, companies have indeed understood that it is necessary to understand the relationship of the brand equity assets with the fast-growing social media environment.

As Bulearca and Bulearca (2010) mentioned, social media are utilized in various forms by strong brands in order to attract new customers, maintain the relation with the existing customers, and communicating and interacting with different players in the value chain in the highly interactive current marketing environment. In other words, for instance, a brand with a relatively high level of brand loyalty and brand awareness may expect an increase in its brand equity by acting properly in social media. On the other hand, this increase in the brand equity can lead to a positive behavior of the customers in the social media (e.g. improved active and favorable engagement) which in turn help the company

to enhance relationship with the customers and to add value to its brand equity (Bruhn et al., 2012; Kim & Hyun, 2011; Webster & Keller, 2004

Hollis (2012) implied that social media interactions can lead to user's positive behavior and increase the advocacy meaning that more social media users will engage and recommend the brand thus it can enhance the brand awareness. To complete Hollis's (2012) research, Brodie et al. (2013) mentioned that social media communication with the loyal customers can provide a valuable knowledge source about the potential customers' expectations, feelings, and needs in order to improve the perceived quality of the products and service. Schivinski and Dabrowski (2014) used four user-generated content (UGC) drivers (i.e. co-creation, empowerment, community, and self-concept) to show that consumer involvement in generating image directly influence brand equity.

According to a research done by Karamian et al. (2015), who analyzed the data outcome of questionnaires by using statistic methods, social media marketing activities can influence positively the brand equity and its asset dimensions of perceived quality, brand awareness, and brand loyalty. In addition, Similar to Karamian et al. (2015) regarding the approach, Soewandi (2015) also mentioned that both user and company generated social media content have positive effect on the brand equity and the asset dimensions of brand awareness, brand association, brand loyalty, and perceived quality.

Reviewing the literature reveals that despite of all the attempts researchers have done, the number of researches dedicated to describing and analyzing the relation of brand equity assets to social media activities outcome has remained very limited. Moreover, there is one common important aspect neglected in many of these researches. While most of the researches are focused on how the social media influence the brand and brand equity, they somehow omit the social media interactions outcome source and how they achieve the information. In other word, most of the researches done in this matter utilized some kind of questionnaire in order to evaluate their performance of social media activities and to study their effects on the brand equity by means of statistics regardless of the actual way they can affect the brand equity through the interactions themselves in real-time.

In fact, the potential of social media to act as a source of big data and the value derived by analyzing social data is not considered in these researches. This is in a condition that many of the social media benefits are due not only to the communication which these social media tools provide but also to a remarkable amount of value added into the brand by analyzing the social media interaction data. 10, 25, and 1000 terabytes of data per day was generated by Tweeter, Facebook, and Zynga (social gaming) in turn, in 2010 (Keen, 2012).

Mining through this volume of raw data demands sophisticated and powerful computer systems and intense natural-language programming (i.e. computer not only must scan the comments but also must understand the metaphors, feelings, and distinguish whether the

comment is about the brand or it is positive or negative). This although looks like a challenge for companies, fortunately there are many companies specialized in data mining which are out-sourced data gathering and processing. This subject is studied in more detailed in the results and discussions part of this thesis (Chapter 5).

As a result, as discussed, there is a research gap in the brand equity and social media literature. This study tries to fill this gap by means of a framework which can illustrate a multi-dimensional approach toward the effect of social media interaction and its data analysis on the brand equity.

3. EMPIRICAL STUDY

3.1 Research methodology

3.1.1 Research strategy

According to Saunders et al. (2007), research is a systematic way to increase knowledge. As a result, it is important that the researcher have a research plan as a sequential process in early stages of doing the research. This will help to clarify the path, approach, and domain of the research and align the researcher resources in the direction of improving efficiency and effectiveness. Hence, it worth noting that there are always dark spots and unknowns in research path which could be addressed and changed later during the process of research based on the circumstances. This chapter is dedicated to the research methodology including the research strategy, approach, data used, data collection techniques, and the data analysis methods. The research process of this thesis is shown in figure below.

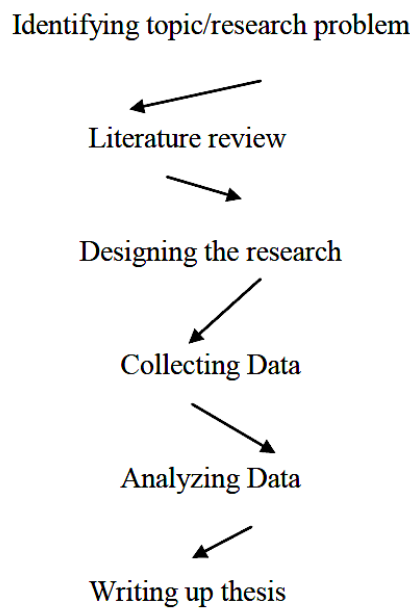


Figure 7. Research process of the thesis.

The research topic was chosen among a set of topics suggested by the supervisor based on the research potential and researcher's interest. Based on the topic and the current situation of the case company, research questions had been developed. Then various sources such as books, journals, thesis, reports, ... studied for literature review. Being the guideline, the research design had been thought from the very first stage however it faced some changes and polished during the whole research process; the main body of the research design and framework was formed in this stage. Parallel to literature review, the

data has been collected from the company in form of pre-set quantitative data and analyzed. Finally, the thesis was written completely although each chapter had been written throughout the process and passes several quality checks by the supervisor.

3.1.2 Research approach

To illustrate a holistic viewpoint of the research topic, this research combined different approaches towards the methods and tools utilized. Thus, it is difficult to distinguish a particular approach since this study implemented both qualitative and quantitative research approach followed and backed up a case study. To deeply understand how companies can use social media in practice in order to improve their brand equity, case study was considered necessary. The case study helps to understand and explain complex phenomena (Gummesson, 2000). According to Yin (2009), case study is a great tool to explain a holistic view of a real-life situation and to describe how or why phenomena work (Yin, 2009).

3.1.3 Data collection

An appropriate set of data is one major element in implementing a research. According to the nature of the thesis which is about how the companies can improve their brand equity by using of the available social media data, the applied data gathering method in this research is the use of existing material. As a definition, existing materials includes every data available in different resources such as books, reports, computer data base, research papers, articles, brochures, visual media (e.g. photos and videos), etc. (Gummesson, 2000). In order to increase the knowledge about the topic, to present the existing literature, and most importantly to construct the research framework, the literature review was also conducted.

Regarding the data of the case study, the social media data was provided by the case company. The case company outsources the task of social media data gathering to a professional third-party data provider. The data was presented as a set of tweets from the official company's tweeter account in Microsoft Excel sheets while some analysis leading to both quantitative and qualitative data also was included. The analyzed data is more discussed in the next part of this chapter.

3.2 Data analysis and Defining criteria

As discussed above, the case study data was presented in form of pre-set, semi-analyzed Excel sheets by the third-party data provider. These sheets included the analysis of company's tweets in the time period between Feb 7th and Mar 29th of 2017 covering a total amount of 11685 tweets. The table below illustrating the time period and the number of analyzed tweets (based on specific URLs) available in the data set.

Table 5. Data set properties.

Time period	Number of URLs analyzed
07.02.2017 – 08.03.2017	4052
08.03.2017 – 22.03.2017	4900
15.03.2017 – 29.03.2017	2733

The analysis on the data provided some information both quantitative and qualitative such as URL address, hit sentence, source, influencer, country, language, number of reaches, key phrases, key words, and sentiment. This could potentially facilitate the data analysis process stage of the thesis however only a few numbers of the information could be used according to the topic and model of the research. As a result, in order to achieve the minimum amount of required data for the research model, more data should be extracted and customized. However, since the data was naturally linguistic which included words, sentences, meanings, feelings, metaphors... this required either computer aided processing, programing and special software to be developed or manual analysis. According to the research resources, the manual analysis was inevitable. Considering the high volume of the raw data (app. 12000 URLs) it was not feasible to analyze the whole population thus a sample was selected. Table 6., illustrates the sampling facts and figures.

