

Consumer engagement with microblogs:

The role of the social CEO

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A dissertation submitted to Saïd Business School, University of Oxford in fulfillment
of the requirements for the degree of Doctor of Philosophy in Management Studies,
Hilary 2017

Abstract

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This research aims to draw the attention of both marketing practitioners and academics to the potentially influential role of CEOs as ambassadors of their firms on social media. In particular, using a mixed methods approach, the study explores the ways in which CEOs use microblogs in dialogue with consumers, and measures the marketing effectiveness of such efforts. The main objective is to understand how different microblogging factors work to influence consumer engagement, thereby identifying the microblogging style of corporate executives that is most likely to result in the greatest consumer engagement.

Through investigating how CEOs use microblogs in engaging consumers, the study addresses two main research questions: “How should consumer engagement be conceptualized, defined, and measured in a microblogging context?” and “How do specific individual (e.g., firm, consumer) factors affect and/or interact to generate particular consumer engagement levels with a CEO microblog?”.

This study makes three specific contributions to the emergent research area on consumer experience and behavior within an interactive social media environment. First, by providing a comprehensive conceptualization of consumer engagement in a microblogging context. Secondly, by developing and implementing a scale to more effectively measure consumer engagement with a CEO’s microblog, and finally by identifying and testing various consumer- and firm- related engagement antecedents. The study’s research findings also offer clear prescriptions for strategic marketing communicators in designing effective microblogging strategies to capitalize on the capabilities of social media in engaging consumers.

Acknowledgements

I would like to express my sincere gratitude to the following individuals. Without their substantial assistance, this dissertation would not have materialized.

I am deeply grateful to my supervisors, Dr. Jonathan Reynolds and Prof. Andrew Stephen, for their kindness and continued support throughout my work on the dissertation. It has been a real privilege and pleasure working with them.

My warmest thank you to Prof. John Deighton, Dr. Kunal Basu, Prof. Nancy Puccinelli, Dr. Rhonda Hadi, and Dr. Eric Thun for generously giving me their time and advice at various stages of my dissertation.

Many thanks to Mr. Stuart Walters, the Marketing manager at Saïd Business School, and his colleagues who provided expertise and technical assistance that greatly facilitated the research.

Last but not least, I would like to express my profound gratitude to the Templeton Education and Charity Trust, which has generously supported my DPhil studies at Oxford.

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Chapter 1

Introduction: Social media and the role of CEOs

Brief contents:

- 1.1. Introduction
 - 1.2. The evolution of social media
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 - 1.9. Key research contributions
 - 1.10. Structure of dissertation
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-

1.1. Introduction

Recent years have seen the growing use of social media and so-called Web 2.0 technologies by firms to communicate with consumers. This chapter aims to set the scene for my study which considers the role of CEOs as ambassadors of their firms in engaging consumers on social media. It starts with an overview of the developments in social media and the resultant new media landscape. Then it discusses the

challenges and opportunities of using these tools and technologies as part of a broader corporate marketing communication mix. The discussion recognizes the evolving role that a CEO can play – from a spokesperson to a more proactive ambassador of the firm, which involves engaging consumers in more direct and interactive communications on social media. The chapter further identifies the lack of research on the role of the *social CEO* (i.e., CEOs on social media) as firm ambassador in relation to consumer engagement, thus introducing my research questions and objectives. Besides setting the scene for my study, the chapter also provides a summary of my research design and contributions to marketing knowledge and practice, before it ends with a brief overview of subsequent chapters.

1.2. The evolution of social media

As at the fourth quarter of 2016, the microblogging service site Twitter averaged 319 million monthly active users worldwide¹. To put that number into perspective, this is only slightly less than the population of The United States (324 million) and over twice the population of Russia (143 million). At the same time, every minute, 243 hours of video content were live streamed on Twitter's video-streaming app Periscope and 110 years worth of live videos was watched per day across Periscope's iOS and Android apps². Finally, the image sharing site Instagram hosted over 40 billion photos³, making the world's biggest museum, the Louvre's collection of 380,000 pieces seem tiny in comparison.

¹ <https://www.statista.com/statistics/282087/number-of-monthly-active-twitter-users/>

² <http://venturebeat.com/2016/03/28/twitters-periscope-broadcasts-200-million-streams-in-its-first-year/>

³ <https://blog.hootsuite.com/instagram-statistics/>

Kaplan & Haenlein (2010) defined social media as “a group of internet-based applications that build on the ideological and technological foundations of Web 2.0 and that allow the creation and exchange of user generated content” (pp.61). The term Web 2.0 was popularized in 2004 by the O'Reilly Media Web 2.0 Conference to describe a new way in which web pages are designed and used: the web page serves as a platform whereby content can be continuously modified by all users in a participatory and collaborative fashion (T. O'Reilly, 2005). As observed by Kaplan & Haenlein (2010), although the term does not refer to any specific technological update of the World Wide Web, there are a set of functionalities that are essential for its operation, including Ajax (Asynchronous Java Script which updates selected regions of the page area without undergoing a full page reload), RSS (Really Simple Syndication which uses a family of standard web feed formats to publish frequently updated information in a standardized format), and Adobe Flash (multimedia software platform used for adding animation, audio/video, and interactivity to web pages). These authors considered Web 2.0 as the ideological and technological foundation for the evolution of social media. By means of social media, people are able to interact and collaborate with each other as creators of user generated content (UGC) in a virtual community, unlike on Web 1.0 websites where users are limited to passive viewing of content.

Although the notions of Web 2.0 and social media have become buzzwords in recent decades due to the success of several large social media sites such as Facebook and Twitter, the idea behind such platforms is not entirely new. Important aspects of social media, such as user-generated, collaborative, and sharing of computer-mediated content within “online” or “virtual” communities, dates back to

the late 1970s, although they were of a much smaller scale by comparison with the current social media phenomenon. In fact, the Internet itself began as nothing more than a giant Bulletin Board System (BBS) in the late 1970s which were virtual discussion systems allowing users to interact with each other through exchanging messages, pictures, and software. Early examples of such platform include the Usenet created in 1979 and WELL launched in 1985 (Rheingold, 1993a, 1993b). Yet, the era of social media as we understand it today probably started in late 1990s when Bruce and Susan Abelson established “Open Diary”, the first social networking site, allowing users to easily publish the kinds of diary entries, which are equivalent to today’s blog posts. The increased broadband availability and hardware capacity of the 21st century then led to a surge in popularity in social networking sites such as Facebook (launched 2004) and Twitter (in 2006). This, in turn, fostered the term “social media” and contributed to the influence the phenomenon has today (for a fuller review, see Dahl, 2015, pp.76-93).

1.3. The new media landscape

For some, the explosion of social media sites is a game-changer for corporate marketing communication, although this was not the original primary goal of such platforms (Argenti & Barnes, 2009). The fundamental idea behind this view is that where corporate and marketing communications used to follow a command-and-control one-way model with messages being issued mainly (and most of the time solely) from the firm, social media create the potential for a more interactive (i.e., two-way) and free-flowing conversation between the firm and its consumers.

In the past, marketers liaised with traditional media channels to reach out to consumers. For example, advertisements were often placed in newspaper and on TV, promotional information was often sent through post and emails. Such communication is one way and marketers have full control over the content being conveyed to consumers. Nowadays, every individual with access to social media can in principle become a publisher of content. That highlights the democratization of production and dissemination of news about organizations.

At the same time, the interactive nature of social media provides a new way of engaging with consumers – telling stories of the brand to consumers in an interactive manner. In principle, this is a real advance compared to the one-way push messaging model associated with more traditional channels. Social media are in general less about control, and more about free-flow of messaging and proactive interactions. As such, the new media landscape presents both a challenge and opportunity for firms to communicate and engage with their consumers.

1.4. Challenges and opportunities

The developments around social media may be seen as a particular challenge when marketers take the view that the new media landscape blurs the lines between content providers and consumers, making news publishing and dissemination by firms increasingly difficult to control.

A brand's image is prone to be damaged when negative information (be it biased or unbiased, false or true), which can be posted by any individual on social media, goes viral. And the position will become even worse should a firm fail to notice the initial wave of netizen unrest or fail to react to the crisis promptly and diplomatically.

A perfect example is the “Facebook crisis” of Nestlé vs Greenpeace, when a consumer posted a spoof video online criticizing Nestlé for acquiring palm oil from unsustainable producers in Indonesia (For more details of the case, see Palmer, 2010).

Fortunately, “in the middle of difficulty lies opportunity”. One such opportunity is that social media allow firms to engage more directly and constantly with consumers in an interactive and lively manner which may help build consumer relationships. In this sense, social media can be used for more than basic corporate marketing communication purposes.

To elaborate, as mentioned earlier, the ease of interaction offered by social media greatly facilitates two-way communications between the firm and its consumers. Therefore, compared with traditional corporate marketing channels which are often effectively one-way, social media have the potential to transform consumers from passive receivers of the firm’s communication into active participants in the interactive and collaborative environment created by the firm. A good example is the Twitter live Q&A sessions which are like an in-person press conference or a round table discussion for users to ask questions and hear responses directly from the host.

Second, compared to most conventional communication channels, social media are free to use, thus allowing marketers to easily create an ongoing brand supportive communication with consumers. The constant communication over an extended period of time enabled by social media may foster parasocial interaction⁴ (Auter,

⁴ The concept of a parasocial relationship (PSI) refers to the audience’s illusion of having an intimate and personal relationship with a media performer (Horton & Wohl, 1956). It has been extensively studied in television context (e.g., Auter, 1992; Horton & Wohl, 1956; Rubin & Perse, 1987; Stern, Russell, & Russell, 2007) and recently in online communication and relationship marketing (e.g., Ballantine & Martin, 2005).

1992; Horton & Wohl, 1956) which helps building relationships.

Third, social media platforms allow users to upload various formats of media, including images, GIFs, audios, and videos. Such media richness helps brands build a strong and vivid image and personality (Aaker, 1997). It is suggested that having nurtured a brand's personality in the mind's eye of consumers, a relationship between the brand and its consumers can evolve. According to Fournier (1998), people relate to brands imbued with personalities in similar ways as to other humans, i.e., brand personality facilitates a human-to-human relationship between the brand and its consumers.

1.5. Embracing challenges and opportunities

From the above discussion, we know that while it is perhaps too early to tell how social media will fundamentally change corporate and marketing communication in the long run, their extensive use in recent years suggests that these technologies are driving a shift in how people engage with organizations. It is quickly changing how information about organizations is produced and disseminated, how dialogues occur, and how consumer perceptions are shaped and relationships are forged. Firms are starting to realize these developments and to embrace the challenges and opportunities presented by the new media phenomenon.

1.5.1. Creation of corporate official accounts

The creation of corporate official accounts on major social media sites can be seen as an attempt from the organization's side to regain some control over content generation and dissemination.

According to the University of Massachusetts Dartmouth Center for Marketing Research, as in October 2016, among the Fortune500 companies, 432 (86%) have corporate Twitter accounts; 419 (84%) have corporate Facebook pages; 332 (66%) have corporate YouTube accounts; and 225 (45%) have corporate Instagram accounts (enjoying double-digit leaps in adoption for the 4th year in a row)⁵.

The use of corporate social media accounts ranges from product news releases, to events announcements and complaints handling. By having an official presence on social media, companies are able to distribute their own information and voice their opinions, providing the public with an authentic source of information to refer to in the “noisy” social media environment. It also gives companies a new and easy way of listening to customers so that they can react to customer feedback in a more timely and potentially effective manner.

1.5.2. CEOs joining social media

Another trend is that more and more CEOs are also joining social media. Big names include Michael Dell (Dell), Richard Branson (Virgin Group), Hikmet Ersek (Western Union), and Tim Cook (Apple).

I believe that CEO accounts can complement corporate accounts in addressing the challenge of losing control over content production and distribution. Because the CEO’s voice, as the leader from the very top of the organization, bears at least the same, if not more, weight and authenticity as corporate official accounts in terms of regular corporate communications. Not to mention that when it comes to corporate

⁵ <http://www.umassd.edu/cmr/socialmediaresearch/2016fortune500/>

vision and strategy, CEOs are inarguably in a more authoritative position to articulate and communicate such subjects. Therefore, CEO social media accounts may serve as a very effective complement to corporate accounts in terms of offering an authentic source of corporate communication.

Not only that, CEO accounts may enjoy greater potential than corporate accounts in embracing the opportunity offered by social media, i.e., nurturing consumer relationships through engaging the audience in pro-active dialogues. Having a real and identifiable person behind the account increases the source's credibility (Fogg et al., 2001; Fogg & Tseng, 1999), which enhances the quality of consumers' interactive experience with the communicator. More importantly, communications from CEOs may save the audience any effort in anthropomorphizing the brand. On social media, one key to facilitating interactions and building up brand-consumer relationships is to imbue brands with personalities (Aaker, 1997) and encourage anthropomorphism on brand pages (Kwon & Sung, 2011). Because the CEO is already manifestly human (at least ostensibly so, even if a robot is micro-blogging on his or her behalf), consumers need not undertake the psychological process of attributing such characteristics to the CEO. Instead, they can begin directly to naturally engage in an apparent two-way interaction with the CEO. Thus, I believe that CEO accounts have greater potential in building consumer relationships through creating a better quality of consumer interactive experience.

1.6. The evolving role of the CEO: From spokesperson to ambassador

Prior to the rise of social media, the major external role assumed by most company founders or CEOs is as the "spokesperson" of the firm – representing the

firm and speaking on its behalf. This would be done by means of appearing in newspaper, in company annual reports, and sometimes in advertisements.

The role of the CEO as spokesperson of the firm has long been recognized as an important aspect of corporate communication. Literature drawn from organization theory and strategy has examined how the CEO as spokesperson of the firm manage the impression of external audience about the company (e.g., Bansal & Clelland, 2004; Elsbach, 1994; Marcus & Goodman, 1991; Sutton & Callahan, 1987; Westphal, Park, McDonald, & Hayward, 2012).

But as discussed in previous sections, the interactive nature of social media provides unprecedented opportunities for CEOs to constantly update, to interact, to create dialogues, and to build relationships with consumers for the firm. That, in my opinion, has called for a new type of leader, which is “leader as ambassador”. As such, the CEO’s role evolves from being a spokesperson to an ambassador of the firm – the CEO now not only represents the firm and speaks on its behalf, but also interacts with consumers having dialogues with them and building a relationship with them.

1.7. Research questions and objectives

This research aims to draw the attention of both marketing practitioners and academics to the potentially influential role of CEOs as ambassadors of their firms on social media. In particular, the study aims to explore the ways in which CEOs use microblogs in dialogue with consumers, and measures the marketing effectiveness of such efforts. The main objective is to understand how different microblogging factors work to influence consumer engagement, thereby identifying the microblogging style of corporate executives that is most likely to result in the greatest consumer engagement.

1.7.1. Theoretical objectives

This study uses consumer engagement as a means to investigate the effectiveness of CEOs' use of microblogs in dialogue (i.e., interactive communications) with consumers. Consumer engagement is an emerging concept emphasizing the interactive experiences of consumers with a focal object, e.g. a brand. As an emerging important area of consumer experience and behavior, consumer engagement is believed to have great potential in contributing to an enhanced academic understanding of consumer behavior in an interactive and co-created environment (MSI - Marketing Science Institute, 2010). In particular, consumer engagement has attracted increasing interest among marketing scholars when discussing social media usage and effectiveness (e.g., Brodie, Ilic, Juric, & Hollebeek, 2013; Dessart, Veloutsou, & Morgan-Thomas, 2015; Sklar, 2013; Solem & Pedersen, 2016; Tsai & Men, 2013; Zheng, Cheung, Lee, & Liang, 2015).

Academic studies in the last decade have been trying (1) to define consumer engagement in either an off-line or on-line context (e.g., Brodie & Hollebeek, 2011; Brodie et al., 2013; Calder, Issac, & Malthouse, 2013; Dessart, Veloutsou, & Morgan-Thomas, 2016; Hollebeek, Glynn, & Brodie, 2014; Mollen & Wilson, 2010; Pansari & Kumar, 2017; Vivek, Beatty, & Morgan, 2012; etc.); and (2) to find a useful theoretical lens for better understanding the nature of consumer engagement (e.g., Ashley, Noble, Donthu, & Lemon, 2011; Brodie, Hollebeek, Juric, & Ilic, 2011; Brodie et al., 2013; Chathoth, Ungson, Harrington, & Chan, 2016; Hollebeek, Srivastava, & Chen, 2016; Lusch & Vargo, 2010; Vivek et al., 2012; etc.). More recently, some researchers have begun to explore the beneficial consequences of consumer engagement which include consumer satisfaction (Maslowska, Malthouse,

& Collinger, 2016), loyalty (France, Merrilees, & Miller, 2016; Leckie, Nyadzayo, & Johnson, 2016; So, King, Sparks, & Wang, 2016; Zheng et al., 2015), brand relationship quality (Barhemmati & Ahmad, 2015), brand value (France et al., 2016), sales (Cheung, Shen, Lee, & Chan, 2015), firm performance (Kumar & Pansari, 2016; Wong & Merrilees, 2015).

However, there are 3 further issues worth addressing. First, although various researchers have attempted to conceptualize consumer engagement, there is still no complete consensus on its conceptualization and empirical investigation into how the concept should be measured is limited.

Second, compared to the increasing attention to consequences of consumer engagement, scholarly enquiry into the drivers or antecedents of engagement is currently lacking. Existing studies which investigate engagement antecedents have mostly focused on the consumer point of view. Proposed engagement antecedents include consumer involvement (e.g., France et al., 2016; Leckie et al., 2016), consumer personality traits (e.g., Marbach, Lages, & Nunan, 2016), and consumer participation (e.g., Leckie et al., 2016). Therefore, studies on consumer engagement antecedents from the firm perspective is required to provide strategic marketing communicators with further insights as to specifically what they can do to enhance consumer engagement.

Third, despite microblogs possessing great potential in engaging consumers in direct and interactive communications and having already attracted growing interest among marketers and CEOs alike, research on the topic of engagement in the context of microblogs is sparse.

I believe these research gaps are amongst the reasons for groups such as the MSI - Marketing Science Institute (2014) urging academics to investigate topics including: “How should engagement be conceptualized, defined, and measured?” and “How do social media and other marketing activities create engagement?”

And so, through investigating how CEOs use microblogs in engaging consumers, this study is a timely contribution to a better understanding of consumer engagement in social media. Specifically, it asks two main research questions:

RQ1: How should consumer engagement be conceptualized, defined, and measured in a microblogging context?

RQ2: How do specific individuals (e.g., firm, consumer) factors affect and/or interact to generate particular consumer engagement levels with a CEO microblog?

In addressing these two research questions, this study aims to contribute to the emergent research area on consumer experience and behavior by providing a comprehensive conceptualization of consumer engagement in a microblogging context, by developing and implementing a scale to effectively measure consumer engagement with a CEO’s microblog, and by identifying and testing various consumer- and firm-related engagement antecedents.

1.7.2. Practical objectives

The role of the social CEO (i.e., CEOs who use social media) as ambassador of the firm represents an under-explored and fruitful area for marketing research. There are no clear rules, benchmarks, or tried and tested principles yet on CEOs’ or corporate leaders’ use of social media. Most evidence to date is still anecdotal, and in some senses specific to each company.

Take microblogs, a rapidly growing social media platform represented by Twitter, for example. Despite the growing interest among CEOs in using them in engaging consumers in interactive communications, little attention has been paid either to the ways in which CEOs use these services in dialogue with consumers, or how the marketing effectiveness of such efforts might be measured.

Microblogs enable users to post short updates, of usually no longer than 140 characters, with a list of approved followers or with all service users which can be decided by the blogger. Kaplan & Haenlein (2011) observed that on the continuum of social media classification, microblogs stand halfway between traditional blogs and social networking sites. Ross, Terras, Warwick, & Welsh (2011) has elaborated further by pointing out that the word's origin suggests that it shares the majority of key features with traditional blogs as summarized by Karger & Quan (2005): (1) The contents are small and discrete postings, like "instant messages to the Web" as opposed to large, carefully organized web sites. (2) these postings are kept together by the author who controls publication; and (3) individual blog entries can be easily aggregated together, usually in chronological order. In addition to characteristics of traditional blogs, microblogs incorporate elements of social networking sites, with users able to construct profiles, and to establish and share connections with others (Boyd & Ellison, 2008).

Research on the use of microblogs for marketing and communication purposes by far has primarily focused on ordinary individual users, asking why people use micro-blogging (e.g., Java, Song, Finin, & Tseng, 2007; Zhang & Pentina, 2012; Zhao & Rosson, 2009); who follows whom (e.g., Chen, Liu, Wang, & Gu, 2012) ; and what users tweet about (e.g., Honeycutt & Herring, 2009; Mischaud, 2007). A few look at

political leaders and corporate official accounts as users (e.g., Golbeck, Grimes, & Rogers, 2010; Jansen & Zhang, 2009). But there is little specific work on the potentially influential role of CEOs.

Such lack of research and guidance might be one of the reasons for some CEO failures on microblogs. For example, Ryanair CEO Michael O’Leary was highly criticized for his Tweet “Nice pic!” to a female consumer during a live Twitter Q&A session⁶. Many news outlets covered this episode which was embarrassing for the firm. Another example is Shoe designer Kenneth Cole’s bad taste Tweet using the Cairo riots to promote the firm’s new collection of shoes⁷. Due to netizen pressure, Mr. Cole had to later delete his inappropriate Tweet and apologize to the public. The number of such cases are constantly growing. Just as I am writing this dissertation, another CEO social media failure happened. This time the CEO involved is Oscar Munoz of United Airlines. The America’s third biggest carrier is being slammed online for violently dragging a passenger - a 69-year-old Asian man, believed to be a doctor - off an overbooked flight so staff could take his seat. Chief executive Oscar Munoz has added more fuel to the fire with his response which was issued on both Twitter and Facebook. The CEO’s statement did not mention the use of force but instead said the airline had to “re-accommodate” passengers. Munoz’s use of “re-accommodate” for how the airline dealt with the passenger was widely panned and the Twitterverse reaction was wild⁸. Amid the controversy, United’s stock is falling 6.3%

⁶ <http://www.belfasttelegraph.co.uk/business/news/ryanair-boss-michael-oleary-takes-to-twitter-nice-pic-phwoaaarr-mol-29678129.html>

⁷ http://money.cnn.com/2011/02/03/news/companies/KennethCole_twitter/

⁸ <http://www.bbc.co.uk/news/business-39562182>

and wiping \$1.4 billion off the airline's market cap⁹.

Therefore, this study seeks to draw the attention of corporate executives and strategic marketing communicators to the important role of the social CEO, i.e., ambassador of the firm. By exploring the ways in which CEOs use microblogs in dialogue with consumers and measuring the marketing effectiveness of such efforts, this study aims to understand how different microblogging style factors work to influence consumer engagement and thereby identifying the microblogging style of corporate executives that is most likely to result in the greatest consumer engagement – an insight that will offer clear prescriptions to corporate executives in designing effective microblogging strategies to capitalize on the capabilities of social media in engaging consumers.