Table 6. Sample size needed.

Confidence Level	Confidence interval	Population	Sample size
95%	10	11685	95

According to the calculation in Table 6., with the confidence level of 95%, and confidence interval of 10, the needed sample size was 95 comments which should be selected randomly from the whole tweets' population. In the next step, the selected sample tweets were analyzed one by one manually in order to be customized into the brand equity model.

3.2.1 Manual data collection

As briefly discussed in the previous chapter, the data set provided by the case company contained some information about the company's tweets in a certain period of time. However, these data were prepared by a third-party company which the case company is buying from. The first issue with this data was the inconsistency of some measures with the research purpose meaning that most of the information presented in the data sets were not helpful for being translated into brand equity language.

The second issue was the lack of standard criteria about the company's social network and also individual tweets. By standard criteria, it means the most established, practical, and worldwide-accepted measures which are mostly available in the analysis tools and

reports of a twitter account by Twitter itself. In fact, from such important measures like total and individual “reach number”, “exposure rate”, “impression amount”, ... only reach amount was provided. This is in a situation that the researcher naturally could not have any access to these measures.

As a result, there would be two possible actions to be taken in this matter. First, to condense the available data; which would decrease the functionality and the flexibility and would jeopardize the eligibility nature of the research. The Second action would be trying to extract as much as possible data from the available sources and try to create a more comprehensive data to be customized later into the brand equity model. The only available source of obtaining more data was the tweets themselves. Fortunately, the link to every individual tweet was provided in the data set and by means of these links the actual tweets were accessible. However, this would arise another problem; i.e. analyzing about 12 thousand individual tweet’s links. In order to solve this problem, sampling was inevitable. As a result, according to the data population and statistic formula, a sample of a size of 95 tweets were selected randomly by using the Microsoft Excel TM software.

The third issue with the provided data was heterogeneity i.e. the measured data presented in one report was missing one measure in the other two reports. In fact, the “reach number” of each tweet was not measured for some unknown reason in the first data sheet (07.02-08.03). Moreover, there was a time conflict in the last two data sheets (i.e. 08.03-22.03 with 15.03-29.03) which caused some data to be repeated. These issues were also addressed in the process of sampling.

3.2.2 Defining Criteria

In order to adapt the brand equity model to the available data in the tweets, a set of criteria was defined and measured. In fact, two tiers of criteria have been designed for this research. The first-tier criteria which have been discussed in this chapter, are data measuring criteria used to provide more data for the analysis. Some of these criteria are selected from the provided data sheets while the others are designed by the researcher to obtain data needed in a manner that they cover the lack of necessary data for model. The following table introduces the criteria along with their corresponding definition.

Table 7. List of Criteria (tier1).

Criterion	Provided	Available	Definition
Global Reach	No	No	The size of potential unique audience of company’s social network (tweetreach.com)
Impressions	No	No	The total number of audience activities including visits, clicks, like, retweet, comment, and mention
Exposure	No	No	The number of overall potential impressions generated by tweet(s) (unionmetrics.zendesk.com)

Visits	No	No	The number of times the tweet has been seen
Clicks	No	No	The number of times audience clicked on the tweet
Local Reach	Yes	No	The size of potential unique audience of a tweet
Geographic Location	Yes	No	The geographic location where the tweet has been interacted from
Sentiment	Yes	No	The feeling, expression, or approach of the interaction
Like	No	Yes	The number of times a tweet has been favored
Retweet	No	Yes	The number of times a tweet has been retweeted by audience
Comment	No	Yes	The number of times audience comment below the tweet
Mention	No	Yes	The number of times another user, account, or topic has been share in the tweet using @ and/or# symbols

Table 7 shows the first-tier criteria with their definition. As shown above there are also two other columns in the table. The second column shows whether the criterion has already been provided in the company's data sheet while the third column indicates the accessibility of the criteria from the tweets direct link. According the table above, the first five criteria (Total Reach, Impressions, Exposure, Visits, and Clicks) neither have been provided by the company nor accessible through manual data collection. As a result, there was no possibility for the researcher to measure those. However, for the last four criteria (Like, Retweet, Comment, and Mention), although there were not provided by the company; there was still a chance for them to be measured through manual data collection. To measure these criteria, every sample population studied individually. The data collected manually were then double-checked in order to make sure that during the time of studying the sample, the values of each criteria remained the same; since the tweets are still online and these values could change every moment. By this, it has been tried to provide a more realistic view of the information.

The next chapter has been dedicated to the results of the empirical study and data analysis in which second-tier criteria (ratios) and brand equity model development are thoroughly discussed.

4. RESEARCH FINDINGS AND ANALYSIS

This chapter mainly focuses on describing the research findings while it has been tried to provide a reasonable connection between the empirical part and the theoretical framework of the research. For this purpose, the main idea is to determine how the gathered data are related to the brand equity dimensions to know whether the social media activities could affect the brand equity dimension. The first step to answer this question is to design a set of appropriate criteria providing a measure over social networking activities so the first aspect of analysis is ready. For the second aspect of analysis, a proper model of brand equity dimensions should be developed.

As a result, this chapter presents the results of data analysis which have been discussed basically through defining a set of measures reflecting a decent overview of the social networking activities of the company. Later in Chapter five, the relation of these measures with the brand equity dimensions have been studied in order to lead the process of choosing or developing the suitable brand equity model.

4.1 Result of data analysis

As discussed earlier, part 3.2.2 of this research, the first-tier measures have been developed and measured in order to extract as much as possible related data, since the data provided by the company lacked the minimum amount of necessary information for analysis. This has been performed by means of manual data collection where all the sample has been scanned through the actual tweets selected. Combining the provided and the acquired data and transforming them into seven measures, Table 8 is illustrating the first-tier criteria by their measured amounts.

Table 8. First-tier criteria along with the measured amounts

Criterion (tier 1)	Amount	Percent	Sum	Average (per tweet)	
Sentiment	Positive	30	32 %	-	-
	Neutral	57	60 %	-	-
	Negative	7	7 %	-	-
	Not measured	1	1 %	-	-
Geographic Location	US	31	33 %	-	-
	Unknown	29	31 %	-	-
	EU	11	12 %	-	-
	GB	8	9 %	-	-
	Asia	5	5 %	-	-
	Africa	4	4 %	-	-

	N-America	3	3 %	-	-
	C-America	1	1 %	-	-
	S-America	1	1 %	-	-
Reach		-		141068	2391
Like		-		3796	46
Retweet		-		3250	39
Comment		-		139	2
Mention		-		143	2

In order to clarify the table above, the following lines are dedicated to describing the results of first-tier criteria analysis.

4.1.1 First-tier criteria analysis results

a) *Sentiment:*

Being the reflection of audience feelings, expressions, approach... toward the tweet, its content, or the interaction, along with the linguistic and personal complexities such as metaphors, experiences and expressions, this criterion has been measured by very complicated algorithms by the company. In order to represent this criterion, it has been categorized by three levels of positive, neutral, and negative tweets. From the whole studied sample, most of tweets were analyzed as neutral sentiment (57 tweets) while 30 of the tweets were analyzed as positive and only 7 of them showed negative sentiment. It worth mentioning that 1 tweet had not been analyzed for some unknown reasons. Figure 7 illustrates the results of this measure in terms of percentage.

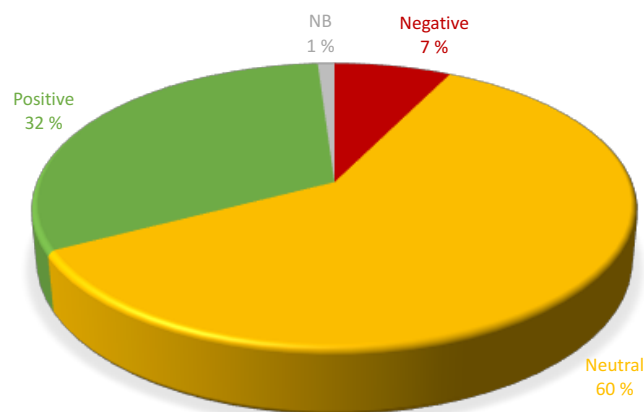


Figure 8. Sentiment by percentage

b) *Geographic location:*

Based on the geographical location of the influencer (i.e. the account by which the tweet has been published or the interaction has been made), the sample tweets has

been already divided by different countries through the provided data. In order to summarize this measure, these countries have been grouped together into more widespread divisions, thus it would become more appropriate for the intended research analysis. As a result, the geographic location has been segmented into nine sub-criteria of United States, Europe, Great Britain, Asia, Africa, North- America, Central- America, and finally South- America. As it is obvious in Table 8, a big amount of this measure (almost one third) has been marked as “Unknown” since the origin of the data was not trackable to be indicated. Figure 8 shows the related percentage of each geographic area in the distribution of tweets or interactions.

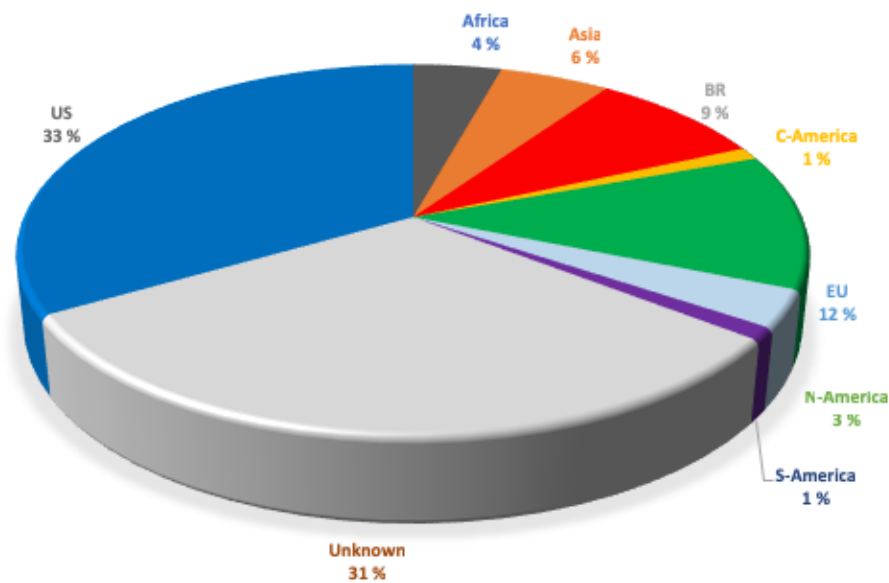


Figure 9. Distribution of tweets based on geographical location (Percent)

According to the figure above, the origin of one third (33%) of the data has been from the United States. Furthermore, for almost one third (31%) the company was not able to track the origin of the tweet. The last shares of the tweets have been originated from the other areas as follow. The next big origins of the tweets are Europe by 12%, followed by Great Britain (9%), Asia 6%, Africa 4%, North-America 3%, and Central and South- America each by 1%.

c) *Reach:*

It is one of the most important standard and common criteria in Twitter social environment. This criterion which is also available in the social activity management tool of Twitter’s reports, indicates the amount of potential audience. As described in Table 7, there are two levels of “Reach” criterion. The first level is the global reach which determines the size of potential unique audience of company’s social network page (in this case Twitter). On the other side, the second level is the local reach in which the size of the potential unique audience is measured

however this time only related to one specific tweet not the entire social network page. In general, reach number is calculated by very complicated formula and through very complex algorithms which are not in the area of the present research. By the way, as also discussed earlier (refer to Table 7 again), considering the global reach number, neither it has been provided by the case company, nor there was a chance for the researcher to acquire this amount since there was no access to the company's Twitter account managerial tools and reports. On the opposite side, the local reach number for every tweet has been provided. As shown in Table 8, for the sample used in this research the total reach has been calculated just more than 141000 while the average reach was about 2400. In other words, for every tweet in the sample there is about 2400 potential audiences on average. The reach number is a very useful measure when designing the second-tier criteria.

d) Like:

Number of likes indicates the number of times a tweet has been favored by a unique audience. As discussed earlier, this data has been gathered through manual collection from the original tweets. According to Table 8, in the related research sample, all the tweets have been favored about 3800 times in total which leads to an average of 46 likes per tweet.

e) Retweet:

This measure counts the number of times a specific tweet has been shared among other audiences after it has been originally tweeted by the original account. Considering the whole sample, all the tweets have been retweeted 3250 times in total which by a simple calculation results in an average of 39 retweets per tweet.

f) Comment:

As it is obvious by its name, it shows the number of times that audience have left a comment under the tweets. There are two important notes to be considered in this measure. First, the comments are not necessarily left by a specific audience (i.e. each person can leave many comments) thus this measure is not limited uniquely to an account. Second, the comments are not necessarily left in accordance to the related tweet. In other words, a comment could be a reply or reaction to another comment's question or expression rather than an isolated opinion about the tweet. In the sample people have left about well under 140 comments in total. Consequently, there were two comment under each tweet on average.

g) Mention:

This criterion measures the number of times audience have told the other users about a specific tweet. This is obtainable easily by counting the number of @ and/or # symbols in a tweet. It is worth mentioning that this mention could be a reference to another account, user (in case of using @) or related topic (in case of

using #) or redirect the audience to the Twitter account of the origin. Moreover, it is important to know that comments could contain mentions inside. In other words, Twitter has provided this ability for its users to mention other accounts, users, or topics when they are commenting under a tweet. It should be clarified that in this research, these kinds of mentions have been neglected to facilitate the process of manual data gathering. According to Table 8, 143 mentions have been made in entire sample which means about 2 mentions in each tweet.

4.2 Second-tier criteria

As discussed earlier, the first-tier criteria have been designed in order to primarily extract data as much as possible. However, there are three reasons why these criteria are not suitable enough for the purpose of this research and why they should be improved to the next level of criteria called “Second-tier” criteria. First, being basically in form of a number counting a variable (or in form of an average), first-tier criteria are some kind of one-dimensional measures, thus they do not provide the desired deep analytical representation of the sample. Second, on the other hand, these criteria are very specific to this sample, lacking the characteristics of a standard measure as a result, the opportunity of comparison these figures with a benchmark will be lost as well. And last but not least, the third reason is that first-tier criteria simply do not have enough ability to be generalized into another concept or explain the relation with it. As a result, generalizing them into the brand equity model as well as creating the model or describing the situation based on these measures will be negatively affected by this issue.

In order to address all the issues discussed, the second-tier criteria have been introduced. However, considering the limitations with the available data, selecting the suitable criteria set was not an easy task. For this purpose, a simple yet practical algorithm has been developed which the criteria have been selected based on it. This algorithm is created on the basis of searching for the most idealistic criterion considering its availability. Figure 9 illustrates the flowchart of this algorithm.