1.8. Overview of research design

My research problems are two-fold: (1) to explore CEOs' use of microblogs in dialogue with consumers; and (2) to determine the effectiveness of such use of microblogs by CEOs in generating consumer engagement. As the first dimension of my research interest is concerned with an exploration of a new phenomenon on which little research has been done, a qualitative approach is used to undertake an initial investigation of the problem. Regarding the second dimension of my research interest, since it involves measuring the effectiveness of an intervention, a quantitative approach is adopted to better address the problem.

⁹ <http://fortune.com/2017/04/11/united-airlines-stock-drop/>

Accordingly, my research design consists of two phases. Phase (I) involves a qualitative approach while Phase (II) makes use of a quantitative approach – an experimentation design, to be exact.

Phase (I) comprises two stages:

Stage (1): Content analysis of 330 existing CEO Twitter accounts, which explored CEOs' use of microblogs in dialogue with consumers. The first step of content analysis was an inductive-oriented analysis which identified three specific dimensions of CEOs' microblogging styles, i.e., content professionalism, language professionalism, and interactiveness. The second step was a deductive-oriented analysis aimed at mapping each of the 330 CEO microblogs onto the three dimensions identified in the previous step. All of these microblogs were then classified into eight (i.e., $2 \times 2 \times 2$) microblogging styles (i.e., *Spokesperson*, *Broadcaster*, *Work mentor*, *Work logger*, *Personal mentor*, *Essayist*, *Friend*, and *Diarist*).

Stage (2): Focus group interviews with 16 Oxford Said business school undergraduate students. In focus groups, participants examined blogs that were positioned at one of the two ends of each dimension of the resulting CEO map obtained from the content analysis. The purpose of these focus groups was to select the most appropriate ones to each represent a specific microblogging style for the Phase (II) experimental research.

Phase (II) consists of a web-based experiment with a $2 \times 2 \times 2$ factorial design to test the effectiveness of different CEO microblogging styles in engaging consumers.

In the experiment, consumer-related covariate¹⁰ information was solicited from 811 participants using an online questionnaire before they were randomly assigned to browse through one of the eight selected CEO microblogs (each of which represents a distinctive microblogging style). Participants were then asked to respond to another online questionnaire aimed at measuring their engagement with the assigned CEO microblog as well as their perception of the CEO's credibility.

1.9. Key research contributions

As one of the earliest empirical attempts to understand CEOs' use of microblogs in dialogue with consumers, this study uses a mixed methods research design combining qualitative (e.g., content analysis, focus groups) and quantitative (e.g., experiment) approaches to identify the CEO microblogging style that is most likely to generate the greatest consumer engagement.

Through investigating how CEOs use microblogs in engaging consumers, the study addresses the two research questions of "How should consumer engagement be conceptualized, defined, and measured in a microblogging context?" and "How do specific individual (e.g., firm, consumer) factors affect and/or interact to generate particular consumer engagement levels with a CEO microblog?".

As such, the study aims to contribute to the growing body of knowledge on consumer experience and behavior in social media by providing a comprehensive conceptualization of consumer engagement in a microblogging context, by developing and implementing a scale to effectively measure consumer engagement

¹⁰ Covariate means plausible extraneous variables.

with a CEO's microblog, and by identifying and testing various consumer- and firm-related engagement antecedents.

The study findings will provide theoretical, managerial and methodological implications that may help both marketing academics and practitioners understand the important role and influence that social CEOs have through their use of microblogs in engaging consumers. There are potentially five specific implications.

First, by focusing on CEOs, my research would draw the attention of both corporate marketing communication practitioners and academics to the potentially influential role of the social CEO as ambassador of the firm which involves engaging consumers in more direct and interactive communications on social media.

Second, this study serves as one of the earliest qualitative exploration of CEOs' use of microblogs. By examining 330 existing CEO Twitter accounts in terms of content, language use, and interaction with consumers, this study is able to identify three features characterizing CEOs' usage of microblogs which, in turn, classifies them into eight microblogging styles. This three dimensional microblogging style typology may not only be relevant to describing the microblogging activity of a CEO, but potentially also that of any individual representing an organization, or themselves, such as a political leader or a celebrity. Therefore, this typology may provide future researchers with a useful perspective in examining and categorizing microblogs.

Third, and more importantly, this research is able to identify and test various consumer- and firm- related engagement antecedents. Specifically, the effectiveness of different CEO microblogging styles in engaging consumers is tested taking into account various consumer-related covariates. The study's research findings may offer

clear prescriptions for strategic marketing communicators in designing effective microblogging strategies to capitalize on the capabilities of social media in engaging consumers.

Fourthly, in the process of testing the effect of microblogging styles on consumer engagement, this study offers a microblog-specific definition and measurement scale for consumer engagement. My investigation into the conceptualization of consumer engagement will contribute further scholarly insights into the nature and dimensionality of this emerging concept; while the newly developed measurement scale will be useful for managers to better craft and calibrate their social media communications and more efficiently monitor the effectiveness of their use of social media in engaging with consumers.

Another contribution of this study lies in its adoption of mixed methods research design. So far, research studying consumer engagement with social media has been predominantly conceptual in nature. The few empirical studies that exist have either opted for a quantitative or a qualitative approach. This study is one of the earliest empirical attempts in this field which uses a mixed methods approach combining both qualitative and quantitative techniques. The qualitative approach enables my research to be well grounded in the phenomenon being studied, while the quantitative approach helps me efficiently discover potential causal relationships among variables. The use of mixed methods proves to be beneficial in particular when studying complex and rapidly evolving subjects such as consumer engagement with social media. And this study may be an example of how to effectively combine different methods when investigating a new phenomenon.

1.10. Structure of dissertation

This dissertation is divided into five parts, containing altogether twelve chapters. These are described below.

Chapter 1: Introduction

This chapter sets the scene for my study on the role of CEOs as ambassadors of their firms in engaging consumers in social media. It starts with an overview of the developments in social media and the resultant new media landscape. Then it discusses the challenges and opportunities of using these tools as part of a broader corporate marketing communication mix. The discussion recognizes the evolving role that a CEO can play – from a spokesperson to an ambassador of the firm which involves engaging consumers in more direct and interactive communications on social media. The chapter further identifies the lack of academic research on the role of the social CEO as firm ambassador in relation to consumer engagement, thus introducing my research questions and objectives.

The chapter also summarizes my research design and key contributions to marketing theory and practice. At the end, a brief synopsis of subsequent chapters is provided to offer readers a better grasp of my dissertation's organization and structure.

Chapters 2 – 3: Literature Review chapters

These two chapters review relevant literature for my research.

Chapter 2 reviews the emerging marketing literature on consumer engagement including its conceptualizations, definitions, and theoretical foundations. It synthesizes various conceptualizations proposed in marketing practitioner and

academic literature, and offers both a general and a microblog context specific definition of consumer engagement. The chapter also provides a review of the current debate around using the S-D logic of marketing as a theoretical lens for understanding the nature of consumer engagement.

Chapter 3 is about identification of potential consumer- and firm-related drivers of consumer engagement with a CEO microblog. It reviews relevant aspects of the attitude and persuasion literature, in particular, the Elaboration Likelihood Model and the Heuristic-Systematic Model. Based on this review, a CEO microblog engagement model is developed to identify potential drivers and examine their influences on consumer engagement with a CEO microblog.

Chapters 4 – 6: Research Design Chapters

These three chapters present and justify the methodological foundations of my research. This begins with a review and evaluation of three general research design approaches, i.e., quantitative approach, qualitative approach, and mixed methods approach, followed by an explanation of how I decide which research approach and methodological assumption to adopt in my research (see Chapter 4). Chapter 5 and Chapter 6 highlight my choices of research methods and discuss how the research is designed in greater detail. Specifically, Chapter 5 focuses on the design of Phase (I) of my research while Chapter 6 addresses the design of my research Phase (II).

Chapters 7 – 11: Results and Analysis Chapters

These five chapters present my research results and analysis. Chapters 7 - 9 discuss in detail the procedure and results of my research Phase (I): Chapter 7 focuses on content analysis (I), Chapter 8 on content analysis (II), and Chapter 9 on focus

group interviews.

Chapters 10 – 11 are dedicated to my research Phase (II) - an online experiment which tests the effectiveness of typical CEO microblogging styles identified from previous stages of the research in engaging consumers. Chapter 10 presents my experiment hypotheses, measures, and design, while Chapter 11 discusses my experiment findings.

Chapter 12: Research contributions, implications, and limitations

Chapter 12 wraps up the dissertation by highlighting my research contributions to the broader corporate marketing communication literature and its important managerial and methodological implications. In the process, it acknowledges limitations of the research and suggests avenues for further studies.

1.11. Summary

This chapter has set the scene for my study on the role of CEOs as ambassadors of their firms in engaging consumers on social media.

It started with an overview of the developments in social media and the resultant new media landscape. Then it discussed the challenges and opportunities of using these tools as part of a broader corporate marketing communication mix. The discussion recognized the evolving role that a CEO can play – from a spokesperson to an ambassador of the firm which involves engaging consumers in more direct and interactive communications on social media. The chapter further identified the lack of academic investigation in the role of the social CEO as firm ambassador in relation to consumer engagement, thus introducing my research questions and objectives.

The chapter also summarized my research design and key contributions to marketing theory and practice. At the end, a brief synopsis of subsequent chapters was provided to offer readers a better grasp of my dissertation's organization and structure.

Literature Review Chapters

The following two chapters review relevant literature for my research.

Chapter 2 reviews the emerging marketing literature on consumer engagement including its conceptualizations, definitions, and theoretical foundations. It synthesizes various conceptualizations proposed in marketing practitioner and academic literature, and offers both a general and a microblog context specific definition of consumer engagement. The chapter also provides a review of the current debate around using the S-D logic of marketing as a theoretical lens for understanding the nature of consumer engagement.

Chapter 3 is about identification of potential consumer- and firm-related drivers of consumer engagement with a CEO microblog. It reviews relevant aspects of the attitude and persuasion literature, in particular, the Elaboration Likelihood Model (ELM) and the Heuristic-Systematic Model (HSM). Based on this review, a CEO microblog engagement model is developed to identify potential drivers and examine their influences on consumer engagement with a CEO microblog.

Chapter 2

Consumer engagement:

Consumer interactive experience and behavior

Brief contents:

- 2.1. Introduction
 - 2.2. Conceptualizations and definitions
 - 2.2.1. Employee engagement
 - 2.2.2. Consumer engagement
 - 2.2.2.1. Practitioner definitions
 - 2.2.2.2. Academic definitions
 - 2.2.2.3. Working definition
 - 2.3. Enquiry into theoretical root of consumer engagement
 - 2.3.1. Debate around S-D logic of marketing
 - 2.3.2. Further on S-D logic
 - 2.4. Summary
-

2.1. Introduction

This study uses consumer engagement as a means to investigate the effectiveness of CEOs' use of microblogs in dialogue (i.e., interactive communications) with consumers. Consumer engagement is an emerging concept emphasizing the interactive experiences of consumers with a focal object, e.g. a brand, a product, an advertisement, a website, etc. Recent research suggests consumer engagement as a valuable predictor for consumer satisfaction, loyalty, and firm performance, etc (e.g., Kumar & Pansari, 2016; Maslowska et al., 2016; So et al., 2016).

As an emerging important area of consumer experience and behavior, consumer engagement is believed to have great potential in contributing to an enhanced academic understanding of consumer behavior in an interactive and co-created environment (MSI - Marketing Science Institute, 2010). In particular, consumer engagement has attracted increasing interest among marketing practitioners and scholars when discussing social media usage and effectiveness (e.g., Brodie et al., 2013; Dessart, Veloutsou, & Morgan-Thomas, 2015; Sklar, 2013; Solem & Pedersen, 2016; Tsai & Men, 2013; Zheng et al., 2015). Academic studies in the last decade have been trying to define consumer engagement and find a theoretical lens for better understanding its nature.

In this chapter, I will provide a review of various consumer engagement conceptualizations and definitions proposed by both marketing practitioners and academics, based on which my own working definition of consumer engagement is formed and proposed. Then I will proceed to present the current academic debate around using the S-D logic of marketing as a theoretical lens for consumer engagement.

2.2. Conceptualizations and definitions

In academic marketing literature, it was not until 2005 that the term “engagement” began to be increasingly used to describe consumer experience with a firm/ brand (e.g., Algesheimer, Dholakia, & Herrmann, 2005). And in spite of this increasing use, subsequent marketing scholarly enquiry into defining and exploring the nature and scope of the term has been limited. Interestingly, “engagement” as a concept has been studied in the field of psychology since 1990s, examining the relationship between

employees and the firm. Although the main actor is different (consumer versus employee), the extensive research on employee engagement can be useful for understanding consumer engagement. Therefore, I will begin the discussion with the existing conceptualizations of employee engagement before reviewing those of consumer engagement.

2.2.1. Employee engagement

Kahn (1990) was the first to apply the concept of engagement to work. He suggests that people vary in their use of selves, physically, cognitively, and emotionally, in the roles they perform at work. Employee engagement is therefore used to describe the degree to which workers employ and express their personal selves in work role performances. To employ one's self is to drive one's personal energy into physical, cognitive, and emotional labors, while to express one's self is to display real identity, thoughts, and feelings. Such state of harnessing one's self is often characterized as involving vigor, dedication, and absorption (Schaufeli, Martinez, Marques, Salanova, & Bakker, 2002); attention (Rothbard, 2001); and the opposite of burnout (Maslach, Schaufeli, & Leiter, 2001). Kahn (1990) also suggests that employee engagement is associated with three psychological conditions: meaningfulness (value of a work goal), psychological safety (ability to engage the self without fear of negative consequences), and availability (resourcefulness to employ one's self). These studies on employee engagement has provided some potential transferable insights into my investigation of consumer engagement as a concept.

2.2.2. Consumer engagement

2.2.2.1. Practitioner definitions

Consumer engagement has drawn increasing interest among marketing practitioners during the last 15 years (e.g., Appelbaum, 2001). Practitioner definitions of the consumer engagement concept are generally straight-forward but often quite different from one another. Nevertheless, many practitioners' interpretations of consumer engagement seem to emphasize the "interactions" between the consumer and the focal object. For example,

"We propose a new metric, engagement, that includes four components: involvement, interaction, intimacy, and influence" (Haven, Bernoff, & Glass, 2007)

"Consumer engagement is repeated and satisfying interactions that strengthen the emotional connection a consumer has with a brand (or product or company)" (Shevlin, 2007)

"Consumer online engagement is an estimate of the degree and depth of visitor interaction on the site" (Peterson, 2007)

"I am more inclined to define engagement as a consumer based measurement that relates to interaction with an aspect of a brand or media property" (Ghuneim, 2008)

"Consumer engagement is repeatedly interactions that strengthen a consumer's emotional, psychological or physical investment in a brand." (Sedley, 2010)

2.2.2.2. Academic definitions

After generating a significant interest among practitioners, the concept of engagement has rapidly attracted attention in the academic marketing literature in the last decade. In response to MSI - Marketing Science Institute's (2006, 2010) repeated calls for a better understanding of consumer engagement from a marketing perspective, the 2010 Journal of Service Research Special Issue included a number of articles on consumer engagement (e.g., Bijmolt et al., 2010; Kumar et al., 2010; Van Doorn et al.,

2010; Verhoef, Reinartz, & Krafft, 2010). Since then, the concept of engagement has evolved among marketing scholars. Appendix 1 provides an overview of engagement definitions proposed in the academic marketing literature which revealed the following observations.

First, there are a number of engagement-based concepts, including customer engagement (e.g., Brodie et al., 2011; Maslowska et al., 2016; So et al., 2016), consumer engagement (e.g., Dessart, Veloutsou, & Morgan-thomas, 2015; Vivek et al., 2012), consumer brand engagement (e.g., Dwivedi, 2015; Gambetti, Biraghi, Schultz, & Graffigna, 2016; Hollebeek et al., 2014; Leckie et al., 2016), online engagement (e.g., Calder, Malthouse, & Schaedel, 2009; Mollen & Wilson, 2010), online brand community engagement (e.g., Algesheimer et al., 2005; Brodie et al., 2013), and advertising engagement (e.g., Phillips & McQuarrie, 2010), etc.

As Hollebeek (2013) pointed out, the engagement concept appears typified by a “who engages with what” approach which specifies the engagement subject (e.g., consumer, customer, audience) and the engagement object (e.g., a brand, a product, an advertisement, a website, etc.). Regarding the engagement subject, academics seem to treat the term “consumer” and “customer” as equivalent; whereas the term “audience” is mostly used in the media context, e.g., online advertising, social networking sites (SNSs), etc. In this dissertation, I treat these three terms as equivalent, which encompass all types of customers, including possible customers (i.e., individuals interacting with the brand who are not yet in the purchase decision-making stage), potential customers (i.e., those who may be considering the brand), and current customers (i.e., those who have purchased products or service of the brand). As for the engagement object, it can be as broad as a brand, which refers to the “totality of all

stakeholders' mental associations about an organization" (Brown, Dacin, Pratt, & Whetten, 2006, pp.101) or as specific as an offering, an activity, or any other entity designed to communicate brand value, such as specific products/services, a piece of communication (e.g., an advertisement, an event), or a specific communication agent/channel (e.g., a company's official Facebook page, a brand's mascot or celebrity endorser, or of course a CEO's microblog, etc.)

Second, in accordance with practitioners' emphasis on "interactions", there is an emerging consensus among academics that the central idea of consumer engagement is about consumer interactive experiences. Academics tend to agree that consumer engagement "occurs by virtue of the interactive, co-creative customer experiences with a focal agent/object" (Brodie et al., 2011, pp.260).

Third, similar to the concept of employee engagement, the majority of the reviewed consumer engagement definitions have employed a multidimensional approach. Consumer engagement has been conceptualized as having cognitive, affective, and behavioral dimensions, although expressions of these dimensions may vary. To begin with, cognition is generally viewed as "the mental action or process of acquiring knowledge and understanding through thoughts, experience, and the senses" (Stevenson, 2011). It encompasses processes such as attention, learning, processing and reasoning (Revlin, 2013). Marketing researchers emphasize different aspects of cognition when expressing engagement's cognitive dimension. Some focus on "attention", such as Dwivedi (2015) and Dessart et al. (2016) "absorption", Hollebeek (2011b) "immersion", and Higgins & Scholer (2009) "sustained attention"; whereas others stress "processing and reasoning", such as Mollen & Wilson (2010) "sustained cognitive processing", Hollebeek et al. (2014) "thought processing and elaboration",

and Bowden (2009) “calculative commitment”, etc.

The affective dimension is viewed by a few authors as a polar negative/positive concept. For example, Higgins & Scholer (2009) recognize that there are not only positive expressions of affective engagement (i.e., “attraction”), but also potentially negative expressions of the concept (i.e., “repulsion”). However, to date, marketing literature has focused predominantly on positive, as opposed to negative, expressions of affective engagement. Example expressions include Bowden (2009) “affective commitment”, Mollen & Wilson (2010) “experiential value”, Hollebeek (2011b) “passion”, Brodie et al. (2014) “affect”, Dwivedi (2015) “dedication”, and Dessart et al. (2016) “enthusiasm” and “enjoyment” etc.

Similar to the affective dimension, with the exception of Higgins & Scholer (2009) and Brodie et al. (2013), the majority of authors focus on positive expressions when discussing the behavioral dimension of engagement. That is reflected by Patterson et al. (2006) and So et al. (2016) “vigor/interaction”, Bowden (2009) “repeat purchase”, Calder et al. (2009) “social facilitation”, Van Doorn et al. (2010) “WOM” and “recommendations”, Phillips & McQuarrie (2010) “identify” and “act”, Hollebeek et al. (2014) “activation”, Zheng et al. (2015) “participation and promotion behavior”, Dessart et al. (2016) “sharing, learning, and endorsing”, and Pansari & Kumar (2017) “contribution”, etc.

2.2.2.3. Working definition

The above three themes observed from the literature review has provided a basis for my development of a general definition of consumer engagement. I define consumer engagement as consumers’ cognitive, affective, and behavioral presence in

their interactive experiences with a focal object. The engagement subject “consumer” can be an existing customer or a potential customer, or even a possible customer. The focal engagement object can be a brand or any entity designed to communicate brand value, e.g., a specific product/ service, a piece of communication, a specific communication agent/ channel, etc. The “interactive experiences” is context-specific depending on the engagement object. For example, if “brand” is the engagement object, the consumer’s “interactive experiences” may include the consumption of the brand’s offerings, participation in the brand’s activities, and communication with the brand’s representatives, etc. As to the three dimensions capturing the consumer’s presence in his/her interactive experiences with the focal object, the cognitive dimension is defined as the cognitive resources (e.g., attention, immersion, thought elaboration) that the consumer allocates to the focal object; the affective dimension refers to the consumer’s positive affect formed with the focal object; and the behavioral dimension describes the consumer’s positive behavioral manifestation towards the focal object.

Since the focus of this study is the microblogging activity of CEOs, I have therefore adapted the above general definition of consumer engagement to that specific context: consumer engagement with a CEO’s microblog refers to consumers’ cognitive, affective, and behavioral presence in their interactive experiences with the CEO on microblog. The “interactive experiences” with the microblog may include the consumer’s consuming (e.g., reading/ viewing posts), contributing to (e.g., replying to posts), and creating (e.g., retweeting posts) content related to the CEO’s microblog. As to the three dimensions, the cognitive dimension is defined as the cognitive resources (i.e., attention, immersion, thought elaboration) that the consumer allocates to the CEO microblog; the affective dimension refers to the consumer’s positive affect formed with

the CEO microblog; and the behavioral dimension describes the consumer's positive behavioral manifestation towards the CEO microblog, such as following or replying to the CEO, liking or retweeting the CEO's Tweets, etc. This working definition has provided a basis for the investigation of my research problems, in particular, when I was later trying to identify potential engagement antecedents (see Chapter 2) and develop a measurement scale for consumer engagement with a CEO microblog in the experiment (see Chapter 10).

2.3. Enquiry into theoretical root of consumer engagement

Beyond making an effort in defining consumer engagement, several academics have attempted to find a useful theoretical lens for a better understanding of the nature of this concept. In this section, I will therefore review the current debate on this issue and share my thoughts.

2.3.1. Debate around S-D logic of marketing

Brodie et al. (2011) was among those very few early academic authors who look into the theoretical foundation of consumer engagement. They suggest since consumer engagement is a concept emphasizing consumers' interactive experiences, theories that address the interactive experiences of consumers in marketing relationships can be used to explain the theoretical roots of the concept. The theory that the authors identified was the "Service-Dominant logic" of marketing (Vargo & Lusch, 2004, 2008). This perspective of marketing, drawing on the writings of Prahalad & Ramaswamy (2000, 2002, 2003, 2004a, 2004b) on co-creation of value, offers a "transcending view of marketing" which contrasts with the traditional transactional view of marketing (Vargo, 2009). Brodie et al. (2011) believe that this broader

relational perspective is a fruitful theoretical lens for consumer engagement because this approach stresses that all value creation is interactional and the consumer is always a co-creator of value (Vargo & Lusch, 2008).

Van Doorn (2011) held a slightly different opinion regarding using S-D logic of marketing in conceptualizing engagement. While recognizing the usefulness and rationale for using the S-D logic of marketing as a theoretical foundation of consumer engagement, Van Doorn (2011) was concerned that the “adoption of this theoretical lens will result in a broad conceptualization of engagement; perhaps extending to all exchange relationships and to all consumers, implying that every consumer is also an engaged consumer” (pp.280). That, in Van Doorn's (2011) opinion, is not completely aligned with the conceptualization of the engagement construct presented in prior literature, which the author believes has taken a narrower approach and defined engagement as something that occurs beyond the ordinary, such as “a behavioral manifestation toward the brand or firm that goes beyond transactions” (Verhoef, Reinartz, & Krafft, 2010, pp.248).

In my opinion, despite Van Doorn's (2011) concern, the S-D logic of marketing serves as an appropriate theoretical lens for consumer engagement (although not without its shortcomings which I will discuss towards the end of this section). First of all, Vargo & Lusch (2004, 2008) have well explained the S-D logic of marketing regarding “all value-creation is interactional” and “the consumer is always co-creator of value”. This perspective has been well-received among marketing academia and has become an influential perspective in current marketing research. The foundational article by Vargo & Lusch (2004) on S-D logic has been cited 8,384 times by the date of May 10th, 2016. These authors suggest that the interactive consumer co-creation

experiences can be interpreted as the act of “engaging” (Lusch & Vargo, 2010). Taking on this perspective, I see no problem of claiming that “every consumer is an engaged consumer”. There are certainly consumers who go a step further than consumers who are just interacting with the brand/firm through transaction alone, and in this case I believe that engagement “valence” can well differentiate them – though every consumer can be viewed as an engaged consumer, they can differ in terms of their degree/valence of engagement.

Second, in prior literature, while there has been a narrower approach in describing consumer engagement as a unidimensional behavioral concept, the broader approach which takes on a multidimensional perspective of engagement is more prominent, as reviewed in the earlier section. Therefore, a broader conceptualization of engagement comprising more than the behavioral dimension might be more in-line with the conceptualization of the engagement construct discussed in prior literature.

Third, although Brodie et al. (2011) have also proposed in their article that besides the S-D logic of marketing, future research could also consider other theories such as consumer culture theory (Arnould & Thompson, 2005) and social practice theory (Bourdieu, 1977) as possible theoretical perspectives underlying the emerging engagement concept, most academic research following Brodie et al.'s (2011) article have opted to adopt the S-D logic of marketing as the theoretical lens when conceptualizing consumer engagement (e.g., Banyte & Dovaliene, 2014; Brodie et al., 2013; Chathoth et al., 2016; Hollebeek, Srivastava, & Chen, 2016; Vivek et al., 2012). That provides further support for the S-D logic underpinning the conceptual roots of consumer engagement.

Another concern of Van Doorn (2011) regarding a broad conceptualization of consumer engagement is the resulting challenge in distinguishing engagement from other consumer relational constructs, such as consumer satisfaction, loyalty, involvement, etc. Indeed, that is a tough task. But I noticed that researchers have recently been making progress in this regard. For example, consumer engagement with a brand is distinct from consumer involvement with a brand: the latter reflects an individual's level of interest in, and personal relevance of, the brand (Bienstock & Stafford, 2006; Mittal, 1995; Zaichkowsky, 1985), whereas engagement seeks to explain the dynamics characterizing the focal interactive consumer brand relationship (Brodie et al., 2011; Hollebeek, 2011b; Hollebeek et al., 2014). Engagement is also distinct from satisfaction and loyalty. While engagement is a personal and motivational state arising out of the consumer's experiences with the product or service, satisfaction is "an integrative and usually post-hoc evaluation of a product or service". Factors that are likely to impact satisfaction, e.g., price, availability, are less likely to influence engagement (Calder et al., 2013). As for consumer loyalty, it is the "strength of the relationship between an individual's relative attitude and repeat patronage" (Dick & Basu, 1994, pp.99). Loyalty and satisfaction are generally suggested to be the consequences of engagement while involvement is generally viewed as an engagement antecedent (Banyte & Dovaliene, 2014; Chan, Zheng, & Cheung, 2014; France et al., 2016; Leckie et al., 2016; Maslowska et al., 2016; So et al., 2016; Zheng et al., 2015).

2.3.2. Further on S-D logic

Based on the above, the S-D logic of marketing serves as a legitimate theoretical lens for consumer engagement as it captures the essence of this concept, i.e., the interactive consumer experiences. However, there is an important aspect of consumer

engagement that the S-D logic may not be able to fully capture. That is the three-dimensional structure of consumer engagement. As discussed in Section 2.2, consumer engagement is often conceptualized as a multi-dimensional construct comprising cognitive, affective, and behavioral aspects. A better understanding of such composition is critical for identification and examination of key drivers of consumer engagement, which is one of my main research goals.

In my investigation of how specific factors affect those different dimensions of consumer engagement with a CEO microblog, I found theories from the attitude and persuasion literature, in particular, the Elaboration Likelihood Model (ELM) and Heuristic-Systematic Model (HSM), useful in providing theoretical guidance (see next Chapter for full details).

2.4. Summary

In this chapter, I reviewed the emerging marketing literature on consumer engagement including its conceptualizations, definitions, and theoretical foundations.

By synthesizing various conceptualizations proposed in marketing practitioner and academic literature, I offered both a general and a microblog context specific definition of consumer engagement. Establishing a working definition of consumer engagement for the microblogging context has provided a basis for the investigation of my research problems, in particular, when I was trying to identify potential engagement antecedents and develop a measurement scale for consumer engagement with a CEO microblog in the experiment.

The second half of the chapter was dedicated to the current debate around using the S-D logic of marketing as a theoretical lens for understanding the nature of

consumer engagement. Through reviewing opinions posed by different camps in this debate, I acknowledged the usefulness of the S-D logic in capturing the essence of consumer engagement, i.e., the interactive consumer experiences. Further to that, I proposed using the Elaboration Likelihood Model (ELM) and the Heuristic-Systematic Model (HSM) as a complement to the S-D logic in identifying and examining potential drivers of consumer engagement, and that will be elaborated in full detail in the next chapter.

Chapter 3 Exploring consumer engagement antecedents

– Reviewing attitude and persuasion literature

Brief content:

3.1. Introduction

3.2. An overview of ELM and HSM

3.3. Developing CEO microblog engagement model

3.3.1. Understanding dimensions of consumer engagement

3.3.1.1. Three-dimensional structure

3.3.1.2. Affective-Cognitive and Affective-Behavioral engagement links

3.3.2. Firm-related engagement antecedents

3.3.2.1. Content variables – systematic route processing

3.3.2.2. Language variables – Heuristic route processing

3.3.2.3. Interactional effort variables

3.3.2.4. Further specification and testing needed

3.3.3. Consumer-related engagement antecedents

3.4. Summary

3.1. Introduction

As discussed in the previous chapter, theories from the attitude and persuasion literature, in particular, the Elaboration Likelihood Model (ELM) (Petty & Cacioppo, 1986) and the Heuristic-Systematic Model (HSM) (Chaiken, 1980, 1987), are considered as being able to provide some useful theoretical frameworks for the exploration of potential drivers of consumer engagement in my study.

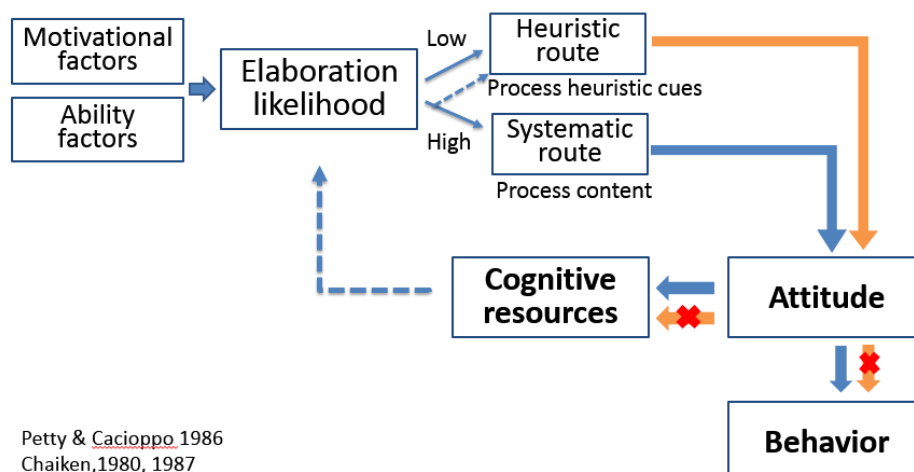
Although both the ELM and the HSM were developed in the 1980s, and therefore predate the rise of social media, they are still, nevertheless, useful for understanding individuals' processing of persuasive message in social media, such as a sponsored Tweet, a picture posted by a celebrity endorser on Facebook, or words from a friend talking about a brand (Chang, Yu, & Lu, 2015; Chung & Han, 2016; Kerr, Schultz, Kitchen, Mulhern, & Beede, 2015; Teng, Khong, & Goh, 2015). In this chapter, I will further demonstrate that the ELM and the HSM frameworks can be used to study what happens to individuals when they evaluate non-overly-persuasive messages, i.e., a stream of Tweets from a CEO – the ambassador of the firm.

3.2. An overview of ELM and HSM

Persuasion has been a key topic of study for scholars interested in attitude change (Eagly & Chaiken, 1993). Over the past three decades, the ELM and the HSM, by integrating literature on source, message, receiver, and context effects in persuasion, have proved to be fruitful frameworks stimulating an abundance of new research.

Below is a diagram summarizing the essence of these two models.

Diagram 1. Overview of ELM & HSM



The central idea of these dual-processing models is that, when presented with a persuasive message, there are in general two different routes to attitude change. When elaboration likelihood (i.e., the cognitive resources spared for elaboration) is low, people often adopt a peripheral, or heuristic route of processing – in which people use heuristics to form their attitude. Heuristics can be understood as rules of thumb, stereotyping, mental short cuts, or the application of common sense. For example, people may think that a message written in formal language should be more credible than one that is written in informal language. That is indeed intuitive and superficial. But it is simple and efficient and requires minimal cognitive elaboration. On the contrary, when elaboration likelihood is high, the central, or systematic route is activated. Now people not only pay attention to cues peripheral to the message content (heuristic route), but also thoughtfully examine the content of the message (systematic route). Notice that heuristic and systematic processing can act simultaneously. But attitude change obtained through the systematic route is likely to be more enduring over time and more directive of subsequent behavior and cognitive resources (e.g., attention, elaboration, immersion, etc.) allocated to messages of the same source in the future. (For more comprehensive reviews of these concepts, see Booth-Butterfield & Welbourne, 2002; O’Keefe, 2012; Teeny, Brinol, & Petty, 2017; Todorove, Chaiken, & Henderson, 2002).

As to what may influence an individual’s elaboration likelihood, prior research has identified two broad categories of such factors: (1) motivational factors, such as involvement or personal relevance in the issue (e.g., Petty, Cacioppo, & Goldman, 1981); accountability (e.g., Harkins & Petty, 1981; Tetlock, 1983); and anticipated interaction regarding the issue (e.g., Chaiken, 1980). (2) ability factors, including

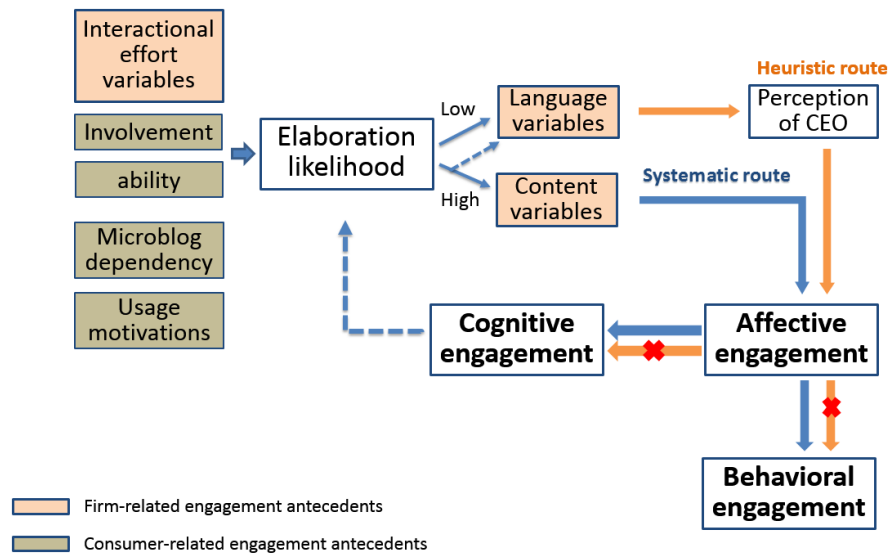
prior knowledge of the issue (e.g., Petty & Cacioppo, 1986); distraction (e.g., Petty, Wells, & Brock, 1976); message repetition (e.g., Cacioppo & Petty, 1989); and time pressure (e.g., Kruglanski & Freund, 1983).

3.3. Developing CEO microblog engagement model

Although the ELM and the HSM were initially developed to understand individuals' processing of persuasive messages, such as an advertisement or a political campaign, these models can also be useful when considering non-overly persuasive messages (Slater, 2002), such as a film, a novel, a piece of news, and indeed CEOs' posts on their microblogs. Drawing from the dual-processing theories, I have developed an initial model below to portray consumer engagement with a CEO microblog, which proposes four consumer-related and three categories of firm-related factors as potential antecedents of consumer engagement with a CEO microblog. The four consumer-related factors are consumer involvement, ability, microblog dependency, and microblog usage motivations. The three categories of firm-related factors concern CEOs' use of microblogs. They include content variables, language variables, and interactional effort variables. In this section, I will explain how my initial model (the prototype version)¹¹ is developed, how each potential antecedent of engagement is identified, and what is needed for further specification and testing regarding these variables.

¹¹ A revised version is provided in Chapter 10 based on results of my Phase (I) research. At this stage, please just focus on the prototype version.

Diagram 2. CEO microblog engagement model (Prototype version)



3.3.1. Understanding dimensions of consumer engagement

3.3.1.1. Three-dimensional structure

Consumer engagement with a CEO microblog is defined as “consumers’ cognitive, affective, and behavioral presence in their interactive experiences with the CEO on microblog” (see Chapter 2 Section 2.2). A key to this definition is that engagement is a multidimensional concept comprising cognitive, affective, and behavioral aspects.

Referring back to Diagram 1, which summarizes the ELM and the HSM, we can start to see some similar concepts:

(1) “Attitude”: Affective engagement refers to the consumer’s affect and feelings towards the CEO microblog. It is essentially describing an attitudinal concept. So in my model, I have replaced “attitude” with “affective engagement” as illustrated in Diagram 2.

(2) “Cognitive resources”: Since cognitive engagement is defined as the cognitive resources that the consumer allocates to a CEO microblog, I have replaced “cognitive resources” with “cognitive engagement” in my model.

(3) “Behavior”: Behavioral engagement describes the consumer’s behavioral manifestation towards a CEO microblog, e.g., following or replying to the CEO, liking or retweeting the CEO’s Tweets. Therefore, in my model, I have replaced “behavior” with “behavioral engagement”.

3.3.1.2. Affective – Cognitive & Affective – Behavioral engagement links

Now, in order to understand the interplay between the cognitive, affective, and behavioral dimensions of engagement, we need to examine the relationships between cognition, attitude, and behavior. A common-sense view can lead people to expect cognition, attitude, and behavior to be in agreement all the time. And a further common assumption is that, if we can change someone’s attitude, their subsequent behavior will be changed accordingly. It may well be that this is indeed the way that things work. But there are occasions when the congruity between cognition, attitude, and behavior is much weaker than expected.

In fact, the attitude – cognition gap has been a well-recognized phenomenon. For example, a person may hear a language that they are unable to identify but which they nonetheless judge as “pleasant” or as “ugly” (Bezooijen, 1994); or a person may cognitively recognize dental check-up as a sensible routine for health reasons, but affectively, their feelings lack the same level of positivity about making a particular dental visit (Hewstone, Manstead, & Stroebe, 1997). The attitude – behavior gap has received even wider recognition. It is particularly well researched in areas where

people hold generously, highly positive views of a specific behavior but where they tend not to follow up on these views. Such areas include, for example, pro-environmental behavior, health behavior, charitable giving, volunteering, and purchasing (e.g., Boulstridge, 2000; Kollmuss & Agyeman, 2002; Vermeir & Verbeke, 2006).

Regarding these gaps, dual-processing researchers have offered their particular interpretation: attitude obtained through the systematic route is likely to be more directive to subsequent behavior and cognitive resources allocated to messages from the same source in the future (for the relevant reviews and discussions, see Petty & Cacioppo, 1986, pp.173-195; Petty, Haugtvedt, & Smith, 1995; Petty & Wegener, 1999, pp.61-65). The underlying reasoning is that systematic route processing consists of thoughtful examination of the actual content and central issue of the message which should lead to better attitude strength and stability (e.g., Bassili, 2008; Farc & Sagarin, 2009; Petty & Krosnick, 1995; Visser, Bizer, & Krosnick, 2006).

Therefore, I have proposed in my model that affective engagement formed through the systematic route is likely to influence the consumer's cognitive and behavioral engagement with the CEO microblog; whereas the affective engagement formed through the heuristic route will not (For detail manifestations of these propositions, please see my hypotheses in Chapter 10). Now it is time to investigate what may be potential systematic-route and heuristic-route drivers of affective engagement.

3.3.2. Firm-related engagement antecedents

3.3.2.1. Content variables – systematic route processing

Both content and language can influence attitude, but through different routes. Message content variables are commonly associated with central/systematic route processing (e.g., Allen & Reynolds, 1993; McGarty, Halsam, Hutchinson, & Turner, 1994; Stiff, 1986).

In the field of marketing and communication, considerable research attention has been paid to the effect of message content on the receiver's attitude towards the communication. Content variables that have received extensive empirical attention include one-sided versus two-sided messages (for a review, see Eisend, 2006, 2007), gain-loss framing (for a review, see Cacioppo, Gardner, & Berntson, 1997), threat appeals (for a review, see Hoog, Stroebe, & Wit, 2007; Witte & Allen, 2000), and conclusion omission (e.g., Aaker, 2001; Hornikx & O'Keefe, 2009; Orbell & Hagger, 2006; Orbell & Kyriakaki, 2008).

Therefore, I propose that content variables, i.e., the characteristics of the CEO's microblog in terms of content, present a broad category of potential firm-related factors influencing consumers' attitude towards the CEO's microblog through systematic-route processing (content variables → consumer affective engagement with a CEO microblog).

3.3.2.2. Language variables – Heuristic route processing

Prior studies suggest that variations in language styles affect the audience's perception of the source (e.g., source credibility, source attractiveness, etc.), which have been commonly treated as heuristic cues influencing attitudes.

Since microblogs are largely in text-based format, it is reasonable to infer that language variables would become an important influence on consumers' perception of the CEO. One well-studied language variable is POS – power of style. For example, Sparks, Areni, & Cox (1998) have examined how “powerful” and “powerless” language styles influence the evaluation of a speaker's authoritativeness and credibility; Hurwitz, Miron, & Johnson (1992) have looked into the impact of POS on source credibility in the courtroom; Adkins & Brashers (1995) have investigated the effect of such language styles on source credibility, attractiveness, and persuasiveness in computer-mediated communications (CMC). Some studies of language variables in CMC have also focused on politeness/ impoliteness and grammatical use (e.g., Jessmer & Anderson, 2001), as well as the use of standard or colloquial language (e.g., Tan, Swee, Detenber, & Alsagoff, 2008). These studies suggest that variations in language styles affect the audience's perception of the source. And because perceptions of the communication source has been widely studied as having a crucial influence on audience's attitude (e.g., Clark & Evans, 2014; Lisa M. Given, 2008; K. O'Reilly, Macmillan, Mumuni, & Lancendorfer, 2016; Wu & Shatfer, 1987), I believe that in the microblogging context, language variables of a CEO microblog may also be a critical variation influencing consumers' perceptions of the CEO, which, in turn, will influence their affective engagement with the CEO's microblog. And because language variables have been commonly treated as a cue peripheral to the content of message (as they require minimal cognitive resources for elaboration), I treat the path: “language variables → consumer perceptions of the CEO → consumer affective engagement with a CEO microblog” as a heuristic route in my model.

3.3.2.3. Interactional effort variables

As summarized in Section 3.2, the ELM and the HSM posit that when elaboration likelihood is low, individuals adopt a heuristic route of processing; and when elaboration likelihood is high, the systematic route is activated and, as such, people not only pay attention to heuristic cues but also thoughtfully examine the content of the message. Regarding what may influence an individual's elaboration likelihood, prior research has identified two broad categories of such factors: motivational factors and ability factors.

Since by definition, the “interactive experiences” of consumers with the focal object is the essence of consumer engagement, I propose that the CEO's effort in creating and enhancing consumer interactive experiences, termed as “interactional effort variables”, constitutes a broad category of potential motivational factors influencing consumers' elaboration likelihood when viewing a CEO's microblog.

To elaborate, when viewing a CEO microblog, if the CEO does not make an effort in drawing the audience into the conversation, we might expect readers to be less likely to be motivated to spare much cognitive resources to elaborate what the CEO says in his/her microblog posts. Instead, readers might just briefly browse through the microblog deploying limited cognitive resources (i.e., low elaboration likelihood). At this time, only heuristic cues, such as language variables used by the CEO, which require minimal cognitive resources, might be noticed and processed (i.e., heuristic route).

By contrast, if the CEO does make an effort in drawing the audience into the conversation, readers would be more likely not only to notice and process heuristic

cues (such as the language used by the CEO) but also be more motivated to pay attention to and more fully consider what the CEO actually says (i.e., content) in his/her microblog posts (i.e., high elaboration likelihood – systematic route).

3.3.2.4. Further specification and testing needed

It should be noted that the content, language, and interactional effort variables discussed above represented three broad categories of potential firm-related factors which require further specification as to what exactly these variables may be or how they may ultimately be manifested in a CEO microblogging context.

Further investigation is needed to find out what specific effort(s) CEOs make in creating and enhancing audience's interactive experiences, what CEOs tweet in terms of content, and how CEOs tweet in terms of language use. That, in my opinion, merits a qualitative exploration of CEOs' use of microblog in dialogue with the audience through, for example, content analysis of existing CEO microblogs, focus group discussions, etc. When these three firm-related variables become more concrete and specific, quantitative methodologies (e.g., experimentation) can be used to test how they affect and/or interact to generate consumer engagement with a CEO's microblog. As such, my research questions could then be addressed.

Regarding what methodologies are used and how my research is designed, please refer to the next three chapters, i.e., Chapters 4 - 6. But before that, let's look at what prior literature has suggested as consumer-related engagement antecedents.

3.3.3. Consumer-related engagement antecedents

Identification of consumer-related factors is important, as such factors often need to be controlled when analyzing the influence of firm-related factors on

consumer engagement with the focal object.