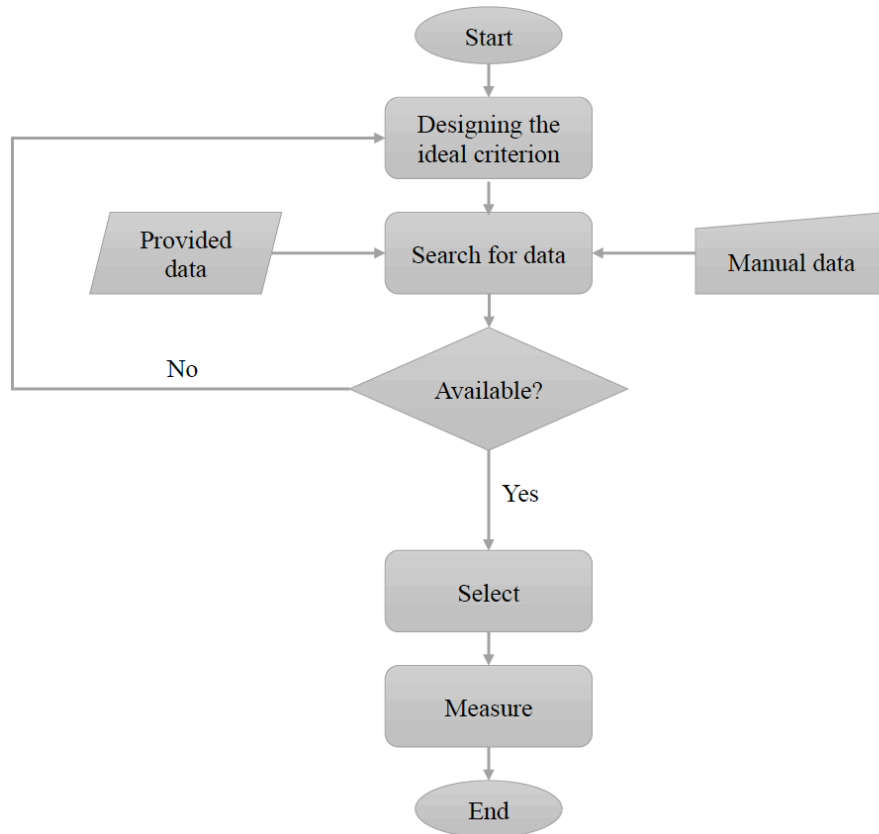


Figure 10. Criteria design flowchart.

As shown in the figure above, the algorithm starts by designing the most idealistic criterion. In the next step, all the provided data as well as those manually collected are examined in order to decide about the availability of the data. If the data needed has been gathered, then the criterion will be selected and measured for future analysis. However, if the collected data has been defected or not sufficient, then the algorithm would have been repeated again. It should be noticed that there is a reverse relation between the criteria being the most idealistic and the number of times the algorithm is repeated. In other words, by each iteration of the procedure, the criterion will be less ideal.

The following lines are dedicated to describing these “Second-tier” criteria as well as justifying why they have been designed based on the discussed flowchart.

4.2.1 Engagement level (Engagement/Reach ratio)

Engagement is one of the most crucial concepts when analyzing a social network performance. This concept is usually measured by a ratio named “Engagement rate”. In order to define this criterion first some other related measures should be defined.

- a) The first measure is the “Impressions”. It simply is the “*number times a user is served a Tweet in timeline or search results*”.
- b) The second measure needs to be defined is the “Engagements” itself. Engagement is the “*total number of times a user interacted with a Tweet. Clicks anywhere on the Tweet, including Retweets, replies, follows, likes, links, cards, hashtags, embedded media, username, profile photo, or Tweet expansion*”. (buffer.com)

Knowing the criterion ingrediencies, in the next step, the Standard Engagement Ratio has been defined by dividing the number of engagements by number of impressions.

Standard Engagement Ratio: Engagements/ Impressions

However, according to Table 7, none of these ingrediencies have been provided or available in the data. As a result, a new criterion should have been developed considering the availability and more importantly the similarity to the standard engagement ratio.

As it shows in first-tier criteria set, measures of “Likes”, “Retweet”, “Comments”, and “Mentions” from the numerator have been already been measured. Thus, utilizing these four measures instead of the “Total Engagement”, has been a suitable representation of engagement, by keeping in mind that these measures as the most important ones. On the other side, unfortunately, corresponds to the denominator of the ratio, the “Impressions” amount neither was provided nor available. The next best measure having the ability to be a suitable replacement for “Impressions” was the “Exposure” (refer to Table 7). However, this also was not measurable by the available data.

Finally, the third candidate to replace the “Impressions” was the “Reach” amount. This measure presents a new dimension of engagement while still maintaining the fundamental concept of engagement. In fact, dividing the “Impressions” amount by the “Reach” will illustrate a more widespread description of the studied sample in a manner that it explains how many of the potential audiences have been engaged with the partial social activities in Twitter environment. This allows the research to evaluate the social networking of the company in a greater scale containing the opportunities which the company could be benefited. As a result, the new “Engagement Ratio” has been defined as bellow:

Engagement of Potential Audience:

(Likes+ Retweets+ Comments+ Mentions)/ Reach

From now on this criterion has been identified by its abridged form of “E/R” symbol through the rest of this study.

4.2.2 Like/Reach

Being obvious by its name, the next second-tier criterion is the Like/Reach ratio (showing by L/R symbol) which describes the favorability of the tweets (in the studied sample) by comparing the number of likes to the number of potential audience which has the ability to be generalized into a bigger entity such as the whole social network in Twitter platform as well.

Considering the engagement as “Likes”, “Retweets”, “Comments”, and “Mentions”, it worth mentioning that from this criterion onwards all the criteria discussed in the following parts, excluding “Sentiment Score” are fundamentally a subset of the criterion “Engagement of Potential Audience”. According to the definition mentioned earlier, the sum of these four criteria equals the “Engagement of Potential Audience”. In other words:

$$[(\text{Like}/\text{Reach}) + (\text{Retweet}/\text{Reach}) + (\text{Comment}/\text{Reach}) + (\text{Mention}/\text{Reach})] = \text{Engagement of Potential Audience}$$

However, each of these criteria has been selected individually as well for a certain application. In other words, every criterion selected can be potentially relevant and helpful in describing the brand equity model which has been studied later in this research.

Regarding “L/R” criterion, in order to justify why it has been chosen in this study, the previous procedure has been followed here as well. This procedure starts with the most idealistic measure which describes the sample the best (despite the availability), and continues down to the best available measure. In this regard, the ideal measure would be how many of the impressions has been “Likes”. Meaning that how many of the people receiving the tweet in their feed have favored it. The limitation to this ideal measure is that the impression value is neither available nor accessible. The next best measure is to identify how many of the clicks which audience have made, have led to “Like”. However, the earlier limitation is again true about the number of “Clicks”. Following the same logic, the next alternative is to study how many of the people following the Twitter account have liked the tweets. This is not without problem as well since it will ignore the number of likes which have been made by those audience who have visited the tweets without following the account (e.g. the people who have reached the tweet by using other’s mentions using @ or # symbols).

Another measure which surprisingly seems to be suitable is to use the average of “Likes” as it has been introduced earlier in the first-tier criteria section. Despite the problems discussed in the earlier parts of the research, by analyzing this measure more deeply, it reveals that in fact, this criterion is basically measuring the performance of a tweet not the social media. In other words, instead of focusing on the origin of the value where the value has come and consequently has been delivered in the end as well (i.e. audience), it

focuses on the tools by which the value chain has been driven. Although it could be confusingly similar, the average of “Likes” represent how the number “Likes” distributed among the tweets while what is more desirable is measuring the number of the audience who have favored the tweets. For this purpose, considering all explained above, the ratio of “L/R”, where L represents the number “Likes” and R represents the “Reach” have selected. In a simple definition, it shows how many of the potential audience have favored the tweets. In addition to not carrying the problems of the first-tier criteria, since this criterion measures the brand value in a global scale and in the whole social networking environment (here it means the potential audience of the sample tweets), it would be also capable of representing the brand value in a more complete manner.