Prior research has either suggested or implied some individual-related factors that may influence a person's elaboration likelihood (e.g., involvement and ability) or engagement level with a focal object (e.g., motivations and media dependency). I have sought to adapt these factors to my research setting and have decided to treat them as important covariates that require controlling in my research.

Consumer involvement with the relevant industry

Consumer involvement refers to an individual's perceived relevance of an object based on his/her inherent needs, values, and interests (Zaichkowsky, 1985). It is a state of mental readiness which has been found to influence the allocation of cognitive resources to a consumption object (Park & Mittal, 1985), by producing greater external search (Beatty & Smith, 1987), greater depth of processing (Burnkrant & Sawyer, 1983), and more elaboration (Petty & Cacioppo, 1986). Recent studies have also suggested involvement as a potential antecedent of engagement (e.g., France et al., 2016; Leckie et al., 2016). Therefore, consumer involvement with the CEO's industry (which should encompass information related to the CEO's work, the firm's business, competitors, etc.) is likely to influence the consumer's elaboration likelihood as well as engagement when viewing a CEO microblog, and thus needs to be controlled.

Consumer ability

Ability is also said to influence elaboration likelihood. For instance, even for individuals highly involved in the communication topic and thus very motivated to elaborate, if they lack the knowledge to evaluate the particular message, their elaboration is bound to be constrained. So consumer ability should also be controlled.

Consumer microblog dependency

Consumers are increasingly relying on social media as their primary information and entertainment sources and social interaction platforms (Muntinga, Moorman, & Smit, 2011). Media dependency refers to “the relation reflecting how individuals’ goals are conditional upon the resources media afford” (In other words, how much individuals rely on a media platform in order to satisfy their needs) (Sun, Rubin, & Haridakis, 2008, p.411). Media dependency is found to affect various attitudinal and behavioral outcomes, such as trust (Jackob, 2010) and purchase (Alcañiz, Blas, & Torres, 2006). Tsai & Men (2013) brought this concept into engagement research and found that consumers’ social media dependency positively influences their engagement behaviors with Facebook brand pages. Therefore, consumers’ microblog dependency can potentially influence their engagement with a CEO’s microblog. As a result, I believe this variable also needs to be controlled.

Consumer motivations in viewing CEO microblogs

Another consumer-related factor that may need controlling is consumer motivations. There is a growing literature on social media usage and motivation. Prior research has identified six primary motivators for using social media: Information – search for information, advice, knowledge, opinions, etc. (Kaye, 2007; Park, Kee, & Valenzuela, 2009); entertainment – gratification, relaxation, enjoyment, emotional release, etc. (Park et al., 2009; Shao, 2009); personal inspiration – self-expression, self-identity, self-fulfillment (Papacharissi, 2007); social interaction – belonging, interpersonal connections, social empathy, etc. (Daugherty, Eastin, & Bright, 2008; Kaye, 2007); empowerment – demand of improvement and excellence from the

company (Muntinga et al., 2011); and remuneration – rewards, economic incentives (Youcheng & Fesenmaier, 2003). Men & Tsai (2013) suggested that consumers' motivations can drive their engagement with a brand page on Facebook. Therefore, I decided to also control this group of factors.

3.4. Summary

This chapter is about identification of potential consumer- and firm-related drivers of consumer engagement with a CEO's microblog. Drawing from attitude and persuasion literature, in particular the ELM and the HSM, I have developed a model to study the effect of different factors on each of the three dimensions of consumer engagement with a CEO microblog.

My model propose four consumer-related and three categories of CEO microblogging (i.e., firm-related) factors as potential antecedents of consumer engagement with a CEO microblog. The four consumer-related factors are: consumer involvement with the relevant industry, ability, microblog dependency, and motivations in viewing a CEO microblog. Identification of consumer-related factors is important as such factors often need to be controlled when analyzing the influence of firm-related factors on consumer engagement.

The three categories of CEO microblogging factors are content, language and interactional effort variables. They require further specification as to what exactly these variables may be. That merits a qualitative exploration of CEOs' use of microblog in dialogue with the audience. Then when these three categories of variables become more concrete and specific, quantitative methodologies can be used to test how they affect consumer engagement with a microblog. As to what

methodologies are used and how my research is designed, please refer to the next three chapters: Chapters 4 – 6.

Research Design & Methodologies Chapters

The following three chapters present and justify the methodological foundations of my research. This begins with a review and evaluation of three general research design approaches, i.e., quantitative approach, qualitative approach, and mixed methods approach, followed by an explanation of how I decided which research approach to adopt in my research (see Chapter 4).

Chapter 5 and Chapter 6 highlight my choices of research methods and discuss how the research is designed in greater detail. Specifically, Chapter 5 focuses on the design of Phase (I) of my research, while Chapter 6 addresses the design of my research Phase (II).

Chapter 4

Overview of research design

Brief content:

- 4.1. Introduction
 - 4.2. What is a research approach?
 - 4.3. Quantitative approach
 - 4.3.1. Philosophical worldview of quantitative approach
 - 4.3.2. Quantitative methodologies
 - 4.3.3. Quantitative research methods
 - 4.4. Qualitative approach
 - 4.4.1. Philosophical worldviews of qualitative approach
 - 4.4.2. Qualitative methodologies
 - 4.4.3. Qualitative research methods
 - 4.5. Mixed methods approach
 - 4.5.1. Philosophical worldviews of mixed methods approach
 - 4.5.2. Methodologies associated with mixed methods approach
 - 4.5.3. Research methods associated with mixed methods approach
 - 4.6. Research approach selection
 - 4.6. Summary
-

4.1. Introduction

As discussed in the previous chapter, I anticipate that the three proposed categories of CEO microblogging factors require further specification and that might merit a qualitative exploration of CEOs' use of microblog in dialogue with the audience. Then when these three firm-related variables become more concrete and specific, quantitative methodologies can be used to test how they affect consumer

engagement with a CEO microblog. The intuition outlined above suggests that a mixed methods approach might suit my research. The notion about mixed methods approach is to combine quantitative and qualitative methods in a pragmatic manner in addressing the research question.

In this chapter, I will review what quantitative and qualitative approaches are and the ways in which methods from these two distinctive approaches can be combined in a mixed methods approach.

4.2. What is a research approach?

According to Creswell (2003, 2014), a research approach is the approach a research adopts in addressing the following three central questions:

- 1) What philosophical worldviews (or knowledge claims) are held by the researcher? That include epistemologies (e.g., objectivism, subjectivism, etc.) and theoretical perspectives (e.g., positivism, post-positivism, constructivism, pragmatism, etc.)
- 2) What methodologies (e.g., experiments, surveys, ethnographies, case studies, etc.) will inform the research procedure?
- 3) What methods of data collection and analysis will be used?

There are generally three approaches to answer these above questions: quantitative, qualitative, and mixed methods approaches. The first approach has dominated the social and human science research during the late 19th century and throughout the 20th century (Campbell & Stanley, 1963; Cooper, Heron, & Heward, 1987; Neuman & McCormick, 1995). The second one has visibly arisen during the 1990s and into the 21st century (Clandinin & Connelly, 2000; Corbin & Strauss, 1990;

Strauss & Corbin, 1998; Wolcott, 1994). The last approach has its concept originated in 1959 when Campbell and Fisk used multimethod matrix to examine multiple approaches to data collection in their study of psychological traits (Creswell, 2014). However, it had been less well-known than the former two approaches until early 21st century when Creswell & Clark (2007), Creswell (2003), and Tashakkori & Teddlie (2003) began to elaborate methodologies and summarize procedures for mixed methods approach. This last approach is new and still developing.

Figure 1 is a summary of my review of the three approaches to research design derived from Creswell (2003, 2014) and I will elaborate each approach element in the following sections.

Figure 1. Overview of research approaches

	Quantitative approach	Qualitative approach	Mixed methods approach
Philosophical worldviews	Post-positivism	Constructivism/ Interpretivism	Pragmatism
Methodologies	Experiments Surveys etc.	Ethnographies Grounded theory Case studies Narratives etc.	{ Sequential - Concurrent { Equal status - Dominant status - etc.
Research methods			
Data	Quantitative e.g., Numeric	Qualitative e.g., Textual, audiovisual	Mixed
Collection	Questionnaires Interviews (structured)	Interviews Individual or group; Structured or unstructured Observations	Mixed
Analysis	Statistical analysis	Content analysis	Mixed

4.3. Quantitative approach

4.3.1. Philosophical worldview of quantitative approach

The most widely-used philosophical worldview associated with a quantitative approach is postpositive philosophy. Post-positivism refers to the thinking after positivism. Positivists contend that social enquiries should be treated as entities in much the same way that scientists treat physical phenomena. Moreover, they maintain that social observations should be objective, i.e., time- and context- free generalizations (Nagel, 1986). Accordingly, quantitative researchers endeavor to emotionally detach themselves from the objects of study so as to eliminate their biases (Johnson & Onwuegbuzie, 2004). Notice that post-positivism challenges the traditional positivistic school of thought about the absolute truth of knowledge, recognizing that in the domain of social and human science, we cannot be absolutely “positive” about our claims of knowledge (Phillips & Burbules, 2000; Smith, 1983).

Phillips & Burbules (2000) summarized five key post-positivistic assumptions as follows:

- 1) Knowledge is conjectural – absolute truth cannot be found. Thus post-positivistic researchers do not prove hypotheses, but instead, they indicate whether or not to reject them.
- 2) Research is the process of making hypotheses and then testing them, in this way, claims can be refined to become more strongly warranted (reductionist philosophy).
- 3) Knowledge is based on data obtained from careful observation and measurement of reality. Therefore, it is crucial for researchers to develop

numerical measures of observations.

- 4) Causes determine effects or outcomes. Therefore, research aims to discover causal relationships so as to explain the situation of interest (deterministic philosophy).
- 5) Enquiry should be objective so as to meet standards of validity and reliability.

4.3.2. Quantitative methodologies

Since the late 19th century, in general, methodologies associated with quantitative research are those invoked by post-positivistic philosophy. Common quantitative methodologies include experiments and surveys.

An experiment is “a test under controlled conditions that is made to demonstrate a known truth, examine the validity of hypothesis, or determine the efficacy of something previously untried” (Shadish, Cook, & Campbell, 2002). This include randomized experiment, which randomly assign units to treatment conditions, as well as quasi-experiment with non-randomized design (Keppel, 1991). But no matter whether for randomized or non-randomized experiments, the common feature of all experiments is the control of treatments. That is, researchers manipulate one or more independent variables so as to observe their effects on dependent variables (Yaremko, Harari, Harrison, & Lynn, 1986). This unique attribute of experimentation design brings in its notable strength, which is discovering and refining causal description. But experiments do less well in providing causal explanation, i.e., explaining causal relationships between variables. Therefore, experiments can be particularly useful in applied science, in which the identification of practical solutions to problems is

prioritized above providing explanations of why those solutions work. In addition, it is worth noting that nowadays, the balance of providing causal description and causal explanation can be better achieved through better designs of experiments thanks to the advancement of technologies.

Survey research refers to the collection of information from a sample of individuals through their responses to questions. It is a popular method in social science because of its versatility, efficiency, and generalizability. First, surveys are versatile. They have been applied to investigate various areas of social science as diverse as marketing, policy making, health care, psychology, etc. In the field of marketing where my research lies, survey research is one of the most widely-used methodologies to study consumer behavior, new product development, advertising, etc. Second, surveys are efficient. That is because in a survey, many people can be reached and many variables can be measured without significantly increasing time and cost. A third appeal of survey research is its generalizability. Since it is relatively easy for surveys to reach many people and collect data on many variables, survey research is often the only means available for constructing a representative picture of the attitudes and characteristics of a large population.

4.3.3. Quantitative research methods

Following philosophical worldviews and methodologies, the third element of a research approach is the specific method of data collection and analysis. Research methods associated with the quantitative approach have three distinctive features. First, in terms of data collection process, the type of information to be collected is predetermined, i.e., specified in advance of the study. Second, in terms of data

collection instruments, quantitative research methods often use close-ended questions to gather information. Two commonly used instruments for such information collection are questionnaire and structured interviews. The collected data are often numbers, including performance data, attitude data, observational data, and census data, etc. Third, in terms of data analysis, quantitative methods have a numerical focus and the corresponding analysis is statistical (Creswell, 2003).

To sum up, a quantitative approach is one in which the enquirer often has post-positivistic philosophical worldviews (i.e., cause and consequences thinking, reduction to variables and hypotheses, use of measurement and observation, and hypotheses testing). It applies methodologies such as experiments and surveys. The researcher collects data from predetermined instruments with close-ended questions and then conducts statistical analysis on the data collected.

4.4. Qualitative approach

4.4.1. Philosophical worldview of qualitative approach

Constructivism (often combined with interpretivism) is a philosophical worldview commonly associated with a qualitative approach to scholarly enquiry. It is a school of philosophical thinking maintaining that although the world is independent of human mind, knowledge of the world is often constructed by human community or society collaboratively, creating a culture of shared meanings (Berger & Luekmann, 1967; Crotty, 1998; Lincoln & Guba, 1985; Newman & Benz, 1998; Schwandt, 2007).

As Crotty (1998) summarized, there are three key assumptions underlying constructivist thinking.

First, human beings construct knowledge as they interpret the world in which they live and work. Although the world is independent of human mind, individuals develop multiple subjective meanings of their experiences. These various and complex views towards certain objects or things form a foundation on which researchers can construct the shared meaning of a situation.

Second, knowledge is constructed culturally and historically. As humans are all born into a world of meanings inherited from our ancestors and bestowed upon us by culture, the on-going process of human beings constructing the meanings of the world is cultural and historical. Therefore, knowledge is formed through historical and cultural norms.

Third, knowledge is constructed socially. In other words, meanings are developed through interaction between members of a human community (hence social constructivism).

4.4.2. Qualitative methodologies

Methodologies associated with a qualitative approach are often heavily influenced by constructivist philosophical worldview. As knowledge is developed based on multiple and various human interpretations of the world, constructivist researchers often use methodologies that value the complexity of what people say or do in their lives and they tend not to reduce the richness of people's views into a few categories of ideas. On the contrary, the goal of research is to rely as much as possible on the variety and richness of participants' views and their interpretations of the situation being studied. This is different from the reductionist feature of post-positivist methodologies.

What's more, as knowledge construction is a process heavily influenced by historical and cultural norms of human society, constructivists prefer methodologies that focus on the specific settings where people live and work so as to understand the historical and cultural context of the participants. In addition, methodologies guided by constructivist philosophy require researchers to acknowledge how their interpretation of the situation being studied flows from their own personal, cultural, and historical backgrounds. This is also different from post-positivistic methodologies, which require researchers to be as objective as possible not acknowledging their own subjective views.

Last but not least, as knowledge is developed through social interaction between members of a community, constructivist methodologies pay careful attention to the processes of interaction among individuals. Therefore, rather than physically and emotionally detaching from the objects or situations being studied as in post-positivistic methodologies, researchers often immerse themselves in the research settings to observe the interaction between participants.

In general, there are four widely-used methodologies invoked by constructivism.

Ethnography, in which the researcher observes an intact cultural group from the points of view of the subject of the study in a natural setting over a prolonged period of time by collecting primarily observational data (Creswell, 2007). The research process is flexible, often without predetermined theories or hypotheses, and evolves in response to the *lived context* encountered in the field (Le Compte & Schensul, 1999). In a study that employs an ethnographic methodology, researchers aim to record observed behavior and describe symbol-meaning relationships as much as

possible while avoiding causal explanations (Ember & Ember, 2004; Heider, 2004). The typical ethnographic study produces a field or case report that reflects the knowledge and meanings of the lives of a cultural group (Geertz, 1973; Philipsen, 1992). Ethnography, as a research methodology, has made substantial contribution to the understanding of the social life of humans.

Grounded theory is an inductive-oriented methodology in which the researcher aims to generate an abstract theory grounded in the data that has been systematically collected and analyzed. The methodology was developed by Glaser & Strauss (1967) in part as a challenge to positivist research. Two of its primary characteristics are “constant comparison” (i.e., data are collected and analyzed simultaneously) and “theoretical sampling” (i.e., direction of data collection for next stage is determined by the theory that is being constructed). Both concepts contradict positivistic rules about research design. Constant comparison violates the requirement of a clean separation between data collection and analysis processes. Theoretical sampling stands against the ideal of hypothesis testing in that decisions regarding which data to collect next are based not on a priori hypothesis, but on the ongoing analysis and interpretation of the data. The theoretical underpinnings of grounded theory are from pragmatism (Dewey, 1925; Mead, 1934) and early interactionism (Hughes, 1971; Park & Burgess, 1924), instead of constructivism/interpretivism discussed earlier as the most well-adopted theoretical perspective associated with a qualitative approach. Nevertheless, grounded theory has become “the most widely used qualitative interpretive framework in social science today” (Denzin, 1994, pp.508), pertaining to the fields of psychology, information science, education, and of course, to

management and organizational studies (Locke, 2003).¹² Data for a grounded theory can be obtained from various sources, such as interviews, observations, texts, videos, etc.

Case study is a research methodology in which the researcher conducts an in-depth and detailed investigation on a case. It should be noted that though no single definition of case study exists, case research is distinguished by the researcher's interest in and detailed examination of a particular subject/ case that is bounded by time and space. The case being studied can be an organization, an event, an activity, a process, or one or more individuals (Stake, 1995). There have been two well-developed types of case study: an intrinsic case study which aims to understand the uniqueness of a particular case itself and an instrumental case in which the researcher focuses on the potential of a particular case in providing insights into theory creation or advancement (Stake, 1994, 1995). Like grounded theory research, case study can use data from a variety of sources, such as interview, observations, documents, videos, etc.

Narrative research is a methodology concerned with stories. These can be stories as told, such as autobiography, journals, letters, field notes, or they can be stories that the researcher obtains via interviews and conversations with people (Sikes & Gale, 2006). Stories, or narratives, are important and interesting materials for scholarly enquiry as they reflect how human beings make sense of the world as they

¹² Though when developing grounded theory, Glaser & Strauss (1967) had looked to pragmatism and early symbolic interactionism. The key principles subscribed by grounded theory are in line with constructive/ interpretive perspectives, such as rejection of positivist notions of falsification of hypothesis testing and the belief regarding human beings construct meanings out of experience, etc.

perceive and experience it (Barthes & Duisit, 1975). When studying stories, researchers ask questions like *how* and *where* the stories are produced, which sort of stories they are, etc., in order to put them into intelligent use in theorizing about social life (Lieblich, Tuval-Mashiach, & Zilber, 1998). The final product of a narrative study is a collaborative narrative which combines views of lives of both participants and the researcher (Clandinin & Connelly, 2000).

4.4.3. Qualitative research methods

Research methods associated with a qualitative approach are often characterized by three particular features. First, when collecting data, the types of information to collect are often not specified in advance of the study. Instead, data are collected as they emerge. The researcher is allowed to collect any information encountered during the project if he/ she considers them relevant and interesting to the research. Second, in terms of data collection instruments, qualitative research methods often use open-ended questions to gather information. Common instruments include interviews (structured or unstructured, individual or group) and observations. The collected data are often textual or audiovisual. Third, in terms of analysis, qualitative methods rely on content analysis of the data collected rather than numeric or statistical analysis.

To sum up, a qualitative approach is one in which the researcher often has constructivist philosophical worldviews (i.e., knowledge is based on human beings' subjective interpretations of their lived experience; knowledge building is social and historical). Methodologies commonly used include ethnographies, grounded theory, case studies, narrative research, etc. Emergent methods are used to collect data followed by text and image analysis on the data collected.

4.5. Mixed methods approach

As can be seen from the review so far, quantitative and qualitative research approaches hold different philosophical perspectives, and often use different methodologies and methods. The dispute between advocates of these two research paradigms has lasted for more than one century. Both camps believe in the incompatibility dissertation (Howe, 1988), which contends that quantitative and qualitative research approaches including their associated methods cannot and shouldn't be mixed. A disappointing result of the "paradigm wars" has been the relentless emphasis on the differences between the two approaches and the satisfaction that both camps derive from refraining themselves from broader methodological possibilities (Guba, 1990).

To address the issue, a third research approach has emerged in recent years: a mixed methods approach. This approach proposes to move beyond a quantitative versus qualitative paradigm argument by recognizing that quantitative and qualitative research have non-overlapping strengths and weaknesses and, when appropriately combined, can produce superior results (Brewer & Hunter, 1989; Creswell, 2003; Greene, Caracelli, & Graham, 1989; Johnson & Christensen, 2004; Newman & Benz, 1998; Tashakkori & Teddlie, 1998, 2003). Though the mixed method paradigm is relatively new, it has been quickly developing and attracting increasing attention and interest within the research community.

4.5.1. Philosophical worldview of mixed methods approach

Pragmatism is a set of philosophical worldviews that is commonly associated with the mixed methods research approach. It is derived from a philosophical

thinking concerned with both applications (i.e., usefulness, workability, or “what works”) and solutions to problems (Patton, 1990; Johnson & Onwuegbuzie, 2004, Creswell, 2003). Pragmatism has the following characteristics.

First, pragmatism is consequence-oriented. Empirical and practical consequences have been in the center of pragmatic philosophy since the very beginning. To quote Peirce (1905) who was the first to explicitly introduce and explain pragmatism,

“The word pragmatism was invented to express a certain maxim of logic.... The maxim is intended to furnish a method for the analysis of concepts.... The method prescribed in the maxim is to trace out in the imagination the *conceivable practical consequences* - that is - the consequences for deliberate, self-controlled conduct – of the affirmation or denial of the concept” (pp. 494).

The focus on consequences distinguishes pragmatism from other philosophical streams. So in pragmatic studies, researchers choose what and how to research based on its conceivable practical consequences. They seek to understand meanings of intellectual concepts by identifying their “conceivable practical consequences”, they aim to identify themes that have high instrumental value which inform effective practice, and they use methods or techniques that are effective in addressing the research question regardless of their quantitative or qualitative nature. In short, pragmatic research is consequence-driven.

Second, due to its emphasis on consequence, in pragmatic thinking, truth is what works *at the time* (Creswell, 2003). The truth value of theory is determined by how well it currently works. Human pursuit of truth is therefore viewed as a process of looking for practical solutions to problems.

Third, upholding workability, pragmatism is not committed to any one system of philosophy. It endorses eclecticism and pluralism. Pragmatists choose a philosophical position based on how well it works for their current projects. Therefore, they are often seen rejecting traditional philosophical dualism on which agreement has not been historically forthcoming, such as subjectivism vs. objectivism, realism vs. antirealism, platonic appearance vs. reality, rationalism vs. empiricism, free will vs. determinism, etc. Many pragmatists prefer to find a middle ground between the two poles of traditional dualisms and adopt a more moderate and common sense versions of philosophical dualism so as to find workable solutions.

Fourth, because of its adoption of the middle ground in philosophical thought, pragmatism recognizes both sides of the coin. For instance, it acknowledges not only the importance of the physical world but also the emergent social and psychological world, which includes subjective thoughts, culture, and human institutions. It views knowledge as constructed based on both the reality of world and our experiences and perceptions of it.

4.5.2. Methodologies associated with mixed methods approach

Due to its consequence-oriented nature and pluralistic stance, methodologies invoked by pragmatism often find the middle ground between the two poles of the methodical continuum, i.e., quantitative vs. qualitative methodologies.

Mixed methods methodologies recognize that both quantitative and qualitative research have their own strengths and weaknesses. In some situations, quantitative research is more appropriate, while in other situations, qualitative research will become so. In many situations, data, insights, and procedures of both approaches can

be put together to result in complementary strengths. Specifically, researchers opt for mixed methods methodologies for three main reasons: (1) triangulation – seeking convergence in data collected by all methods to strengthen the credibility of the research findings, (2) complementarity – comparing different types of data to get a fuller understanding of the research problem, (3) development – using results from one method to develop or inform the other method (Greene et al., 1989).

There are different typologies of mixed methods methodologies. For example, one can differentiate mixed methods methodologies by looking at how quantitative and qualitative approaches are mixed within and across the stages of the research process (Johnson & Christensen, 2004; Tashakkori & Teddlie, 1998). One may also consider the dimension of paradigm emphasis – whether the quantitative and qualitative paradigms have equal status or one has a dominant status in the study (Morgan, 1998a; Morse, 1991). Another dimension to consider is the *time ordering* of the quantitative and qualitative phases – whether these two are carried out sequentially or concurrently. The extent of the mixture between the quantitative and qualitative approaches can be another dimension to look at when viewing mixed methods methodologies. Among these dimensions, paradigm emphasis and time ordering seem to be the most common ones for classifying mixed methods methodologies (Creswell, 2003; Johnson & Christensen, 2004).

In terms of paradigm emphasis, we have

- 1) Equal status mixed methods design, in which both quantitative and qualitative paradigms hold equal status.

- 2) Dominant status mixed methods design, in which one paradigm holds the dominant status over the other. In other words, the researcher uses either a quantitative or qualitative theoretical lens as an overarching perspective within the study that contains both forms of data. In this design, the dominant paradigm will provide guidance for the whole research procedure, from problem identification to data collection and analysis.

In terms of time ordering, we have

- 1) Sequential mixed methods design where quantitative and qualitative phases are carried out sequentially. The researcher may begin with a quantitative method to test hypotheses and theories, and then follow up with a qualitative method for detailed exploration, with a few cases or individuals, of some key issues identified in the previous quantitative phase. Or the study may begin with a qualitative method for exploratory purpose, followed by a quantitative method with a large sample to check whether findings from the previous phase can be generalized to a population. In this way, sequential design enables the researcher to elaborate or extend the findings of one method with another method.
- 2) Concurrent mixed methods design, in which quantitative and qualitative phases are carried out concurrently. This involves the researcher collecting both forms of information at the same time and then converging the data in the interpretation of the overall result. This design provides a comprehensive analysis of the research problem by integrating quantitative and qualitative data.

The above widely accepted typologies of mixed methods methodologies can be illustrated by Figure 2.

Figure 2. Mixed methods design matrix

		Time Order Decision	
		Concurrent	Sequential
Paradigm Emphasis Decision	Equal Status	QUAL + QUAN	QUAL → QUAN QUAN → QUAL
	Dominant Status	QUAL + quan QUAN + qual	QUAL → quan qual → QUAN QUAN → qual quan → QUAL

Notes: “qual” stands for qualitative, “quan” stands for quantitative, “+” stands for concurrent, “→” stands for sequential, capital letters denote high priority or weight, and lower case letters denote lower priority or weight.

(Johnson & Christensen, 2004, pp. 22)

4.5.3. Research methods associated with mixed methods approach

Research methods associated with mixed methods approach combine the respective features of those associated with quantitative and qualitative approaches discussed earlier in this chapter. In terms of data collection process, the researcher can not only collect predetermined types of information, but also collect data when new types emerge during the process. In terms of data collection instruments, the researcher is allowed to use both open- and closed- ended questions. Therefore, data collected by mixed methods cover a vast variety. There are multiple forms of data drawn from all possibilities for the researcher to use. In terms of data analysis, the researcher often use both statistical and text analysis.

To sum up, a mixed methods approach is one in which the researcher has pragmatic philosophical worldviews (i.e., consequence-oriented, concerned with workability, rejecting traditional philosophical dualism). Regarding methodologies, it allows the researcher to mix quantitative and qualitative methodologies within and across the stages of research in various time ordering at various degree of mixture while giving either equal or dominant emphasis to the paradigm(s) used in the study. In terms of data collection and analysis, the research can use both open- and close-ended questions to collect both quantitative and qualitative data in both predetermined and emerging fashions, and then conduct both quantitative and qualitative analysis.

4.6. Research approach selection

After reviewing the three main research approaches, i.e., quantitative, qualitative, and mixed methods approaches, I opted to adopt a mixed methods approach for my dissertation research design. My choice was based on the following considerations.

First, I believe that mixed methods approach opens up a much broader world of epistemological and methodological possibilities for the research community. As research nowadays is becoming increasingly interdisciplinary, complex, and dynamic, researchers need to be open to different beliefs and methods in order to conduct more effective research.

Second, a mixed methods approach helps bridge the schism between quantitative and qualitative research. As “the goal of mixed methods research is not to replace either quantitative or qualitative approaches, but rather to draw from the strengths and minimize the weaknesses of both in single research studies and cross studies”

(Johnson & Onwuegbuzie, 2004, pp. 15), mixed methods approach has great potential in connecting the two research camps and improve the communication and collaboration among researchers from different paradigms.

Third, greatly influenced by pragmatic philosophical thinking which is consequence/ result oriented, mixed methods research offers great promise for researchers who seek better impact of their work on practice. And with the increasing emphasis of business impact in today's academic world, a mixed methods approach is likely to gain even more popularity among various research communities.

Last but most importantly, I believe that a preferred approach should match the research problem. For some research problems, such as identifying causal relationships, determining the effectiveness of an intervention, and testing a theory or generalization, a quantitative approach will be more appropriate; while for some other research problems, such as exploring a new phenomenon and explaining a detailed view of the meaning of a concept, qualitative approach will be better. And for research problems that are more complex with multiple purposes, such as to identify causal relationships and provide a detailed explanation for the relationships, or to explore a new phenomenon and then test hypotheses built upon the researcher's understanding of the phenomenon, etc., a mixed methods approach that captures the best of both quantitative and qualitative research will be more useful. Therefore, researchers should not limit themselves to only one approach. Instead, we should recognize the strengths and weaknesses of each approach and choose the one that works best at answering the research questions.

My research is concerned with developing an understanding of the dynamics of microblog communications between corporate leaders and their consumers. It is a complex problem which involves both (1) exploratory enquiries into a new phenomenon (i.e., CEO microblogging activities) on which little research has been done; and (2) determining the effectiveness of an intervention (i.e., the ways in which CEOs use microblogs in engaging consumers). Therefore, I believe that my research problem merits a mixed methods approach, which would bring out the best of both quantitative and qualitative methods at answering my research questions.

4.7. Summary

I believe that in order to plan a research project, one needs a grasp of the key research approaches. Therefore, in this chapter, I reviewed the existing three main approaches to a research design, i.e., quantitative, qualitative, and mixed methods approach. In particular, I discussed the philosophical worldviews, methodologies, and data collection & analysis methods associated with each approach. A mixed methods approach was eventually selected for my project because of its fit with my research problem. The application of the mixed methods approach addressing my research questions are further elaborated in the next chapter.

Chapter 5

Research design phase (I)

Brief content:

5.1. Introduction

5.2. Stage 1: Content analysis

5.2.1. Paradigm issue: Is content analysis quantitative or qualitative?

5.2.2. Content analysis approaches: Inductive or deductive?

5.2.3. Data collection

5.3. Stage 2: Semi-structured focus group interviews

5.3.1. Which type of interview to use?

5.3.2. Grounded theory implication for interview design

5.3.3. Participants sampling

5.3.4. Analysis of focus group interview data

5.4. Summary

5.1. Introduction

By adopting a mixed methods approach, my study is open up to both quantitative and qualitative methodologies. My primary concern in selecting methodologies is their fit with the research problem. Creswell (2014) has shed some light in this regard.

“Certain types of social research problems call for specific approaches. For example, if the problem calls for (a) the identification of factors that influence an outcome, (b) the utility of an intervention or (c) understanding the best predictors of outcomes, then a quantitative approach is best. It is also the best approach to use to test a theory or explanation. On the other hand, if a concept or phenomenon needs to be understood because little research has been done on it, then it merits a qualitative approach. Qualitative research is exploratory and is useful

when the researcher does not know the important variables to examine. This type of approach may be needed because the topic is new, the topic has never been addressed with a certain sample or group of people, and existing theories do not apply with the particular sample or group under study (Morse, 1991)” (pp. 18)

My research problems are two-fold: (1) to explore CEOs’ use of microblogs in pro-active dialogues with consumers (in particular, based on the discussion in Chapter 3 Section 3.3.2, what specific effort(s) CEOs make in creating and enhancing the audience’s interactive experiences (interactive effort variables), what CEOs tweet in terms of content (content variables), and how CEOs tweet in terms of language use (language variables); (2) to determine the effectiveness of such use of microblogs by CEOs in generating consumer engagement.

As the first dimension of my research interest is concerned with the exploration of a new phenomenon on which little research has been done, I therefore opted to use a qualitative approach to investigate the problem. Regarding the second dimension of my research interest, since it involves examining the effectiveness of an intervention, I decided to use a quantitative approach to investigate the problem.

Accordingly, my research design consists of two phases. Phase (I) involves a qualitative approach while Phase (II) a quantitative approach – an experimentation design to be exact. The remainder of this chapter will discuss Phase (I) design, followed by Chapter 6 which explains Phase (II) design.

Now let’s focus on Phase (I) design. I have divided this phase into two stages: (1) content analysis of CEOs’ Tweets, (2) focused group interviews (see Figure 3).

Figure 3. Research design Phase (I)

	Data	Collection	Analysis	
Stage 1	A random sample of historical CEO Tweets	Twitter API	Content analysis (I) (Inductive-oriented)	Identify features/dimensions characterizing of CEOs' use of microblogs
	A certain number of historical Tweets from each CEO microblog	Twitter API	Content analysis (II) (Deductive-oriented)	Classify and map existing CEO microblogs
Stage 2	Audio	Semi-structured focus group interviews	Summary of essence	- Verify findings from content analysis - Select experimental CEO microblogs

5.2. Stage 1: Content analysis

Tweets are messages/ texts published on microblogs. Tweets from CEOs are the primary and probably the most obvious vehicle that may evidence CEOs' use of microblogs in dialogue with consumers. Therefore, I planned to carry out a content analysis – a widely-used method for studying texts – on a large sample of CEOs' Tweets retrieved from Twitter.

Content analysis is a technique for making inferences by systematically identifying special characteristics of artifacts of social communication in order to understand the content and context of the communication (Krippendorff, 1980). Through content analysis, the many words of the text are distilled into fewer related categories describing the phenomenon. Usually, the purpose of those categories is to build up a model, a conceptual system, or a conceptual map (Elo & Kyngäs, 2008).

My content analysis has two objectives: (1) Identify key features characterizing CEOs' use of microblogs in dialogue with consumers in terms of content, language use, and interactional effort, code and compare these characteristics, and group them

into categories to illustrate key dimensions of CEOs' use of microblogs. (2) Classify and map existing tweeting CEOs according to their respective use of microblogs onto each dimension.

Several methodological issues need to be addressed and clarified when designing a content analysis in my research:

- 1) Paradigm issue: Is content analysis quantitative or qualitative?
- 2) Content analysis approaches: inductive or deductive?
- 3) Sampling: How to select the appropriate unit for content analysis?

5.2.1. Paradigm issue: Is content analysis quantitative or qualitative?

As in content analysis, text (qualitative data) is coded, counted, condensed and eventually often represented in a numeric form, such as frequency, duration, etc., researchers have been debating whether the analysis should belong to the qualitative or the quantitative paradigm.

Some believe content analysis is quantitative. Berelson (1952) described content analysis as "objective, systematic, and quantitative" (pp. 18). Neuendorf (2002) defined content analysis as "a summarizing, quantitative analysis of messages that relies on the scientific method...." (pp. 10). Similarly, content analysis was excluded from Silverman's (1993) discussion of qualitative research. The primary reason for this belief is that by condensing (i.e., coding and categorizing) data, the procedure of content analysis is more reductionist and ostensibly a more positivistic approach.

However, Selltiz, Wrightsman, & Cook (1959, pp.336) pointed out the over-emphasis on "the procedure of analysis" by the quantitative camp, which neglects the "character of the data available" being analyzed. Berg (2001) provided

an insightful explanation of the qualitative element of content analysis when he wrote:

“Content analysis can be effective in qualitative analysis – ‘counts’ of textual elements merely provide a means for identifying, organizing, indexing, and retrieving data. Analysis of the data once organized according certain content elements should involve consideration of the literal words in the text being analyzed, inducing the manner in which these words have been offered...For this perspective, content analysis is not reductionist, positivistic approach. Rather, it is a passport to listening to the words of the text, and understanding better the perspective(s) of the producer of these words” (pp. 242).

Meanwhile, some researchers who embrace a more comprehensive view have suggested that content analysis encompasses both quantitative and qualitative components. According to them, one can imagine content analysis as a person with two hands, one is qualitative that deals with the “forms and patterns of form” of communication, and the other is quantitative that deals with “duration and frequency of form” (Smith, 1975, pp. 218).

In my opinion, content analysis can be viewed as a qualitative-oriented data analysis method with a quantitative flavor. Ostensibly, content analysis is quantitative – researchers counting elements, reducing data to categories, and presenting results often in numeric forms. But fundamentally, it is a qualitative analysis. Because what researchers substantially do and what is intellectually challenging in content analysis is to investigate ideological mind-sets, themes, topics, symbols, and similar phenomena while grounding such investigation to the data. Moreover, methodological guidance that content analysis often follows are largely associated with qualitative approach (see Section 5.2.2.1). Therefore, admittedly, content analysis has characteristics of both qualitative and quantitative approaches, I am inclined to view it as a qualitative method (albeit in the clothing of a quantitative approach).

One might ask, since I am adopting a mixed methods approach for my research design, why do I need to be concerned with paradigm debate on content analysis? I would say that such question results from a misunderstanding of mixed methods approach. Adopting a mixed methods approach does not mean one can use whatever method that seems to work for the research problem without fully understanding its nature (i.e., quantitative, qualitative, or a blend of both with equal status or one having a more dominant role, etc.). Instead, one should be well informed of the nature, the affiliated paradigm, and the characteristics of a specific method before securing it as part of the mixed research design. Only in this way can one be able to realize the potential of a certain method to the utmost extent.

5.2.2. Content analysis approaches: Inductive or deductive?

Codes and categories are integral to the process of content analysis. Codes refer to conceptual labels that the researcher affixes to different sections of the data. Categories are groups of conceptually similar codes. Through coding and category development, data are analytically broken down and condensed (Benaquisto, 2008).

How codes and categories are developed depends on the approach adopted by the researcher when conducting the analysis, which can be inductive, deductive, or a combination of both. Which approach to use is determined by the purpose of the study.

If the researcher aims to explore a new phenomenon on which there is little former knowledge, an inductive approach is recommended (Lauri & Kyngäs, 2005). In an inductive content analysis, codes and categories emerge through the process of interpreting the data. A typical inductive approach involves the following steps:

- 1) Coding: Conceptual labels are developed and affixed to the data.
- 2) Category development: Conceptually similar coded data are grouped together to form categories.
- 3) Theory development: Materials are sorted by categories and examined to identify meaningful patterns and relationships for theory development, e.g., building a conceptual map of the phenomenon.

A deductive approach is often used in cases where the researcher wishes to test theories such as retesting existing data in new context or retesting existing context with new data (Catanzaro, 1988; Marshall & Rossman, 1995). In a deductive content analysis, codes and categories are created in advance based on earlier works such as theories, mind maps, and literature reviews (Hsieh & Shannon, 2005; Polit & Beck, 2004; Sandelowski, 1995). A typical deductive procedure is as follows:

- 1) Categorization matrix development: develop of a categorization matrix based on earlier works, which includes definition of categories and criteria used for building those categories.
- 2) Coding: Code the data according to the matrix.
- 3) Theory testing: e.g., retest existing data in the new context; or retest the existing context with new data.

For my research, content analysis has two main purposes, each merits a different approach. The first purpose is to explore CEOs' use of microblogs in terms of content, language use, and interactional effort. Without enough former knowledge in the field for creating a categorization matrix in advance, I decided to conduct an inductive-oriented content analysis on a sample of CEO Tweets as the first step. The

product of content analysis (I) would therefore be a categorization matrix specifying key features/ dimensions characterizing CEOs' use of microblogs including main elements that compose each dimension (i.e., sub-category).

For the second purpose – to map existing tweeting CEOs according to their use of microblogs onto each dimension, the analysis needs to be operationalized on all CEO microblogs according to the dimensions developed in the previous step. This purpose merits a deductive-oriented approach. In a deductive-oriented content analysis, instead of a purely deductive one, elements of each dimension would also be tested with new data and opened up for refinement if new relevant concepts or categories emerge during the process.

To sum up, content analysis of my research consists of two steps: (1) Content analysis (I), i.e., an inductive-oriented analysis of a sample of CEO Tweets; (2) Content analysis (II), i.e., a deductive-oriented analysis of all existing CEO microblogs.

5.2.2.1. Content analysis (I): Inductive-oriented approach

In an inductive-oriented content analysis, the main challenge is the ways in which codes and categories are developed that are grounded in the data. A useful technique for content analysis is grounded theory. Important principles of grounded theory (i.e., constant comparison and theoretical sampling) have already been discussed in Chapter 4 Section 4.4, I will therefore focus on the related issues the theory has with content analysis in this section.

Clarification on grounded theory position on former knowledge

As mentioned earlier, in content analysis (I), an inductive-oriented approach

plays an essential role for grounding my findings in the data so as to identify key features characterizing CEOs' use of microblogs in the most forthright manner. But that has not been undertaken to the exclusion of former knowledge. My content analysis is an informed one with adequate knowledge of the literature and prior research.

Though knowledge of the CEO microblogging landscape is fragmented and thus not sufficient for creating a categorization matrix in advance, I can look into theories and research in other related field for an initial direction in developing my own codes and categories. In particular, the attitude and persuasion literature has suggested three broad dimensions for my content analysis of CEOs' microblogs, i.e., content, language, and interactional effort (see Chapter 3). The task of content analysis (I) is therefore to look for elements and sub-categories that seem relevant to those broad directions.

Some might argue that this position contradicts grounded theory. In fact, a common misassumption is that by using grounded theory, coding and category development should be purely inductive ignoring prior research so as to discover something new and something that is fully grounded in the phenomenon (see Suddaby, 2006). This misassumption is based on a misconception of grounded theory. Grounded theory was introduced by Glaser & Strauss (1967) as an inductive-oriented methodology to emphasize the importance of direct observation over hypothesis testing, which prior knowledge may force the researcher to do either overtly or unconsciously. But Glaser & Strauss (1967) never intend to advocate that grounded methodology should exclude a deductive approach or encourage research to ignore existing empirical knowledge. On the contrary, they recognize the importance of

substantive theory (i.e., a theory grounded in extant research) in grounded theory development:

“Substantive theory is a strategic link in the formulation and generation of grounded formal theory. We believe that although formal theory can be generated directly from data, it is more desirable, and usually necessary, to start the formal theory from a substantive one. The latter not only provides a stimulus to a ‘good idea’ but it also gives an initial direction in **developing relevant categories and properties and in choosing possible modes of integration**. Indeed it is difficult to find a formal grounded theory that was not in some way stimulated by substantive theory.” – Glaser & Strauss (1967, pp. 79)

Therefore, the inductive-oriented approach that I have adopted in content analysis (I) is completely aligned with grounded theory. In fact, grounded theory provides a set of helpful techniques and guidelines in conducting an inductive-oriented content analysis.

Grounded theory: Procedure, guidelines, & techniques

A content analysis using grounded theory commonly follows the procedure outlined below:

- 1) Open coding
- 2) Axial coding
- 3) Selective coding

The above three steps each represents a specific coding technique guided by the two fundamental grounded theory principles, i.e., constant comparison and theoretical sampling.

Open coding is an unrestricted coding of the data where the researcher carefully and minutely reads the document to determine the concepts and categories that fit the data (Strauss, 1987). In open coding, the researcher opens the enquiry widely by

asking the data a specific and consistent set of questions. The most general questions to keep in mind are: “What is happening in the data?” “What study are these data pertinent to?” “What is the original objective of the research study?” (Glaser, 1978; Strauss, 1987). Bearing these questions in mind, the researcher analyzes the data minutely, identifying relevant sections of the data and giving them corresponding conceptual labels. During the process, the researcher *constantly compares* the coded data for their similarities and differences and groups them into categories which are then constantly compared, reviewed, and revised as the coding proceeds (Corbin & Strauss, 1990).

It should be noted that in open coding, former knowledge may provide the researcher with some “sensitizing concepts” that may help identification of relevant data (Charmaz, 2001). In my study, for example, drawing from the attitude and persuasion literature (see Chapter 3), questions to ask during open coding can be “What is the CEO tweeting? (content)” “How does the CEO tweet? (language use)” “What effort does the CEO make in creating and enhancing consumer interactive experiences (interactional effort)?” etc.

When the researcher eventually saturates the collected data with repeated labels, open coding can be stopped. But if new concepts keep emerging right until the end of the analysis of the collected data, that means more data are needed and another round of data collection should begin. Analysis previously undertaken will determine what kinds of data need to be collected next as well as how to collect them (i.e., *theoretical sampling*). For example, if I first randomly collect 100 CEO Tweets for open coding and later realize more Tweets should be collected then depending on my previous analysis, I may decide to collect more (e.g., 200) or fewer (e.g., 50) Tweets next. At

the end of open coding, the researcher should have a list of codes (e.g., labels) and categories of these codes together with corresponding data. That sets the stage for axial coding.

In axial coding, the researcher examines the categories, refines their properties, compares them to others, and groups similar ones under higher order categories (Benaquisto, 2008). Former knowledge of related literature or framework may help the researcher in identifying relationships between categories and therefore merging them. This step reduces the number of categories and further condense the data for selective coding.

Selective coding is a process by which all categories identified in axial coding are unified under a central/core category. The core category represents the central phenomenon of the research (Corbin & Strauss, 1990). At this point, a conceptual map of the phenomenon can be built identifying meaningful patterns and relationships.