4.2.3 Retweet/ reach

The third criterion used to measure the brand equity of the sample is the “RT/R” ratio in which RT and R represent the number of “Retweets” and “Reach” in turn. This criterion studies how many of the potential audience have retweeted the tweets in the sample. Regarding how this criterion has been selected, following the criteria selection algorithm, the process is exactly the same as the previous measure. In other words, the most idealistic measure here is to measure how many of the impressions have been “Retweets”. The next best measure is the ratio of “Retweets” by “Clicks”, and so on. In fact, from now on, the process of selecting all the criteria mentioned in the following sections is exactly the same (except the last criterion). In order to prevent the thesis to be prolonged, this procedure has been excluded from the related sections ahead.

4.2.4 Comment/ reach

Being the fourth criterion, the “C/R” ratio measures how many of the potential audience have commented under the tweets in the studied sample where C represents the number of “Comments”. As discussed earlier, the individuality of the comments has not been studied in this criterion here as well. It means that it is possible that some comments have not been made by a unique audience.

4.2.5 Mention/ reach

As the last subset of the Engagement ratio, “M/R” (M represents the “Mentions”) ratio explains how many of the potential audience have mentioned the tweets in the sample. Originating from the first-tier criterion of “Comment”, this measure neglects all the @ and # symbols in the comment section of tweets as well, and only counts them in the main text of the tweets.

4.2.6 Sentiment Score

Last but definitely not the least, is the “Sentiment Score” which is abbreviated by “SS”. Sentiment measure (first-tier criterion) is not quantitative by nature and its goal is to translate the audience’s feelings, expressions, and reactions in form of positive, neutral, or negative categories. Consequently, in order to be able to summarize the results of measuring this criterion, which results in being able to be analyzed in form of numbers, a scoring system has been introduced. This scoring system is similar to a Likert scale with a difference. In a Likert scale measure the variable values is usually represented by one to five scores where one is the weakest and five is the strongest score describing the relation with the variable. While in this research, in order to be able to illustrate the effect of negative sentiments the scoring system has been designed in a way that the related for positive, neutral, and negative sentiments are +1, 0, and -1 in turn. In other words, positive sentiment adds one score to the criterion value while the negative sentiment subtracts one score. According to the system neutral sentiments do not affect the “SS” value as a matter of fact.

4.3 Second-tier criteria measuring results

After the criteria has been selected in the previous part, they have been measured according to the data available in the sample. The table below summarized the results of measuring these criteria.

Table 9. First-tier criteria along with the measured amounts.

Criterion (Second-tier)	Value
E/R	5.19%
L/R	2.69%
RT/R	2.30%
C/R	0.10%
M/R	0.10%
SS	23

As shown in the table above, about 5.2% of the potential audience have been engaged in corresponding social networking activities somehow by favoring or retweeting the tweets, commenting under them, or mentioning the original and relevant topics. Regarding the subsets of engagement, about 2.7% of the potential audience have pressed the “Like” button and 2.3% of them have found the tweets so helpful for others that have retweeted them. In addition, having the same value, the rates of C/R and M/R have been measured

by 0.1%. And finally, being measured by score 23, the “Sentiment Score” of the tweets in the sample clearly manifest the positive overall reaction to the tweets.

Comparing Table 8 and the list of second-tier criteria, it reveals that all the criteria in the first tier have been somehow manipulated and adapted in order to form the second tier of research criteria except “Geographic Location”. Even though this criterion has the ability to add value in terms of providing useful data to describe the performance of the company’s social networking activities, it could not be related to the main purpose of this particular research in addition to the common problems mentioned in first-tier criteria section. On the other hand, there would have been some very useful criteria such as “Global Reach” and “Exposure” rate which could fit in the current research however they were not available or accessible.

The next chapter of this thesis is dedicated to answer the research questions which had been asked earlier while comparing the method used in this research with some of the similar studies in this matter.

5. DISCUSSION

This chapter presents the answer of the research question of this thesis while trying to compare its results with the prior studies in case of similarities and differences. As mentioned earlier in the introduction chapter, the main question of this thesis was:

How companies can improve their brand equity by analyzing their social media interactions data?

The main research question was broken down into the following questions:

1. *What are the main dimensions of brand equity driven by the social media interactions data analysis?*
2. *What are the advantages and limitations of qualitative and quantitative social media data analysis?*
3. *What approach do companies follow to optimize their brand equity model based on social media data?*

5.1 Question 1. Brand equity dimensions driven by social media (Model development)

As described thoroughly in previous chapters (chapter 2 and 4), Aaker (1991) was the first researcher who introduced the brand equity dimensions concept and since then that particular research and its following implementations has been the fundamental of almost all of the researches which try to study the brand equity. As a result, most of the researchers have utilized the same model as Aaker did or have used it with some tweaks in order to adapt their model based on the research needs and kind of data available.

This research, however, has combined all the available dimensions used in the literature during these 28 years in order to provide a comprehensive approach towards the dimensions of brand equity. For this purpose, this research has implemented a unique method in which the concept of “Reverse Engineering” has been used. As a usual workflow, first the model needs to be developed based on the research problem(s) in a way that it should be possible to explain the subject; then in the second step, the criteria would be defined in order to measure the model elements. However, in this research, because the available data were very limited, the reverse engineering method has been used in a creative way. Meaning that in the first step the needed data has been gathered, then in the most crucial

step, the criteria have been designed in a way that could explain and measure the subject. Finally, the last step was to decide which model should be selected from the literature or a new model needs to be developed.

The most important aspect to be carefully noticed in this method is that unlike the traditional method which there is a hierarchy and distinction in the steps of the process, this method integrates all the steps. In other words, the effects of each step on other steps is considered. For instance, when a criterion is being designed, beside the common questions which are typically asked about the criterion characteristics, such questions should also be asked: “Is it possible to later measure this criterion by the available data?”, “Is this criterion capable of explaining a concept related to the research problem when it is utilized in the research model?”, etc. These kinds of questions have been asked for all of the elements and steps in this process (i.e. data, criteria, and model).

Thinking this deep and keeping the process so integrated, as the input, leads to a pleasant result in the output of the process. In other words, the model, will be more adaptive, agile, and customizable while still fulfilling the main purposes and properties of a model. This method made it possible to include most of the brand equity dimensions mentioned in the literature while still explaining the research questions and being measurable by the available data. To do so, the first step would be to extend the list of brand equity dimensions across all the available literature in order to provide a set of potential dimensions which could be used. Consistency of these dimensions would have been assessed in the second step which has been described later. As a result, the list has been presented in the table below.

Table 10. Brand equity model development.

Brand equity dimension	The research adopted from
Brand awareness	Aaker (1991)
Brand loyalty	Aaker (1991), Shocker and weitz (1988), Hanaysha and Hilman (2015)
Perceived quality	Aaker (1991)
Brand image	Lassar et al. (1995), Shocker and weitz (1988), Hanaysha and Hilman (2015)
Brand performance	Lassar et al. (1995), Hanaysha and Hilman (2015)
Brand leadership	Hanaysha and Hilman (2015)
Brand associations (attachments)	Aaker (1991), Lassar et al. (1995)

Table 10 illustrates the initial dimensions of brand equity model of this research. This has summarized the related literature about brand equity into seven dimensions. Following

the steps in developing the model, the second step would be to determine which of these initial brand equity dimensions would be applicable correspond to the criteria of this research. This has been studied in the following lines.

In this part of the research it has been tried to study the possible relations between seven brand equity dimensions and six second-tier criteria which has been selected in the previous parts. As a matter of fact, in order to develop a model for brand equity, first it is necessary to ensure that the criteria are able to describe and measure the developing model. In case of an ideal model, each criterion should be strongly correlated with one element of the model in order to provide a distinctive description. However, this is not usually the case when considering a qualitative concept being tried to be described by quantitative measures. In other word, the designed metrics could be potentially in relation with more than only one aspect of the studied concept and therefore it is possible that there are many overlaps and cross-concept relations between different criteria and factors of the studied concept. In order to clarify this matter, the figure below shows the network of possible relations between brand equity dimensions and the criteria selected for this research.

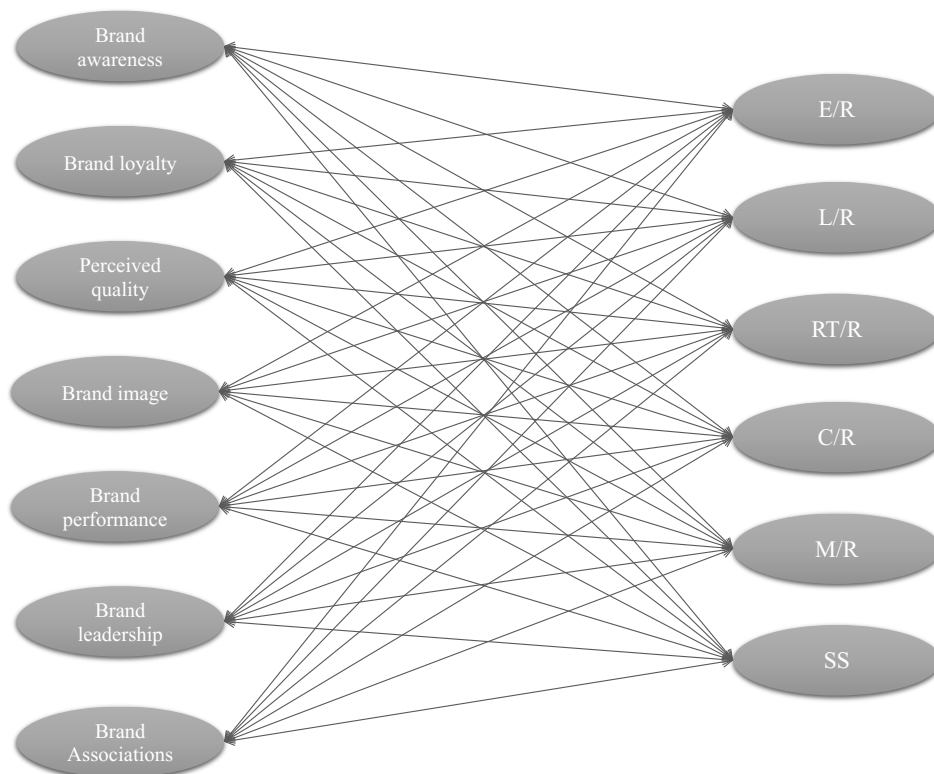


Figure 11. Brand equity dimensions and criteria relations graph.

As it is obvious in the figure above, there could be possibly a relation between each of the brand equity dimensions and criteria. In other words, the relations here are so interwoven and cross-dimensional that it is almost impossible to distinguish which criterion can describe which dimension the best.

Furthermore, in reality, even the dimensions and criteria are interconnected meaning that even dimensions which have been accepted for years in brand equity models literature as individual concepts each describing a dimension of brand equity, are not completely isolated. For instance, perceived quality could possibly influence the amount of brand loyalty since the customer first should have been delivered a decent level of quality by the product or service in order to be loyal to the brand. This is also true about the brand image and brand awareness (for example) where people are more aware of a brand which has been able to create a good image. On the other hand, regarding the criteria, as explained earlier, all of the criteria (except “Sentiment Score”) are a subset of “Engagement of potential audience” and as result any effect on them could be consequently led to a change in E/R amount. These matters are not included in the figure as well for maintaining the simplicity.

Moreover, it should be noticed that the strength of each relation (illustrated by double arrow lines) is different. It means that each criterion is describing one dimension the best. As a result, the thickness of lines should be different as well. This has been neglected in the figure in order to keep it simple. In order to address this matter separately in another analysis, table 11 illustrates the strength of relations between the criteria and brand equity dimensions.

Table 11. the strength of brand equity dimensions/ criteria relations analysis.

Dimension \ Criteria	E/R	L/R	RT/R	C/R	M/R	SS
Brand awareness	Dark	Light	Very Dark	Light	Dark	Dark
Brand loyalty	Dark	Dark	Dark	Light	Dark	Very Dark
Perceived quality	Dark	Very Dark	Dark	Light	Dark	Dark
Brand image	Light	Light	Dark	Light	Dark	Light
Brand performance	Dark	Dark	Dark	Very Dark	Dark	Dark
Brand leadership	Light	Light	Light	Light	Dark	Dark
Brand associations (attachments)	Light	Dark	Light	Very Dark	Light	Dark

As shown in the table above, in an innovative manner, the strength of the correlation between the brand equity dimensions and the criteria has been illustrated by using different shades of gray. In a way that darker shades represent the stronger correlation while lighter shades manifest the weaker correlation. This illustration, however, is merely based on the conceptual perception and common sense in order to provide an insight over the possible format of the relations. In other words, even though the current analysis is not capable of distinguishing the relations between brand equity dimensions and the criteria in a certain way, this, however, could be a proper representation of these potential relations which are needed to be studied further.

Adapting the dimensions into brand pyramid and brand identity prism (Tuominen, 1999) mentioned earlier in chapter 2, social activities could affect the bottom of the pyramid (i.e. brand themes) which includes three characteristics of physics, reflection, and relationship supported by external, explicit and visible communication with the environment.

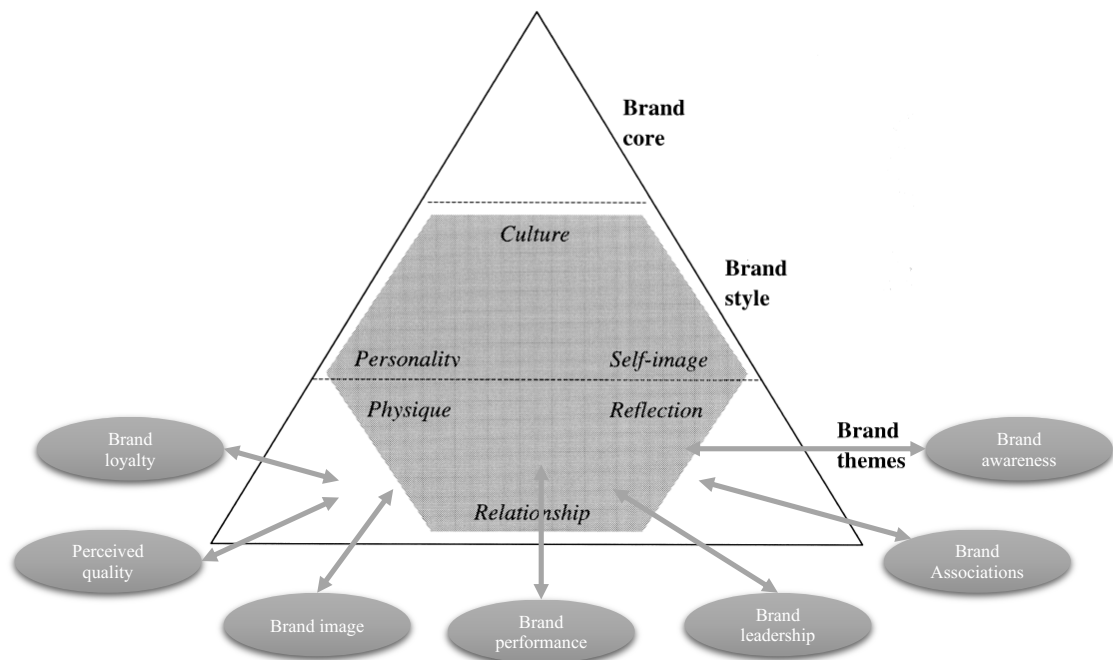


Figure 12. Brand equity dimensions and brand pyramid/ prism.