Figure 4. Workflow of grounded theory guided content analysis

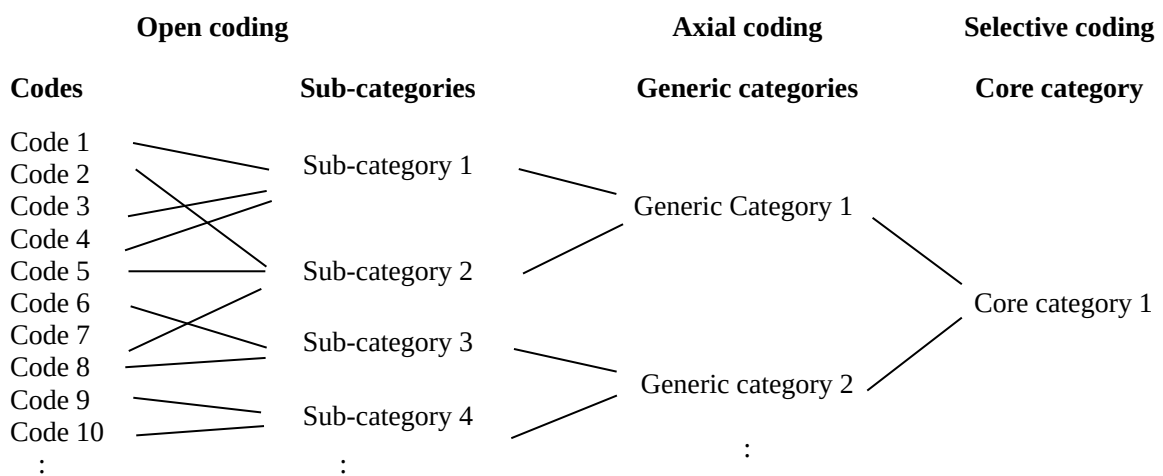


Figure 4 above not only represents the workflow of content analysis (I), but also resembles a categorization matrix which should be its final product. The core category should be CEOs' use of microblogs in dialogue with consumers; those general categories should be key features/dimensions characterizing CEOs' use of microblogs in terms of content, language use, and interactional effort; and sub-categories should be detailed manifestations of each dimension. This matrix serves as the basis for content analysis (II).

5.2.2.2. Content analysis (II): Deductive-oriented approach

The goal of content analysis (II) is to code each CEO microblog according to the categories specified in the matrix so as to map each blog onto each dimension. If a microblog has more codes than others on a certain category, it can be said that this blog scores high in a certain dimension. Thus by coding, each microblog would have a score corresponding to each category, which should facilitate the mapping of the microblog onto each dimension. Meanwhile, new categories that emerge during the coding process can also be added to refine the matrix. As long as the matrix continues to provide a clear framework, the actual coding for content analysis (II) should be a relatively straightforward task.

5.2.3. Data collection

Content analysis (I) and II require different data. In content analysis (I) (which is to identify key dimensions of CEOs' microblogging usage), the goal of data collection is to obtain a sample of CEO Tweets that facilitates generalization of findings to the population of all CEO Tweets. As for content analysis (II), it aims to map each CEO microblog onto each dimension. So the goal of data collection is to

obtain a set of Tweet samples, each sample representing a certain CEO microblog¹³.

In order to achieve the above, the following steps have been carried out for data collection:

- 1) Identify existing CEOs on microblogs.
- 2) Select the most suitable and useful Tweet collection tool.
- 3) Collect a certain number of most recent Tweets from each CEO microblog to represent the CEO's blog. These are the data examined in content analysis (II).
- 4) Collect a sample of Tweets that could represent the population of Tweets obtained in step (3). These are the data examined in content analysis (I).

Details regarding how each step has been operated will be explained in Chapter 7 Section 7.2.3).

5.3. Stage 2: Semi-structured focus group interviews

After content analysis (I) and (II) of CEOs' Tweets, existing tweeting CEOs are classified and mapped according to their use of microblogs in dialogue with consumers. That helps identification of potential experimental microblogs - blogs that positioned at one of the two ends of each dimension are shortlisted as potential treatments in Phase (II) - experiment¹⁴. But before these shortlisted blogs are actually

¹³ Each sample is coded according to the categorization matrix developed from content analysis (I). If a sample has more codes than others on a certain category, it can be said that the microblog this sample represents scores high in a certain dimension. Thus by coding, each microblog has a score corresponding to each category, which should facilitate the mapping of the microblog onto each dimension.

¹⁴ Rationale for selecting these blogs as treatments will be elaborated in Chapter 6 Section 6.3.4.

used in the experiment, several interviews are conducted in which interviewees first read through a small sample of Tweets from those shortlisted potential experimental microblogs and then express their perceptions on these microblogs so as to help the researcher to (1) verify whether these shortlisted microblogs identified from previous content analysis indeed belong to the assigned category; and (2) select the most representative blogs from each category as treatment for the experiment.

5.3.1. Which type of interviews to use?

Interviews, a common method for collecting data (either quantitative or qualitative), are a type of guided conversation in which the researcher asks questions and listens to the respondents' answers (Kvale, 1996; Rubin & Rubin, 1995).

Individual or Group?

Interviews are often classified by the number of respondents per se and question structure. In terms of the number of respondents, we have individual interviews and group interviews. Individual interviews are those one-to-one interviews while (focus) group interviews involve several respondents in a group. This group is often led by a moderator who keeps participants "focused" on a specific topic that is of interest to the research (Frey & Fontana, 1991). This type of interview was first used in applied marketing (e.g., product development and evaluation, survey consumer pretest, etc.) where it has been a popular data collection method since 1950s (Johnson, 1996; Krueger, 1994; Morgan, 1998b). Eventually the success of the focus group in applied marketing research resulted in its use in other social disciplines in academic research, such as sociology, anthropology, political science, and history.

I believe that group interviews fit my research purpose better. Because each respondent's analysis of Tweets might be "rough", I would need views from various respondents instead of just several of them so as to have sufficient materials to gain insight. Group interviews would enable me to gain more of those views more quickly and also provide an opportunity for respondents to exchange and refine their opinions through discussion.

Structured vs Unstructured

Group interviews can be structured, unstructured or semi-structured. The degree of structure depends on the kinds of questions asked and the way the moderator conducts the discussion (Morgan, 2001).

In a structured focus group interview, the moderator adopts a directive (i.e., keeping the group on track) or active (e.g., participating in the discussion) role. He/she asks a list of predetermined questions with little variation and no scope for follow-up questions regarding replies that need further elaboration. This type of focus groups are often used to collect quantitative data or simple qualitative data. When used to collect quantitative data, structured focus group interviews are essentially verbally administered questionnaires to solicit numeric or yes/no responses. Typical questions can be "how often do you go to cinema per month?" "Do you collect coupons of supermarkets?" "How would you rank this brand in terms of product quality?" When used to collect qualitative data, structured focus group interviews are used when little "depth" is required, such as in pilot studies designed to quickly provide a sketch of a phenomenon. It should be noted that structured interviews, by their very nature, only allow for limited participant response and are, therefore, much

less used in qualitative investigation, which is concerned with meaning making of participants' experience and life.

In qualitative research, more commonly used are unstructured and semi-structured interviews ¹⁵. That is probably due to the constructionist epistemological leanings underpinning much of qualitative investigation which urge researchers to interview open-endedly with fewer constraints of structure standardization (Gill, Stewart, Treasure, & Chadwick, 2008).

In an unstructured focus group interview, questioning is normally open-ended, allowing for various response patterns and probing tactics. The moderator often starts with an open-ended question, such as “What do you like about this product?” then observes the group discussion and interaction most of the time, probes and reinforces when needed to keep the discussion going. This type of group interview is often used to collect qualitative data for exploratory or phenomenological purposes (Frey & Fontana, 1991). Such lack of predetermined questions is a big challenge for both the researcher and participants. The researcher may find it difficult and time consuming to manage an unstructured interview while participants may feel confused and unhelpful during the interview. Therefore, Gill et al. (2008) suggest unstructured interviews only be considered “where significant ‘depth’ is required or where virtually nothing is known about the subject area, or a different perspective of a known subject area is required” (pp. 291).

¹⁵ Unstructured and semi-structured interviews are often called “qualitative interviews”, though structured interviews are also occasionally used in qualitative data collection.

A semi-structured interview stands in the middle of structured and unstructured interviews. It consists of a set of predetermined key questions that helps to define the subject area, but also allows the researcher to diverge in order to probe a response in detail (Britten, 1999). On one hand, a framework of predetermined themes to be explored provides guidance for both the moderator and participants regarding what to talk about. On the other hand, the flexibility of this approach allows for further elaboration of meanings that emerge as the interview progresses. Therefore, combining the strengths of structured and unstructured interviews, semi-structured interviews are used most frequently in qualitative research.

I found the semi-structured type of focus group interview particularly useful for my research because I have a set of findings to verify therefore a predetermined framework of relevant themes should be useful. Meanwhile, the flexibility for probing allows me to get a better understanding of participants' views, in particular when participants' opinions diverge from my findings of the previous research stages. Therefore, my focus group interviews have been conducted in a semi-structured manner.

5.3.2. Grounded theory implication for interview design

In designing qualitative interviews (semi-structured focus group interviews in my case), several issues need to be considered and clarified. This section addresses the methodological issue and the next two sections will respectively discuss respondent sampling and data analysis of interviewing.

The methodology that is commonly used by interviewing research is grounded theory (Charmaz, 2001) and that is what I have used for my focus group interviews as

well. As the fundamental thinking and concepts of grounded theory have already been discussed in Chapter 4 Section 4.4, I will focus on discussing its methodological implications on qualitative interviews in this section.

Questions design

Grounded theory emphasizes human experiences and the making of meaning out of these experiences. Therefore, questions of grounded theory interviews need to explore in-depth the respondents' experiences. There are usually three types of questions used in qualitative interviews: main questions to start new topics and guide the conversations, probing that clarifies response, and follow-up questions to answers which warrant further elaborations (Rubin & Rubin, 1995). My interviews have thus followed this idea in terms of questions design.

Multiple sequential interviews

Grounded theory encourages sequential interviews as it calls for “constant comparison” and “theoretical sampling” which implies that interview results need to be compared and early analysis shapes and directs data to collect next (Charmaz, 2001). Therefore, multiple sequential group interviews were conducted in my research.

5.3.3. Participants sampling

In qualitative research, respondents are often selected by means of purposeful sampling (or selective sampling). Purposeful sampling is an informal non-probabilistic sampling method. According to Patton (1990), the “logic and power of purposeful sampling lie in selecting information-rich cases for study in depth. Information-rich cases are those from which one can learn a great deal about issues of

central importance to the purpose of the research, thus the term ‘purposeful sampling’” (pp. 169)¹⁶.

As Patton (1990) proposed, there are different strategies to purposefully select information-rich cases, each of which serves a particular evaluation purpose. Those strategies include extreme or deviant case sampling, maximum variation sampling, typical case sampling, snowball sampling, criterion sampling, etc. For focus group interviews, criteria sampling is often used. Participants are often selected “because they are a purposive, although not necessarily representative, sampling of a specific population” (Lederman, 1990, pp. 117). The common criteria are that participants would have something to say on the topic and would be comfortable talking to the moderator and with each other (Richardson & Rabiee, 2001).

In my focus group interviews, I decided to invite undergraduate students taking my marketing tutorials at Oxford Said Business School as participants. This decision was made out of consideration of the research topic, participants characteristics, and resources available. To begin with, business school students are intelligent individuals equipped with relevant knowledge (e.g., social media communication, consumer behavior, corporate leadership, etc.) to understand my research. Second, these students share some similar socio-characteristics, such as age and educational background, which would make them comfortable talking with each other. Third, students attending my tutorials constitute a sample that is easy to reach increasing the feasibility of research.

¹⁶ It is similar to what Schatzman & Strauss (1973) described as “selective sampling” where the researcher selects cases according to the aims of the research.

5.3.4. Analysis of focus group interview data

Data collected from semi-structured focus group interviews comprise words spoken by the participants. There are a variety of approaches to analyze those words. One approach that I consider useful for my interview data analysis is to “use the data as the basis for summary statements which attempt to capture the essence of the interviewees’ response” (Lederman, 1990, pp. 124). As my interviews evolves around just a few key subjects on which participants express their views on the shortlisted CEO microblogs, it should be relatively easy to summarize their opinions. The goal of the analysis is therefore to extract meaningful insights from participants in order to verify my findings from previous content analysis and select the most appropriate experimental CEO microblogs.

5.4. Summary

I adopt a mixed methods approach in designing my research project which consists of two phases. The first phase involves a qualitative approach while the second phase a quantitative approach.

In this chapter, I presented my design for research phase (I). This phase comprises two stages:

(1) *Content analysis of CEOs’ Tweets* to explore CEOs’ use of microblogs in dialogue with consumers in terms of content, language use, and interactional effort. My content analysis has two steps. The first step is an inductive-oriented analysis to identify key dimensions of CEOs’ use of microblogs, while the second step is a deductive-oriented content analysis with an aim to map existing CEO microblogs onto the dimensions identified in content analysis (I). Regarding methodological

issues of content analysis, I have discussed whether content analysis is quantitative or qualitative in nature, which approach (inductive or deductive) to use, and how to select and analyze data in my content analysis.

(2) *Focus group interviews* to examine blogs positioned at one of the two ends of each dimension on the CEO microblogs map obtained from content analysis (II) so as to select the most appropriate ones for Phase (II) experimental research. Regarding methodological issues of interview, I have explained what type of interview to use (individual or group, structured or unstructured), grounded theory implication for interview design, how to sample respondents for the interview, and finally how to analyze the interview data.

Next chapter will proceed to discuss my design of the research in phase (II).

Chapter 6

Research design phase (II) – Experimentation

Brief content:

- 6.1. Introduction
 - 6.2. Internal validity: Control of extraneous variables
 - 6.2.1. Random assignment
 - 6.2.2. Pretest design
 - 6.2.3. Factorial randomized design with pretest
 - 6.3. External validity
 - 6.3.1. Causal generalization goal
 - 6.3.2. Sampling methods
 - 6.3.3. Settings sampling
 - 6.3.4. Treatments sampling
 - 6.3.5. Units sampling
 - 6.4. Summary
-

6.1. Introduction

As discussed in the last chapter, Phase (I) research is supposed to identify key features of CEOs' use of microblogs in dialogue with consumers in terms of content, language use, and interactional effort (i.e., 3 general direction). Following Phase (I), a $2 \times 2 \times 2$ factorial randomized experiment has been used to examine the effectiveness of CEOs' use of microblogs in engaging consumers.

Experimentation is a methodology commonly used to illuminate causal inference, test hypotheses, examine the effectiveness of an intervention, or demonstrate a known truth (Shadish et al., 2002). In an experimental design, "one or more independent

variables are manipulated (i.e., treatments) to observe their effects on one or more dependent variables” (Yaremko et al., 1986, pp. 72). It should be noted that manipulations, i.e., deliberately varying values of independent variables, is the key common attribute of all experiments. As (Hacking, 1983) put it, “we must also ‘twist the lion’s tale’, that is, manipulate our world in order to learn its secret” (pp. 149).

In my experiment, consumer-related covariate¹⁷ information was solicited from participants using an online questionnaire before they were randomly assigned to browse through one of the $2 \times 2 \times 2$ CEO microblogs (i.e., treatments) selected from research phase (I). Participants were then asked to respond to another online questionnaire aimed at measuring their engagement level (i.e., dependent variables) with the assigned microblog. This chapter will discuss and explain several key methodological issues relating to the design of my experiment.

6.2. Internal validity: Control of extraneous variables

There are two important issues to address while designing an experiment: internal validity and external validity.

Internal validity refers to the ability of an experiment to attribute the observed effect to the manipulation of experimental variables and not to other factors (i.e., extraneous variables). Common extraneous variables include history – events external to the experiment but occurring at the same time; maturation – change occurring within the participants that are not due to the experimental variables during the period of experiment; testing – process of the experimentation itself; instrument variation –

¹⁷ Covariate means plausible extraneous variables.

changes in measuring instrument; selection bias – participants are selected and assigned in a way that cannot ensure equivalent groups, etc. (Churchill & Iacobucci, 2002).

6.2.1. Random assignment

Since the 17th century, experimenters have recognized the desirability of controlling extraneous sources of variation that might limit or bias observation. In natural science, they have developed various countermeasures, such as telescopes, microscopes, laboratories, etc., to reduce the potential for bias and achieve more accurate observation. In the case of the social sciences, where extraneous influences are harder to control, different methods have been developed to deal with the situation. One commonly used technique is random assignment of participants to treatments.

Random assignment is achieved by assigning units to treatment conditions based only on chance, i.e., each unit has a nonzero probability of being assigned to one condition (Fisher, 1925). Experiments that use random assignment are called randomized experiments. In such experiments, units, e.g., participants, are randomly assigned thus cancelling out possible extraneous sources of variation among the participants and creating two or more groups of participants that are probabilistically similar/ equivalent to each other on the average. Therefore, any differences observed in outcome variables between the groups at the end of an experiment are more likely to be attributed to treatment manipulation, and less likely to differences between the groups of participants such as maturation variation or selection bias as the two groups are probabilistically equivalent, neither to history, testing, or instrument variation as the two groups are technically experiencing similar historical, testing, and

instrumental situations.

By creating probabilistically equivalent groups, random assignment is often the preferred method for obtaining a precise and statistically unbiased estimate of the effects of an intervention (Shadish et al., 2002).

A basic randomized experiment design can be diagrammed as follows:

Diagram 3. The basic randomized design comparing treatment to control

R	E:	X	O ₁
R	C:	- X	O ₂
O ₁ – O ₂ = d			

(Churchill & Iacobucci, 2002)¹⁸

6.2.2. Pretest design

It should be noted that the only extraneous influence that random assignment prevents from occurring is selection bias because units are selected by chance hence no systematic bias involved in the process. As for other extraneous influences, such as maturing, history, testing effect, changes in instrumentation, etc., randomization does not prevent them from happening but simply reduces the likelihood that these alternative explanations are confounded with treatment by creating probabilistically equivalent groups before treatment.

By saying that randomization creates probabilistically equivalent groups, it does not mean that random assignment ensures groups are exactly equal, but that it only

¹⁸ R: random assignment; E: experiment group; C: control group; X: manipulation; O: observation; d: difference.

equates groups on expectation of group means.

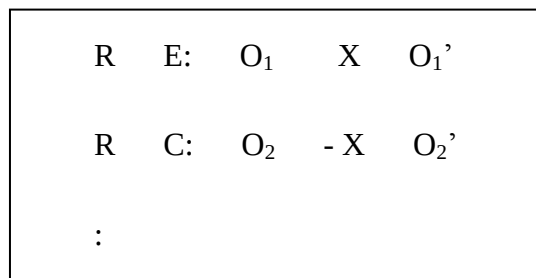
In any given randomized experiment, observed means between groups before treatment will differ due to luck of draw when some conditions are dealt a better set of participants than others. But as long as randomization is implemented properly, any differences observed before treatment will always be due to chance and participants are expected to be equal over conditions in the long run over many randomized experiments.

However, as Shadish et al. (2002) point out, “the fact that balance is expected in the long run over multiple experiments is little comfort in an experiment that is imbalanced here and now. One has to interpret the results of one’s own experiment, imbalances and all” (pp. 303). One commonly used solution is the pretest design which facilitates analysis of covariance (ANCOVA)¹⁹ to control for the influences of plausible extraneous variables, often known as covariates.

The basic design for a randomized experiment with a pretest can be illustrated by Diagram 4, which is the base model for my Phase (II) research. In the remainder of this section, I will introduce and explain this base model then in the next section, I will discuss how this base model has been adapted to fit my research better.

¹⁹ Analysis of covariance (ANCOVA) is a general linear model which combines analysis of variance and regression. It evaluates whether group means of a outcome variable are equal across treatments, while statistically controlling for the effects of plausible extraneous variables known as covariates. This technique is useful whether the underlying design is experimental, quasi-experimental or purely observational—without any experimental control or manipulation (Wildt & Ahtola, 1978).

Diagram 4. Pretest-posttest control group randomized design



R stands for random assignment of participants to treatment groups, which is a common feature of all randomized experiments. There are at least two groups, one is the experimental group (E), the other being control group (C). A pretest is conducted on both groups where observations (O) of plausible extraneous variables are recorded prior to the intervention (X). Then the experimental group receives the intervention (X) while the control group receiving their usual treatment (-X). At the end of the intervention, both groups are measured on outcome variables and observations (O') are recorded. The researcher will then use ANCOVA to compare if there are differences between O₁' and O₂' while controlling for the influences of O₁ and O₂.

Notice that variables to measure in pretests are different from those in posttests. As Churchill & Iacobucci (2002) point out, “the before measurements (of dependent variables) are not needed to estimate the effect of the experimental stimulus, (though) they do allow the researcher to study individual case of change...” (pp. 154). Instead, in an experiment which is mainly concerned with estimating the effect of interventions, as is in my case, a pretest is used to measure main plausible extraneous variables across groups so as to facilitate ANCOVA; whereas a posttest is used to measure dependent variables, i.e., outcomes, and compare them among groups.

Outcome variables in an experiment are determined by the research objective and rationale. For example, in my research, I use consumer engagement as a means to investigate the marketing effectiveness of CEOs' use of microblogs, therefore the outcome variable in my experiment is consumer engagement with a CEO's microblog. As for plausible extraneous variables (i.e., covariates), they are often context specific, so researchers often refer to relevant literature and prior empirical studies when deciding which alternatives are important enough to require control. For example, in my study, covariates have been identified as including consumer involvement, ability, microblog dependency and usage motivations (see Chapter 3 Section 3.3.3).

6.2.3. Factorial randomized design with pretest

Since my Phase (I) research is supposed to identify key features characterizing CEOs' use of microblogs in terms of content, language use, and interactional effort (i.e., 3 general directions), a $2 \times 2 \times 2$ factorial design has been added to my base model which became a pretest-posttest $2 \times 2 \times 2$ factorial randomized design.

Diagram 5. Pretest-posttest $2 \times 2 \times 2$ factorial randomized design

R	EC ₁ :	O ₁	X ₁	O ₁ '
R	EC ₂ :	O ₂	X ₂	O ₂ '
:				
NR	EC ₈ :	X ₈	O ₈	O ₈ '

As illustrated by Diagram 5, my experiment has $2 \times 2 \times 2$ groups of participants which are all experimental groups and at the same time control groups to each other. That is because the treatments (X) that each of them received is of a $2 \times 2 \times 2$

structure – CEO microblogs anchored on the two ends of each of the three dimensions.

In this section, I presented how a skeleton of experimentation design is built. It is time to discuss how treatments, treatment units, settings are selected for my experiment. This is an issue closely related to external validity, which will be discussed in the following section.

6.3. External validity

6.3.1. Causal generalization goal

According to Cronbach (1982), there are four types of instances on which data are collected in an experiment: treatments, units that experience treatments (e.g., participants), outcomes, and settings. External validity then refers to the ability of an experiment to generalize its findings (often causal relationships) to various instances.

An experiment is said to have strong external validity when its findings hold over all variations in all the four types of instances, which is rarely achieved though. Whether to go for a strong or mild external validity depends on the generalization goal that an experiment aspires to attain. Following is the causal generalization goal of my research.