Figure 12 illustrates the effect of social activities on brand pyramid in terms of brand equity dimensions. It is important to notice that brand equity as a general term is present in all of the three levels of the pyramid. In other words, there is a two-way integrated relationship among brand core, brand style, and brand themes with the brand equity as the general concept. However, this research has focused mainly on the social-driven aspects of brand equity; consequently, as shown in Figure 12, these relations have been presented only where the social facets could affect the brand and its characteristics.

5.2 Question 2. Quantitative vs qualitative social media data analysis- Which one is better?

Considering this thesis, the approach of data analysis was mainly quantitative since the analysis formed around a set of quantitative data trying to measure fundamentally qualitative social relations.

Quantitative data analysis provided the opportunity to reach a set of reliable data supported by numbers leading to more rational decisions based on facts and figures. These analyses could be potentially clear, explicit and easily measurable. Similar to what has been done in this research, quantitative data can be simply served as the input to many managerial tools, illustration, and decision-making processes in order to present a guideline for the future actions of the company.

On the other hand, the quantitative analysis is not without limitations and disadvantages. Thinking more deeply about the nature of these social activities, these human relations are fundamentally qualitative and full of feelings, emotions, expressions, and experiences. Converting these social relations from qualitative into facts and figures is similar to translating a literature from a rich language into another language. It does not matter how well the translation has been done, the translated text is always a reflection of the original text. Through the process of translation, the concept will definitely lose some details, meaning, etc.

This is exactly what happened in the quantitative data set used in this research. Besides all the advantages mentioned in the previous paragraph, these quantitative data and its analysis lack the originality of the human relations approach. Some of the essential concepts regarding the social relations has been neglected only because they are not measurable in forms of numbers manifesting the reality. Furthermore, quantitative analysis is more complicated (containing different tools, complex statistics methods, applications...) and needs more resources (time, budget, specialist, etc.)

Moreover, quantitative social media data cannot shape a holistic model describing all the perspectives of the brand equity because of its inability to measure the human feelings and experiences reflected in social media transactions. Developing such a smart data mining system which extracts all the necessary data through comments written in hundreds of languages, understands idioms, tones, metaphors... is currently very complicated and expensive due to the massive technology investments required.

Qualitative approach provides the opportunity to be in touch with the original value makers for brands either the end consumer or the social media managers in order to capture a closer and more realistic picture of the brand equity and its drivers through locating the experiences, feelings, and thoughts into the analysis.

However, the qualitative analysis has also its limitations along with the advantages. This method in many cases can only provide a generic insight on the subjects and it is not capable to present a clear and distinguishable result. As a result, the decisions made by these analyses are not as rational as those supported by facts and figures. For instance, considering the present study, referring to Figure 10 or Table 11, the quantitative analysis could merely illustrate how potentially brand equity dimensions are related to the research criteria. It simply could not explain and measure the explicit correlation between them. For this purpose, special quantitative methods such as statistical analysis is needed in order to measure the actual strength of those relations.

5.3 Question 3. What approach to be followed to optimizing the social media data analysis?

Considering what explained as the answer of question 2, none of quantitative and qualitative approaches towards social media data analysis are without limitations. As a result, none of these methods alone will not be able to provide a comprehensive description on how brand equity could be influenced by social activities through affecting it in different brand equity dimensions.

Consequently, it seems to be reasonable to utilize both approaches so these methods can cover limitations of each other. In addition to this, analyzing the social media activities (Twitter in this research) by both quantitative and qualitative methods could provide a stronger bond supporting future decisions of authorities. Supporting this idea, using both approaches has been utilized and recommended by researchers in many literatures. For instance, Hanaysha and Hilman (2015) had used the statistic tools (factor analysis in particular) along with questionnaire in order to explain the importance of social media activities in enhancing the brand equity in fast food restaurants industry.

The same concept could be applied in this research as well. Since the data gathered by the service provider were not completely in the direction of this study, the data should be gathered through other channels such as Twitter managerial analytics (quantitative), questionnaires, and interviews (qualitative). This will provide the opportunity to acquire a more reflective, comprehensive, and deeper data set manifesting different aspects of the research problem followed by a more precise and quality criteria measuring correlation of brand equity dimensions and the criteria. For instance, for this purpose “factor analysis” would be a suitable method. By the way, combining both of these approaches into one hybrid data-analyzing approach will benefit the study significantly.

The last chapter of this thesis conclude the results of analysis and conceptual thinking analysis to provide the answer for the main research question. The research limitations and recommendations for future studies has been also included in the same chapter.

6. CONCLUSION

6.1 Responding to the main research question

This chapter addresses the answer to the main research question asked in the introduction chapter. The question stated as bellow:

How companies can improve their brand equity by analyzing their social media interactions data?

Considering the answers of its sub-questions in previous chapter, the answer of this question leads to a process which has been presented in Figure 13.

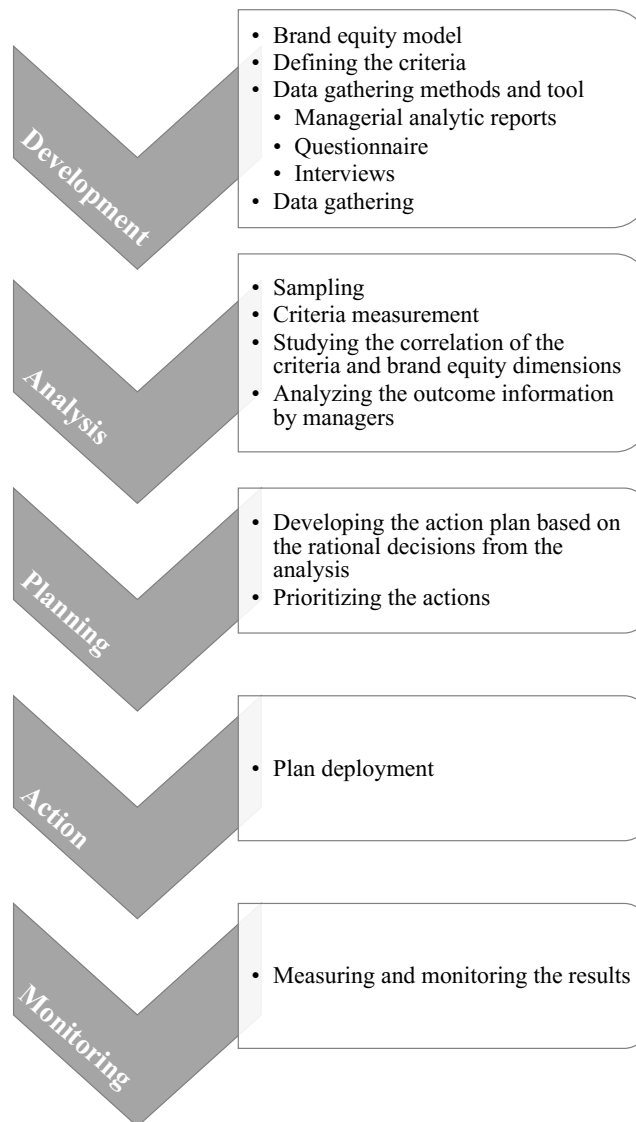


Figure 13. Framework for improving the brand equity by analyzing the social media.

The figure above summarizes the conclusion of this thesis in form of a framework which guides companies to improve their brand equity through analyzing the social media interaction's data.

Being consist of five phases, the first phase is the development phase which prepares the necessary initial ingrediencies. As the fundamental of the process, in this phase, the brand equity model should be developed or chosen; a set of criteria should be defined; data gathering methods should be decided and be prepared; and finally, the data should be gathered through selected channels. Referring to the present research, the brand equity model was the dimensions models which was developed using seven dimensions summarizing the literature of brand equity. The criteria were defined in two levels in which the second-tier criteria were selected. In the end, the data gathering method was only quantitative due to the provided data which consequently led to this fact that in order to be able to provide a comprehensive approach towards the rule of social media interaction's data analysis in brand equity development, both quantitative and qualitative approaches should be followed so that these two could compensate each other's limitations.

As discussed thoroughly in Chapter 5, utilizing the hybrid method of data gathering conveys the advantages of both approaches which make it very desirable for these kinds of research. However, even this hybrid approach is not without limitations. The first challenge of implementing this approach is the resources. Each of these methods individually need a certain amount and type of resources to be deployed. Quantitative data should be bought from the service provider; then it needs to be data-mined and analyzed by expensive educated and special workforce and computer software. On the other hand, qualitative approach needs its own resources which could be very time consuming and heavy-processing. Using different tools in this method such as questionnaires, interviews, brainstorming sessions are not easy to perform.

The second challenge is the overlap. Since two methods are used, it could be possible that there are some areas which are covered in both methods. For example, regarding brand awareness, some data could be collected from analyzing a questionnaire and some from the analytic reports from the service provider. Although, there is no typical issue with gathering data from different sources of different kinds, they could be complementary indeed, this will potentially increase the resources needed for analysis by gathering data itself, analyzing, comparing the results and investigating the similarities and differences.

This issue leads to the third challenge in using both quantitative and qualitative approaches which is inconsistency. Meaning that it could be possible that results of one approach is not consistent with the results from the other approach. Similar to the previous challenge, this will not question the validity of the research however there are two things to be considered. First, it should be tried to provide a similar experimental environment and conditions for both approaches. This will assure that the data-gathering and analysis have been performed under an unbiased condition. Second, it is absolutely important and

useful at the same time that in case of any inconsistency, the reasons behind it should be studied.

In order to prevent or overcome problems mentioned above, this research provided an approach to increase the productivity of this hybrid data analysis process. First, since the data purchased from the service provider contained the least amount of useful data needed for this research and considering this fact that data gathering is outsourced to a third-party company which charges the case company for these data, this research recommends stopping buying data. Instead, Twitter platform presents a real time online managerial report which measure most of the quantitative data needed to analyze the performance of social activities and as a result their effects on brand equity. This will significantly decrease the costs of this research.

Second, overlap should be reduced as much as possible. As mentioned earlier, although overlap could sometimes reinforce the results, it could also cause an increase in necessary resources, or leads to inconsistency and its following studies. As a result, it is recommended that when developing the research process, similar to what has been done in this research, it should be tried to increase the productivity by covering the limitations of one data analysis method by the other one. For instance, in the present research, the initial data were not sufficient thus instead of compromising, a qualitative data gathering method could be used in order to provide the necessary data. For this purpose, the questionnaire developed by Hanaysha and Hilman (2015) is recommended. This questionnaire is available in the appendices. In addition, when qualitative method was not capable of measuring the correlation of brand equity dimensions and the criteria, a quantitative method such as factor analysis could address this issue.

The last but not the least, in order to maintain the costs in the defined budget, it recommended the questionnaire and interviews to be held online. This will speed up and facilitate data gathering and analysis along with increasing the population of the sample.

The second phase of the process is the analysis in which the gathered data should be analyzed, and managerial reports should be prepared thus related managers can decide the future actions based on them. This phase includes sampling, measuring the criteria and finally analysis. Regarding to this research, the sample was made using statistic method to scale down the massive amount of data. Following this phase, then the criteria were measured, and the next step was where the research illustrated its findings by showing the inability of single-approached data analysis method. As a result, this research recommended a hybrid approach toward data analysis by extracting data from different sources and utilizing different quantitative and qualitative analytic tools. In the next step, the provided analysis should be presented to the related managers in form of reports followed by multiple hours of meeting for the future plans to be decided.

The next three phases of the process are planning, action, and monitoring phases in which one or a set of plans should be developed based on the analysis; the actions should be prioritized; plan should be deployed and continuously be monitored for measuring the results and future adjustments.

As a matter of fact, the domain of this thesis covered only the first two phases of this process due to the research limitations and the other three phases were only quickly explained so the integrity is preserved. The following section explains these limitations more completely.

6.2 Research limitations

Like any other scientific research, there were some limitations and barriers during doing this thesis. The first limitation was the brand equity literature itself. Studying most of the available literature, it became obvious that during past years, many different researches have been dedicated to identifying the brand equity dimensions however, almost all of them are constructed based on the fundamental research done by Aaker in 1991. As a result, despite the effort of the researchers to develop a model for brand equity dimensions, most of the time it ended up being almost the same model which only has been adjusted by adding, removing, or changing the name of the dimensions in a way that it suits the researcher's needs, available data, or situation. Lack of fresh insight and newer approaches was the first limitation of this thesis.

The second limitation was the available data to be analyzed. The initial data was provided by the case company which they bought from a service provided. The problem was that this data set was not designed and collected for the purpose of this thesis exactly. That is why most of the data were not useful. In addition to that, there were some criteria which were not defined, and it was not clear what they are and what they are trying to measure. In order to feed the analysis by proper data, the data should be extracted from the source again. Another limitation which appeared in this phase was that the analytic managerial report of Twitter for the company's account was not accessible for the researcher. Along with the previous problem which was made because of the unsuitable data (e.g. needing a massive amount of resources to extract data manually) this made the criteria to be compromised from ideal level into only satisfying since it was inevitable to design the criteria based on available data.

Last but not definitely the least, was the resources allocation for this thesis. As discussed in section 6.1, this research only covers the first two phases of the whole considered frame work for improving the brand equity using social media data analysis. Being such an important strategy in the market nowadays, implementing the whole process definitely needs more resources (e.g. funds, time, tools, etc.)

6.3 Future research

Since this research only covers a part of the defined process, it opens new doors leading to opportunities for multiple complementary researches. Planning, action, and monitoring phases still remained untouched by this thesis and there are many improvements to be made to part covered by this research.

The first is to really include a quantitative data into the data set of this research. This data could be the results of a survey or interview. The second opportunity for future research is focusing on analyzing the relation of the criteria in this research and dimensions of brand equity. Since this study could be performed by different methods, such as statistic tools, it can be interesting to assess the degree of relation of brand equity and social media.

Another idea to be pursued as a research is to explain the relation of brand equity dimensions with the brand prism inside the brand pyramid. This research only made a short glance on this subject and there are still much to be explained in future studies.

The last suggestion for more investigation is to identify the role of brand equity dimensions in creating value by explaining the influence of brand equity on the elements of value chain.

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APENDIX

Brand equity dimensions questionnaire (Hanaysha, J., and Hilman, h. (2015))

Brand Equity Dimensions:

1. Brand Image

- The brand of this restaurant has a fashionable and trendy image.
- The brand of this restaurant has a reputation for quality.
- The brand of this restaurant has unique features.
- The brand of this restaurant provided me a better lifestyle.
- The brand of this restaurant provides good value to its customers.

2. Brand Loyalty

- I consider myself to be loyal to the brand of this restaurant.
- I would continue to visit this restaurant even if its prices increase somewhat.
- I say positive things about this restaurant to other people.
- I recommended this restaurant to others.

3. Brand Preference

- I like to go to this restaurant more than others.
- I would buy from this restaurant frequently.
- This restaurant is my preferred choice over others.
- I would be inclined to buy from this restaurant brand over other brands.

4. Brand Leadership

- This restaurant brand is one of the leading brands in its category.
- This restaurant brand is growing in popularity.
- This restaurant brand provides good care to its customers.
- This restaurant brand is one of the most widespread brands and can be found in different places.
- The brand of this restaurant has many visitors every day.