Figure 5. Causal generalization goal

Instances	Target populations
Outcomes	Consumer engagement
Settings	Microblogging platforms
Treatments	$2 \times 2 \times 2$ broad types of CEO microblogs
Units	Internet users in the United States

In terms of outcomes, my experiment measures and only measures one outcome variable – consumer engagement. Therefore, the entire population of outcomes have been included in my experiment. In other words, I did not extend the research to other dimensions similar (e.g., consumer satisfaction, consumer loyalty) to or broader (e.g., consumer experience, consumer relationships) than consumer engagement. The focus of my study is on consumer engagement.

6.3.2. Sampling methods

However, regarding settings, treatments, and units, a brief look at the populations of these instances indicates that it is impossible to include in my experiment a dozen of existing microblogging platforms, several hundreds of CEO microblogs, and hundreds of millions of internet users in the United States. So this is when *sampling* comes into play. In quantitative research, the aim of sampling is to select cases that are representative of the target population so as to facilitate generalization.

The sampling method most often recommended for strengthening external validity of an experiment is probability sampling (Rossi, Wright, & Anderson, 1983). This method requires the researcher to clearly delineate the population and then sample with known probability from each population by means of random sampling²⁰. Common random sampling methods include simple random sampling, stratified random sampling, and cluster sampling, etc. (Yates, 1981).

²⁰ Random sampling is different from random assignment. The former deals with selection of cases to represent the population while the latter is concerned with assignment of the selected cases to different treatments.

However, in practice, as Shadish et al. (2002) suggest, random sampling is much rarely used for experimentation research due to its high resource and logistics demand. Fortunately, probability sampling is not the only option to help generalizations. Two non-probability sampling methods are sometimes useful for generalizations. They are typical case sampling and maximum variation sampling. The former refers to the selection of typical cases to illustrate what is typical, normal, and average of a population. The latter involves selecting cases to reflect population diversity on presumptively important dimensions. Though not backed up by a statistical logic that justifies formal generalizations, these two methods have an underlying logic that facilitate generalizations. What's more, these two sampling methods are more practical than formal probability sampling. Thus, typical case sampling and maximum variation sampling have become probably the most commonly used of all sampling methods for facilitating generalizations (Shadish et al., 2002).

Another commonly used type of non-probability sampling is convenience sampling which selects a sample that is easy to access and readily available (Salkind, 2010). Because convenience samples are easy to obtain and the cost of obtaining them is often relatively low, convenience sampling is also a popular sampling technique in research practice. However, due to narrow focus of the technique, results of studies using convenience samples are not very generalizable to other settings. Therefore, when using this sampling technique, researchers need to describe how their samples would differ from an ideal sample that is randomly sampled. Take unit (e.g., participant) selection for example, key demographic information comparing the convenience sample and the population is often required. That will help readers to get a good grasp of the sample that the researcher is testing and also enable them to

estimate the possible difference between the research results and the results from the entire population.

Based on the above review while taking into account the purpose of my research and resources available, I decided to use *typical case sampling* to select settings, *maximum variation sampling* to select treatments, and *random sampling* to select units.

6.3.3. Settings sampling

Whilst there are a number of microblogging platforms available, such as Twitter, Tumblr, Friendfeed, and Cif2.net, etc., I decided to use typical case sampling to select Twitter as the setting of my experiment. I believe, Twitter, as the world's most established microblog service website, provides a typical, normal, relatively stable and average microblogging setting for my experiment.

Launched in 2006, Twitter has rapidly achieved significant global scale, and continues to grow. In 2016, it has more than 310 million monthly active users spanning nearly every country, creating approximately 500 million Tweets every day²¹. Twitter users include millions of people from around the world, as well as influential individuals and organizations, such as world leaders, government officials, celebrities, athletes, journalists, sports teams, media outlets and brands" (Twitter, 2016).

And even if the findings of my experiment cannot be generalized to other microblog platforms (i.e., only limited to Twitter itself), it would still be able to generate important implications for the area due to the business scale and influence

²¹ <https://about.twitter.com/company>

that Twitter has as the largest microblogging platform in the world.

6.3.4. Treatments sampling

As indicated in Figure 5, there are $2 \times 2 \times 2$ broad population groups of CEO microblogs as treatments. The aim of sampling here is to select $2 \times 2 \times 2$ subgroups of CEO microblogs to form a $2 \times 2 \times 2$ treatment design as specified in Diagram 5. In order to achieve both internal and external validity, these $2 \times 2 \times 2$ subgroups should: (1) be able to facilitate comparison of effect between each other, (2) highlight the unique tendency of each microblogging type currently adopted by CEOs, (3) represent future directions in terms of microblogging type thus facilitating recommendations for CEOs to explore further on each dimension.

In order to achieve all these, I decided to use maximum variation sampling which is to select blogs positioned at one of the two ends of each of the three dimension to form $2 \times 2 \times 2$ subgroups. First, these $2 \times 2 \times 2$ subgroups would vary from each other as much as possible in at least one out of three dimensions, thus facilitating comparison of effect. Second, each of these $2 \times 2 \times 2$ subgroups, located at the far end of each dimension, are extreme cases highlighting the unique tendency of different microblogging type currently adopted by CEOs. Third, such cases also represent future directions in terms of CEO microblogging types thus facilitating recommendations for CEOs to explore further on each dimension. To elaborate, if a certain subgroup is identified as likely to have a positive effect on consumer engagement, I can generalize the findings by saying blogs of a similar tendency are also likely to have a positive effect on consumer engagement. That may persuade CEOs to adjust their current ways of using microblogs to align with that tendency or

even go further in that tendency as future direction. For example, if my research finds that power of style (POS, a language variable) is likely to increase consumer engagement and that the current highest POS found among CEO blogs is 0.6 (suppose the measurement scale ranges from 0 – 1), it may persuade CEOs whose POS is lower than 0.6 to increase their POS to 0.6 or even higher, for example, to 0.7 or 0.8.

6.3.5. Units sampling

Units are those who experience treatments. In my research, I set the target population as all internet users in the United States who have access to Twitter²². Since there is no available information regarding the comprehensive list of the population of US web users from which to randomly sample, probability sampling is not feasible. So I decided to use US web users who registered on the Prolific Academic website²³ and who volunteered to participate in my experiment as subjects of my research. Demographic characteristics of participants have been solicited during the experiment to facilitate comparison of my participant sample with the target population.

Regarding sample size of participants, rule of thumb for running regressions (e.g., analysis of covariance) is >50 per cell of a factorial design. Therefore, the

²² Theoretically, every internet user can have access to Twitter and view a CEO's public Twitter page even if he/she isn't registered on Twitter.

²³ Prolific Academic is the world's largest crowdsourcing community of people who volunteer to take part in surveys. Researchers post studies and recruit the right participants fast. Participants earn rewards while helping to advance human knowledge.

minimum sample size for my experiment should be 400 (i.e., 50×2^3).

Sampling strategies for outcomes, settings, treatments, and units are summarized as below:

Figure 6. Sampling strategies for experiment

Instances	Sample	Target populations	Sampling methods
Outcomes	Consumer engagement	Consumer engagement	/
Settings	Twitter	Microblogging platforms	Typical case sampling
Treatments	$2 \times 2 \times 2$ experimental CEO Twitter accounts, each of which represents a broad microblogging type	$2 \times 2 \times 2$ broad types of CEO microblogs	Maximum variation sampling
Units	US internet users who register on Prolific Academic website and volunteer to participate in my experiment	US internet users	Convenience sampling

6.4. Summary

In Phase (II) of my research, a randomized experiment of $2 \times 2 \times 2$ factorial design with pretest is used to examine the effect of different types of CEO microblogs on consumers' engagement level.

In this chapter, I elaborated how I have addressed the two fundamental issues of experimental design: internal validity and external validity.

Regarding internal validity, I discussed and explained how I have used random assignment, pretest, and factorial design to strengthen internal validity of my experiment.

As for external validity, I discussed my sampling strategies in selecting outcomes, settings, treatments, and units; and explained how such strategies may help to enhance external validity, i.e., to achieve the causal generalization goal of my

research.

Below is a summary of my research design Phase (I) and II combined.

Figure 7. Research design Phase (I) & (II)

		Data	Collection	Analysis	Objectives
Phase (I)	Stage 1	A random sample of historical CEO Tweets	Twitter API	Content analysis (I) (Inductive-oriented)	Identify features/dimensions characterizing of CEOs' use of microblogs
		A certain number of historical Tweets from each CEO microblog	Twitter API	Content analysis (II) (Deductive-oriented)	Classify and map CEO microblogs
	Stage 2	Audio	Semi-structured focus group interviews	Summary of essence	- Verify findings from content analysis - Select experimental CEO microblogs
Phase (II)	Recruit volunteering web users ↓ Pretest to measure extraneous variables ↓ Instruct participants to browse one of the 8 experimental CEO Twitter accounts ↓ Posttest to measure outcome variables				Determine the effectiveness of different types of CEO microblogs in engaging consumers

Results and Analysis Chapters

These five chapters present my research results and analysis.

Chapters 7 - 9 discuss in detail the procedure and results of my research Phase (I): Chapter 7 focuses on content analysis (I), Chapter 8 on content analysis (II), and Chapter 9 on focus group interviews.

Chapters 10 – 11 are dedicated to my research Phase (II) - an online experiment which tests the effectiveness of typical CEO microblogging types identified from previous stages of the research in engaging consumers. Chapter 10 presents my experiment hypotheses, measures, and design, while Chapter 11 describes and discusses my experiment findings.

Chapter 7

Content analysis (I): Explore CEOs' use of microblogs

Brief content:

7.1. Introduction

7.2. Collecting CEOs' Tweets

7.2.1. Identification of existing CEO microblogs

7.2.1.1. Search of social CEO lists

7.2.1.2. Selecting and merging existing CEO lists

7.2.1.3. Verification of master list

7.2.2. Tweets collection tool

7.2.2.1. Using social data provider services

7.2.2.2. Developing application via Twitter APIs

7.2.3. Tweets collection

7.3. Coding

7.3.1. Open coding

7.3.2. Axial coding and selective coding

7.3.3. Final categorization matrix

7.4. Summary

7.1. Introduction

As illustrated in Figure 7, my research is designed to include: (1) content analysis (I) – an inductive-oriented analysis on a relatively small random sample of CEOs' Tweets to identify key dimensions characterizing CEOs' use of microblogs in dialogue with consumers; (2) content analysis (II) – a deductive-oriented analysis of a large sample of CEOs' Tweets to measure and map CEO microblogs onto each

dimension identified in content analysis (I); (3) focus group interviews with business school students to review findings from the previous stages and select the most appropriate CEO blogs for an online experiment; and (4) an online experiment to determine the effectiveness of different types of CEO microblogs in engaging consumers.

For each of the above four steps, I will spend at least one chapter to discuss its procedure, results, and analysis. This chapter focuses on content analysis (I). In this chapter, I will first explain how the required data (i.e., CEOs' Tweets) were collected and analyzed (i.e., open coding, axial coding, and selective coding), then discuss my findings.

7.2. Collecting CEOs' Tweets

Data collection for content analysis involved four main steps:

- 1) Identified existing CEO microblogs.
- 2) Selected the most suitable Tweets collection tool.
- 3) Collected a certain number of most recent Tweets from each CEO microblog to represent the CEO's blog. These were the data examined in content analysis (II).
- 4) Collected a sample of Tweets that can represent the population of Tweets obtained in step (3). These were the data examined in content analysis (I).

7.2.1. Identification of existing CEO microblogs

7.2.1.1. Search of social CEO lists

As explained in Chapter 6 Section 6.3.3, I chose Twitter as the focus platform of

my research. In order to collect the required data (i.e., CEO Tweets) for content analysis, I first needed to identify CEO accounts on Twitter. Since academic enquiry into “social CEOs”²⁴ is limited, there is hardly any master list of social CEOs available from prior scholarly research. Fortunately, business practitioners have produced various lists of social CEOs, which can be a starting point for creating a master list for my study.

Comprehensive lists

There are in general three types of lists. The first type is comprehensive lists which aims to identify and include all those CEOs who are on social media platforms, particularly on Twitter. For example, the “Ultimate list of social CEOs on Twitter” compiled by Strategic Objectives Co. (2014) claims to be the most up-to-date list of tweeting CEOs. Strategic Objectives is Canada’s most award-winning PR agency and a recognized leader in the field of marketing and social public relations. It is the only PR agency in Canada recognized by the United Nations for Outstanding Achievement in Public Relations and named IABC/Toronto PR Agency of the Year 2012, 2011, 2009. Methods adopted by Strategic Objectives in identifying tweeting CEOs include: gathering information from its social media and CEO networks; bio searches on Twitter for #CEO; merging existing traditional and social media lists produced by established business practitioners such as Wall Street Journal, BusinessWeek, Listorious, Inc., Forbes, etc. (Strategic Objectives Co., 2012).

Another useful comprehensive list is the “CEO Twitter list” by Twibes.com (2014). Twibes is a tool that organizes Twitter conversations by topic so as to enable

²⁴ Social CEOs: CEOs on social media

users to find, follow, and participate in the conversation in which they are interested²⁵. The CEOs list generated by Twibes.com includes accounts that have been tagged with the keyword “CEO”, so by nature, it can also be viewed as a “comprehensive list”.

Impact lists

The second type of lists is impact lists, which tries to identify the most influential CEOs by using social media metrics. One notable metrics is the Klout score²⁶. Klout is a social media analytical tool that ranks users according to the breath and strength of their online social influence with a score out of 100. Twitter is the primary social network assessed by Klout. A combination of Twitter attributes is used to calculate the Klout score, such as the ratio of reactions one generates compared to the amount of content one shares; how selective the people who interact with one's content are²⁷; and how much reaction one derives from unique individuals²⁸, etc.

Representative CEO impact lists based on Klout scores are “The most influential Execs on web” by Reuters & Klout 50²⁹, “Influential CEOs – A public list” by @MyTwitChimp³⁰, “Top CEO's on Twitter: Executives with massive Twitter followers and top Klout scores” by SocialNewsDaily.com³¹, etc.

²⁵ <http://www.twibes.com/>

²⁶ <http://klout.com/corp/score>

²⁷ The more a follower likes and retweets others' Tweets, the less selective this follower is, and hence the less each of his/her interactions contributes to the user's score.

²⁸ One-hundred retweets from 100 different followers contribute more to one's score than do 100 retweets from a single follower.

²⁹ <http://wallblog.co.uk/2012/02/03/reuters-names-the-top-50-social-ceos/>

³⁰ <https://twitter.com/mytwitchimp/influential-ceos/members>

³¹ <http://socialnewsdaily.com/9862/top-ceos-on-twitter-executives-with-massive-twitter-followers-and-top-klout-scores>

While most impact lists are relying on the Klout score, a few have gone beyond the quantitative data to take into account the content of the CEOs' Tweets. For example, the "Ranking of the top 60 CEOs on social media" by WorldofCEOs.com has considered who is creating true "value-added content" based on "originality and positive impact on the corporate world, their industry, and application to their own company"³². "The top 25 CEOs to follow on Twitter" by theceoguru.com has taken into account the quality of the CEOs' Tweets regarding "whether they are just talking about themselves and their companies or offering genuine leadership and industry insights, how they are engaging with hot topics and influencers, and indeed whether they are actually writing the Tweets themselves"³³. Unlike comprehensive lists, impact lists are often much shorter as they only include CEOs with top influence scores.

Specialized lists

The third type is specialized lists, which aims to identify CEOs of a specific category. For example, the "CEOs that tweet" list by CEO.com³⁴ is dedicated to find Fortune 500 CEOs on Twitter. "The most digitally engaged FTSE100 executives" by Text100 International Communication (2014) is interested in CEOs of FTSE100 that tweet which had listed 10 CEOs. "The top 30 charity CEOs on social media" Amar (2013) seeks to find active UK charity CEOs on Twitter.

³² <http://www.linkedin.com/today/post/article/20130923114106-13518874-ranking-of-the-top-60-ceos-on-social-media>

³³ <http://www.theceoguru.com/the-top-25-ceos-to-follow-on-twitter/>

³⁴ <http://www.ceo.com/lists/ceos-that-Tweet/>

My evaluation of these three types of lists is as follows. Comprehensive lists have often included a large number of tweeting CEOs thus forming an important base for my initial investigation. On the other hand, impact lists and specialized lists may complement comprehensive lists with their focus on a specific aspect of social CEOs. It is likely that some of them might have picked up an angle missed by those comprehensive lists, or recorded more accurate information, thanks to their narrow focus of study and the more detailed manner adopted. So although the number of CEOs identified by these two types of lists is much smaller than that a comprehensive type of lists, they have the potential to complement, enrich, and correct comprehensive lists. I believe that merging these three types of lists would generate a more inclusive and accurate list of tweeting CEOs.

7.2.1.2. Selecting and merging existing CEO lists

Based on the above analysis, a careful evaluation of the credibility of source was conducted on the various social CEO lists. Two comprehensive lists, five impact lists, and three specialized lists (see Table 1 next page) were selected and then merged to form my own master list of tweeting CEOs. Altogether 353 CEOs were included in this list. Three CEOs whose number of followers was significantly smaller than the rest (less than 400) were dropped leaving 350 CEOs accounts for further consideration.

Table 1. CEOs Lists

CEO lists	Source	Number of CEOs included
Comprehensive lists		
Ultimate list of social CEOs on Twitter	Strategic Objectives	294
CEO Twitter list	Twibes.com	120
Impact lists		
The most influential Execs on web	Reuters & Klout 50	50
Influential CEOs – A public list	@MyTwitChimp	51
Top CEO's on Twitter: Executives with massive Twitter followers and top Klout scores	SocialNewsDaily.com	32
Ranking of the top 60 CEOs on social media	WorldofCEOs.com	60
The top 25 CEOs to follow on Twitter	theceoguru.com	25
Specialized lists		
CEOs that Tweet	CEO.com	25
The most digitally engaged FTSE100 executives	Text100	10
The top 30 charity CEOs on social media	Amar	30

7.2.1.3. Verification of master list

In order to further enhance the accuracy of my master list, a verification was operated on each of the listed CEOs. To be exact, the official website of each listed CEO was examined to confirm the identity and Twitter account of the CEO. For those CEOs whose Twitter information was not available on the company website, a search was conducted on Twitter for a verified account³⁵ under the CEO's name with his/her identity as a CEO displayed on the profile. In case where there were multiple accounts under the CEO's name yet none of them was verified, I checked the number of followers, follower comments, and information provided by general social media outlets to see if the information on my master list was correct. The verification process confirmed that all the names were correct, indicating that my selection of

³⁵ “Any account with a blue verified badge on the Twitter profile is a verified account” (<https://support.twitter.com/articles/119135-faqs-about-verified-accounts#>)

existing CEO lists was rigorous and worth the effort.

Compared to prior Twitter related research (not limited to marketing or business context) in which the number of accounts analyzed was often between the range of [5 – 40] (e.g., Aharony, 2012; Bulearca & Bulearca, 2010; Case & King, 2011; Kwon & Sung, 2011; Lin & Peña, 2011), my list of 350 accounts would significantly enlarge the scope of existing research.

7.2.2. Tweets collection tool

There are in general three ways to collect Tweets: (1) manually collecting Tweets; (2) using social data provider services, e.g., DataSift, Gnip, etc.; or (3) developing a tailored application via Twitter API. Key features of these three means are compared in Table 2 and will be carefully evaluated in this section.

Table 2. Tweets collection tools comparison

Methods	Physical demand	Intellectual demand	Time	Costs
Manually collecting Tweets	High	Low	High	Low
Using social data provider services	Low	Low	Low	High
Developing a tailored application via Twitter API	Low	High	Medium	Low

Manually collecting Tweets would involve finding CEO Twitter accounts and then copying and pasting their Tweets into a database. Therefore, this method is highly physically demanding and time consuming. Considering the large quantity of Tweets aimed at collecting, I ruled out this method despite its low intellectual demand and financial cost.

Then a thorough research and careful evaluation was conducted on the other two options, i.e., using social data provider services and developing a tailored application via Twitter API.

7.2.2.1. Using social data provider services

Social data provider services find and gather social data on behalf of their clients so as to allow the latter to spend more time analyzing and gaining insights from social data. Two of the leading enterprise social data providers are Gnip and DataSift. They are the only two companies that are certified Twitter data resellers and have access to the full Twitter firehose (Wagner, 2014).

Gnip, Inc., based in Boulder, Colorado, was founded by Eric Marcoullier and Jud Valeski in 2008, and today is one of the leading social data providers. The Gnip platform provides access to both real-time and historical social data from networks including Twitter, Tumblr, Facebook, Foursquare, Instagram, and many others. It is worth noticing that Gnip is Twitter's first data partner and the first with access to the complete archive of Twitter data³⁶.

DataSift, Inc. is based in Reading, UK, and was founded in 2007 by Nick Halstead. DataSift is a leading enterprise social data provider offering both real-time and historical social data as well as the ability to aggregate, filter, and extract insights from social networks³⁷.

The greatest advantage of using social data services is that they eliminate the need to spend time finding and gathering social data, hence very low physical,

³⁶ <http://gnip.com/company/about/>

³⁷ <http://datasift.com/company/>

intellectual, and time demand on the researcher's part. However, neither of Gnip or DataSift offers free accounts and both of them charge very high fee, \$500+ project based fees as starting point by Gnip and \$3000+ monthly fee by DataSift (Wagner, 2014). Due to my financial constraints, I had to drop the option of using social data provider services.

7.2.2.2. Developing application via Twitter APIs

Twitter APIs

The third option is to develop a tailored application to collect Tweets via Twitter APIs. API, Application Programming Interface, is a “defined way for a program to accomplish a task, usually by retrieving or modifying data” (Twitter Developers, 2014). Many popular web services, such as Twitter, Facebook, and Google, provide APIs that allow programmers to make applications that interact with the web service (Aboukhalil, 2013). For example, in the case of Twitter, each Twitter API enables access to a specific type of data of the website, such as user profile information, Tweet content of a user, keywords of a Tweets, etc. Programmers can therefore build their applications, websites, widgets, and other projects upon these APIs so as to interact with Twitter. There are in general four types of APIs each facilitating a specific kind of interactions between programmers and Twitter.

- *Twitter APIs for websites* enable websites to quickly and easily integrate Twitter functions. Notable basic functions include Tweet button, which permits a user to tweet about something he/she find engaging on the website; and the Follow button, which allows a user to quickly follow the website's account back on Twitter.

- *Search APIs* allow a programmer to query for historical Twitter content. This may include fetching a set of Tweets from a particular user, finding Tweets referencing a specific user, or searching Tweets with specific keywords, etc. It should be noted that search APIs have caps on velocities and rate limits.
- *REST (REpresentational State Transfer) APIs* provide developers access to some of the core primitives of Twitter including timelines, status updates, and user information. What's more, developers can use *REST APIs* as an interaction tool with Twitter whereby they can create and post Tweets back to Twitter, reply to Tweets, favorite certain Tweets, retweet other Tweets, and more. This function significantly reduces the time and effort of developers if they have a large amount of Twitter accounts to manage.
- *Streaming APIs* allow a programmer to query for real-time Twitter content. This may include specifying and tracking large quantities of keywords, retrieving geo-tagged Tweets from a certain region, or finding public statuses of a user set. The data obtained through *Search APIs* are a real-time sample of the Twitter firehose. So a long-live HTTP connection is required. With a much higher rate limit than *Search APIs*, *Streaming API* is most suitable for those developers with aggressive data query needs.

(Twitter Developers, 2012)

Based on the above information, I found that *REST APIs* have the greatest potential to meet the data and query needs of my research. A further search into the category identified *GET status/ user_timeline* as the most suitable and useful *REST API* for my data needs. *Get status/ user_timeline* returns a collection (up to 3, 200) of

the most recent Tweets posted by a specific user. In addition, this API also fetches the associated analytics of each Tweet, such as its posted time and number of replies/retweets/ likes, etc. Such analytics complement Tweet content and might be useful for identification of particular characteristics of CEOs' use of microblogs. It should be noted that if a user's account is protected, i.e., not open to the public, his/her user timelines may only be requested when the querier either "owns" the timeline or is an approved follower of the owner (Twitter Developers, 2013).

Developing and running an application via APIs requires knowledge of a programming language (e.g., Python, PHP, C, etc.), the specific API in use, and a database (e.g., Excel, SQLite, etc.). Therefore, this method is highly intellectually and technically demanding. However, once the application is created, it can be left to run on its own hence significantly reducing the time spent in collecting the required data. What's more, since Twitter APIs are publically available on the Twitter's website, the costs associated with this method are very low. So I concluded that the pros of using APIs outweighs its cons and decided to use them for my data collection.

As mentioned earlier, developing an application via Twitter APIs requires a programming language to be used to write a script and a database management system to store and manage the data. Based on my knowledge of computer science, I decided to use Python as the programming language and SQLite as the database management system. The rationale of choosing these two tools is presented as follows.

Python

As a high-level programming language³⁸, Python is widely used in web, database access, desktop GUIs³⁹, game and software development (Donaldson, 2014). In the case of Twitter APIs, Python is an even popular language due to various useful Twitter-related adds-on that Python has, such as Twython⁴⁰, which is a “actively maintained, pure Python wrapper for the Twitter API” (Python Software Foundation, 2014). Python provides many ready-to-use APIs to interact with Twitter APIs, saving programmers' time spent on creating the codes.

SQLite database

SQLite is a public-domain software package that provides a relational database management system, or RDBMS. Relational database systems are used to store user-defined records in large tables. In addition to data storage and management, a database engine can process complex query commands that combine data from multiple tables to generate reports and data summaries” (Kreibich, 2010,pp.1). Several key features of SQLite have made it a good choice for data storage and management in my research. First, SQLite is serverless and requires zero configuration. SQLite does not need a separate system, or server, to operate. No server means no setup. Therefore, to create a SQLite database is as easy as to open a file. Second, SQLite has small runtime footprint. The default build of SQLite requires

³⁸ High-level programming language has a high level of abstraction from the computer, focusing more on the programming logic (e.g., it may use natural language element) rather than the underlying hardware architecture. Therefore, compared to low-level language, high-level language is easier to write, read, and maintain (British Computer Society, 1973).

³⁹ Graphical user interface

⁴⁰ <https://pypi.python.org/pypi/twython/3.1.2>

only a few megabytes of memory (Kreibich, 2010). Third, SQLite integrates seamlessly with a number of programming language including Python (Perera, Anand, Subbalakshmi, & Chandramouli, 2010). Fourth, SQLite is widely-used as an embedded database in application software, such as web browsers. In this way, the database system is hidden from the application's end-users, and requires little maintenance. For example, the Mozilla Firefox web browser provides a SQLite manager add-on which enables users to create and manage any SQLite database on their computers (SQLite.org, 2014).

Therefore, in order to obtain the required data, I developed and ran a Tweet collection application based on Twitter *REST APIs* in conjunction with Python and SQLite. The application was a script written in Python language. It's function was to loop over each of the CEO Twitter accounts and for each one to fetch from the Twitter server a certain number of the most recent Tweets including the associated analytics (e.g., number of replies/ retweets/ likes, posted time, etc.) to a SQLite database.

7.2.3. Tweets collection

With the help of Twitter APIs, the most recent 200 Tweets were collected from each of the 350 listed CEO accounts. This Tweets sample was used in content analysis (II).

The sample size was set at 200 Tweets per account because this is the maximum count of Tweets per page that the Twitter *REST APIs* can fetch from a single user account (Twitter Developers, 2013). Although the maximum pages that Twitter *REST APIs* can return is 16, which means for a single user Twitter account, one is able to get up to 3,200 Tweets by that user (Twitter Developers, 2013), I still opted for 200

for three reasons.

First, the number of Tweets per account analyzed from prior Twitter related research had often ranged from 50 – 200 (e.g., Aharony, 2012; Kwon & Sung, 2011; Lin & Peña, 2011). Hence, 200 Tweets per accounts was already in the highest tier of its kind.

Second, 200 Tweets per accounts multiplied by 350 accounts on my CEOs list would yield approximately 70,000 Tweets to be later content analyzed. This size was significantly larger than prior research and should be sufficient to generate significant results.

Third, I believe that I could handle such a large size of Tweet sample because in content analysis (II), coding should be largely operated according to a categorization matrix. This type of operation could be efficiently handled by computer assisted qualitative data analysis software.

During the Tweets collection process, twelve CEO accounts were dropped. That was due the fact that those CEOs had either changed their account username, which was an essential parameter for Twitter *REST APIs* to work; or forbidden public access to their Tweets by the time of my data collection. Regarding most of the remaining 338 accounts, 200 of their most recent Tweets were successfully collected. Only a few accounts failed to reach 200 because the CEOs had not tweeted that much during their entire time on Twitter (see Table 3 next page).

Table 3. CEOs and number of Tweets

Number of Tweets collected per CEO	Number of CEOs
1 - 20	4
40-180	14
180-199	41
200	279
Total	338

As shown in Table 3, there were four CEO accounts which had no more than 20 Tweets. I decided to exclude these four accounts from my content analysis due to their extremely few number of Tweets. After excluding these four accounts with too few Tweets, I took a look at the tweeting frequency (Table 4) of the remaining 334 accounts and found another four accounts that had tweeted too often a day (more than 200 Tweets per day). These four accounts were also treated as outliers and dropped. Otherwise, they would generate too high of a leverage on my analysis.

Table 4. CEOs and tweeting frequency

Number of Tweets per day	Number of CEOs
200	4
100 - 50	16
<40	314
Total	334

With eight accounts dropped, a total of 330 CEO accounts with 64,641 Tweets were eventually ready for content analysis (II).

As mentioned earlier in Chapter 5 Section 5.2, content analysis (II) required a categorization matrix and that is exactly what content analysis (I) was designed for. In fact, content analysis (I) could be viewed as a preoperational step for analysis (II). For content analysis (I), multistage sampling was used to randomly select 30 out of the

total number of 330 CEO accounts, then from each account 10 out of 200 Tweets were also randomly selected to form a sample of 300 Tweets for in-depth analysis. A Tweet contains no more than 140 characters, so a sample of 300 Tweets means approximately 42,000 words for the first round examination in content analysis (I). If this later turned out to be not sufficient, a second round of collection could be implemented (according to theoretical sampling principle of grounded theory).

Notice that a smaller sample of Tweets was used in content analysis (I) because I believe that it is neither feasible nor necessary to analyze a very large collection of Tweets for identification of key features characterizing CEOs' use of microblogs. It is not feasible because content analysis (I), in particular open coding, is a tedious and time-consuming process. It is not necessary as I anticipate key categories would emerge much more quickly from a representative sample of Tweets. There is no need to tediously code all 200 recent Tweets of a blog before moving to the next – a random sample of Tweets from a random sample of blogs (i.e., multistage sampling) would do the job much more efficiently. And do not forget, following the guidance of the theoretical sampling principle of grounded theory, more rounds of data collection can be carried out in case the first sample of Tweets turns out to be insufficient for content analysis.

7.3. Coding

When the required data were collected, content analysis (I) could begin in order to explore CEOs' use of microblogs in dialogue with their consumers in terms of content, language use, and interactional effort. Open coding, axial coding, and selective coding were therefore conducted. Since theoretical guidelines of the coding

process have been already explained in Chapter 5 Section 5.2.2.1, this section will focus on the actual operation of these three coding processes.

7.3.1. Open coding

Open coding is for researchers to open the enquiry widely. To the 300 sampled Tweets, I read through each of them while asking a consistent set of questions, i.e.,

- What is the CEO tweeting? (content variables)
- How does the CEO tweet? (language variables)
- What effort does the CEO make in creating and enhancing consumer interactive experiences? (interactional effort variables)
- Etc.

Bearing these questions in mind, I analyzed the sampled Tweets minutely and coded relevant sections with corresponding conceptual labels.

Following are some examples of open coding on the sampled Tweets.

@Ragy Thomas - 9 Sep 2013
 Sprinklr is Hiring¹! Learn more about opportunities² to join the team³ here:
<http://spr.ly/6014ZajQ>⁴.

- ¹ Human resources
- ² Lengthy word
- ³ Inviting
- ⁴ Link

@Kjstrasser - 4 Feb 2014
@Saaabina¹ Heard about @TribeBoost way over in Bulgaria? Cool²! I
 need to give my marketing person³ a raise. Wait...thats me⁴! Haha⁶.

- ¹ Replying
- ² Colloquial
- ³ Colleagues
- ⁴ Personal pronoun
- ⁵ Humor
- ⁶ Colloquial

@Minervity - 21 Feb 2014

Thank you^{1, 2} for the follow guys³! I⁴ am humbled! @MattBCumming
@Agency720⁵

- ¹ Expressing gratitude
- ² Personal pronoun
- ³ Colloquial
- ⁴ Personal pronoun
- ⁵ Mentioning others

@Jnosal - 22 Apr 2014

Is your¹ #LinkedIn² Profile³ up to par & SEO optimized?⁴ Ask me^{5,6} about
my⁷ #LinkedIn⁸ profile review service⁹.

- ¹ Personal pronoun
- ² Hashtagging
- ³ Capitalizing
- ⁴ Question
- ⁵ Inviting
- ⁶ Personal pronoun
- ⁷ Personal pronoun
- ⁸ Hashtagging
- ⁹ Service

@PivotCEO - 27 Feb 2014

@runnermommy2008¹ Hey^{2,3} Michelle, 5am and 4 degrees for my⁴
#10kaday⁵ today. Brrrrrrrr⁶....where is spring?⁷ #runchat⁸ #run⁹
#bostonmarathon¹⁰

- ¹ Replying
- ² Colloquial
- ³ Greeting
- ⁴ Personal pronoun
- ⁵ Hashtagging
- ⁶ Intentional misspelling
- ⁷ Question
- ⁸ Hashtagging
- ⁹ Hashtagging
- ¹⁰ Hashtagging

As the above examples illustrate, in open coding, I opened the enquiry as widely as possible and tried to code every element I could sense that seemed relevant to the research question. In this way, when open coding was completed on the 300 random sampled Tweets, I had a list of codes and their responding referenced data. What's more, when undertaking open coding, I also constantly compared the coded data and

grouped them into categories which were constantly compared, reviewed, and revised as the coding proceeded. Therefore, upon the completion of open coding, I not only had a list of codes, but the coded data were already grouped into categories based on their similarities and differences for further analysis in axial coding which was the next step. It should be noted that a few codes were discarded due to their lack of significance or relevance when compared to others.

My open coding has generated six categories of coded data. Each category is illustrated with examples as follows.

1) Work & Company

Many CEOs tweet about work and company related issues. For example,

Human resources/ Hiring:



Jeff Joerres @ManpowerGroupJJ · 13 Feb 2014

95% of hiring mgrs struggle to fill engineering positions. 88% plan to hire engineers, 29% don't think they will find right talent



Aaron Patzer @apatzer · 11 Jan 2011

Mint & Quicken are looking for a new Director / Head of Marketing: <http://bit.ly/dX6mPN> to run \$100m+ lines of business & about 10 ppl team

Investment decision:



Eric Schmidt @ericschmidt · 5 Nov 2013

Hong Kong invested in the Internet, so we're proud to invest in its entrepreneurs. goo.gl/mMQp6e

Business insight:



Rupert Murdoch @rupertmurdoch · 24 Sep 2015

Chinese change to consumption and services will have huge effects on commodity dependent economies. Australia, Brazil, SEAsia, etc.

Management expertise:

Richard Branson @richardbranson · 22h

8 ways of thinking and actions that can help you on your way to success: virg.in/4kh

Conference:

Jen Fremont-Smith @jfreemontsmith · 24 Sep 2012

Looking forward to speaking to MIT Sloan SF 2013 tonight about my favorite topic - entrepreneurship and @Smarterer

Product/ service:

Babu M Varghese @babu2480 · 13 Nov 2013

@WhatsApp hi we can provide the best android development at very reasonable price from India . Are you interested? convensystem.com

2) Personal life

There are also many CEOs who tweet about their personal life. For example,

Leisure/ movie:

Jason Alba @jasonalba · 12 Apr 2013

Saw Impossible movie last night - it was amazing. One of the best movies I've ever seen.

Leisure/ musical:

imogen ward @imogenward · 10 Nov 2013

aw love cats was my first time too....@BBC6Music #nowplaying

Vacation:

John Donahoe @Donahoe_John · 23 Feb 2010

So the story for my last week is "I went to Siberia and came back 10 years younger ..." :)

Mood:

YaleCEO @YaleCEO · 25 Feb 2014

Not in great mood 2day but will not let minor things bother me

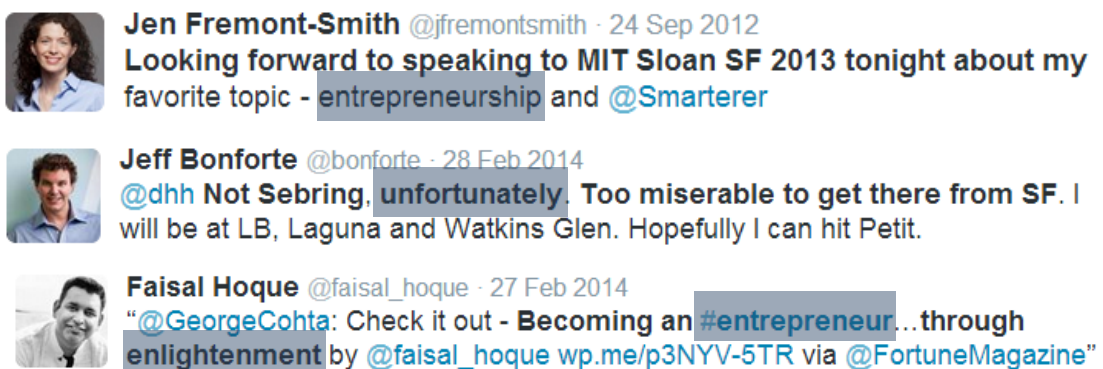
Family:**Fred Cuellar** @FredCuellar · 1 Feb 2014**Happy Birthday To My Dad Hector Cuellar!! Happy 74th Dad! I Love You! #Blessed** (He's the one on the right ;))*Friends:***Polly Neate** @pollyn1 · 14 Feb 2014**Today is special because it's the birthday of @HThornbery AND @K_IngalaSmith - wow. Anything else going on?****3) Non-standard vocabulary**

While analyzing CEO Tweets, I also noticed that many CEOs tend to use non-standard vocabulary. For example,

Colloquial terms:**Hayes Davis** @hayesdavis · 29 Jul 2013@gotwalt **Oh man.** Really? Like actual blue mold?**Christine Perkett** @missusP · 5 Feb 2014**Wow!** Matt & crew have come a long way. **Congrats @Punchbowl** - inks deal with @Disney, via @BostonBizJournal ow.ly/tjpnQ #boston...**Kenny Tomlin** @kennytomlin · 15 Dec 2013**Hello Seattle. Bring us your best food and drink! Oh,** and @a_manning said she needs to get her nails done so that too.*Abbreviation:***Kamal Hotchandani** @HauteLiving · 18 Oct 2013**Great night catching up w @joannakrupa.** Her and @romainzago stole the show. **Congrats** family. Love u... instagram.com/p/fl9dgJPr74/**Louise Macdonald** @Louisemac · 19 Feb 2014**#CYPBill** passed - wonderful. **Huge congrats** to all amazing orgs, civil servants, MSPs & young people who made it happen **#bestplacetogrowup****John Battelle** @johnbattelle · 21 Feb 2014@candanselin **tk u** honored.

Intentional misspelling:*Emoticon:***4) Complex vocabulary**

On the other hand, there are also quite a few CEOs who prefer to use complex vocabulary. For example,

Lengthy word:

Notice that word length can be an indicator of vocabulary complexity as suggested by Neuendorf (2002). This is a good example of how former knowledge (i.e., prior research and relevant literature) can assist open coding by providing the

researcher with some sensitizing concepts which may help identification of relevant data (Charmaz, 2001).

5) Relating

Another instance when former knowledge came into play in my open coding was related to personal pronouns. According to Pollach (2005), personal pronouns can implicitly suggest a relationship between the speaker and the audience. More specifically, the use of 1st-person pronoun (e.g., “I”, “we”, etc.) often helps establish relationship with message receivers by stating information as belief rather than facts. The use of 2nd-person pronoun (e.g., “you”, “your”, etc.) generally invites message receivers into the conversation. Such knowledge of the use of personal pronouns in communication made personal pronouns a “sensitizing concepts” in my content analysis of CEOs' Tweets and they were regarded as an indicator of the CEO's effort in relating with consumers. Examples of CEOs' Tweets using personal pronouns are as follows:

1st-person pronoun:



Tony Lacavera @TonyLacavera · 5 Jun 2012

At **my** favourite annual session, the regulatory blockbuster, love Rogers taking shots at Globalive. Are they afraid of competition? #cts12



Nancy Lublin @nancylublin · 24 Jan 2014

My definition of a successful night? The doorman cards me. #Winning



Sally Lewis @CEOLewis · 19 Feb 2014

When **I** first joined Probation (and After Care Services) we delivered VAC voluntary after care A&S IOM do so today to targeted group #success



David Karp @davidkarp · 1 Aug 2013

"This may be **my** favorite CH video of the year." – @rickyvanveen tumblr.co/Zx4ybyrAeOI3

2nd-person pronoun:

Eric Schmidt @ericschmidt · 8 Jun 2013

In case **you** missed it: **Larry's response to alleged Google** involvement in a government spying program called **#PRISM**: goo.gl/67SXb



Meg Whitman @MegWhitman · 23 Sep 2010

My positions on the CA propositions: <http://meg4.me/vaxv> I urge **you** to study each prop carefully to make your own informed decision. **#cagov**



Lief Larson @lieflarson · 28 Aug 2013

Are **you** curious? sphotos-b-ord.xx.fbcdn.net/hphotos-frc3/q...



Young Advisors @YoungAdvisors · 19 Feb 2014

What would **you** want from the **@TheCooperative**? **#HaveYourSay...** I just have :) haveyoursay.coop fb.me/2GVSINXV4

6) Responding

The last category of my codes describes the CEO's effort in replying to consumers on Twitter. I was impressed that some CEOs (or their proxies) do take time to read consumer response and reply to their consumers on various issues. For example,

Responding - express gratitude:

Drew Houston @drewhouston · 22 Mar 2011

[@cdixon](#) thanks for the kind words :) to be fair we've had our share of lucky breaks so far



Drew Neisser @DrewNeisser · 19 Jan 2014

[@calamarc](#) Thx for the follow Marc. What's your pick for best picture?

Responding - service:

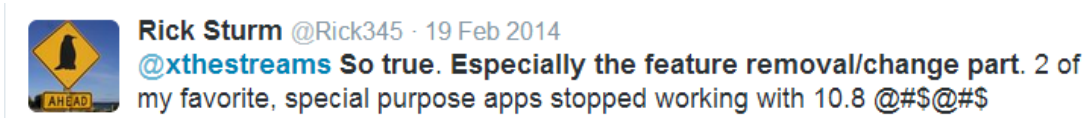
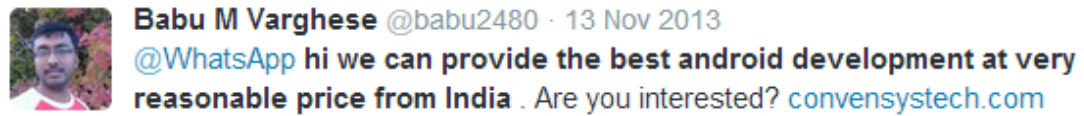
Dave Morin @davemorin · 16 Jan 2014

[@Jason](#) [@ryanlawler](#) [@rstephens](#) [@brooke](#) we try to keep that private for you :)



travis kalanick @travisk · 2 Jan 2014

[@coopkristen](#) happy to look at your account, but every query we've seen we have logs of the person confirming the surge multiple /[@Wiznutz](#)

Responding - product:*Responding - sales:*

When open coding of the 300 randomly sampled Tweets was completed, I realized that I was not really finding any new concepts but only repeating existing labels. When fewer and fewer new categories emerge and the existing ones become “saturated”, it is often a sign for the researcher to stop open coding and move on to the next stage of analysis (Rowlands, 2005).

However, out of cautions, I decided to randomly select another set of 300 Tweets to conduct a second round of open coding just to make sure I hadn't missed any important concepts. The second round of open coding on the new sample confirmed my findings from the first round. No new categories needed to be added.

To sum up, open coding of two sets of random Tweet samples (each consisting of 300 Tweets) generated six categories of codes, which were further analyzed by means of axial coding.

7.3.2. Axial coding and selective coding

In axial coding, I undertook two tasks: 1) examined and refined categories previously generated in open coding; 2) compared categories alongside others to group similar ones under higher order categories.

Refining categories

First of all, the category of “work & company” and “personal life” are actually describing the content of CEOs' Tweets. Tweets coded under the “work & company” category can be viewed as more professionally oriented while those coded under “personal life” category as more personal oriented. Therefore, these two categories were respectively revised as “professional content” and “personal content” to better capture the essence of the coded data.

On the other hand, the category of “complex vocabulary” and “non-standard vocabulary” are describing the language CEOs use when tweeting. Since messages/speeches that employ complex vocabulary are often viewed as formal in term of language (Heylighen & Dewaele, 1999), the “complex vocabulary” category was revised into “formal language”. As for Tweets that contain “non-standard vocabulary”, I view them as informal in terms of language and decided to revise the category into “informal language”.

Finally, the categories of “relating” and “responding” capture CEOs' actions on Twitter. When a CEO frequently relates or responds to the audience, that indicates the his/her intention to communicate more with the audience. In this case, the actions of the CEO can be viewed as open (to communication/ interaction). In contrast, if a CEO seldom relates or responds to others, I regard his/her actions as more reserved. Therefore, Tweets coded with “relating” or “responding” were grouped into the “open action” category whereas those not having the “relating” or “responding” labels were grouped into the “reserved action” category. As a result, six refined categories emerged: professional content, personal content, formal language, informal language,

open action, and reserved action.

Grouping categories

The six refined categories were then further grouped under three higher-order categories.

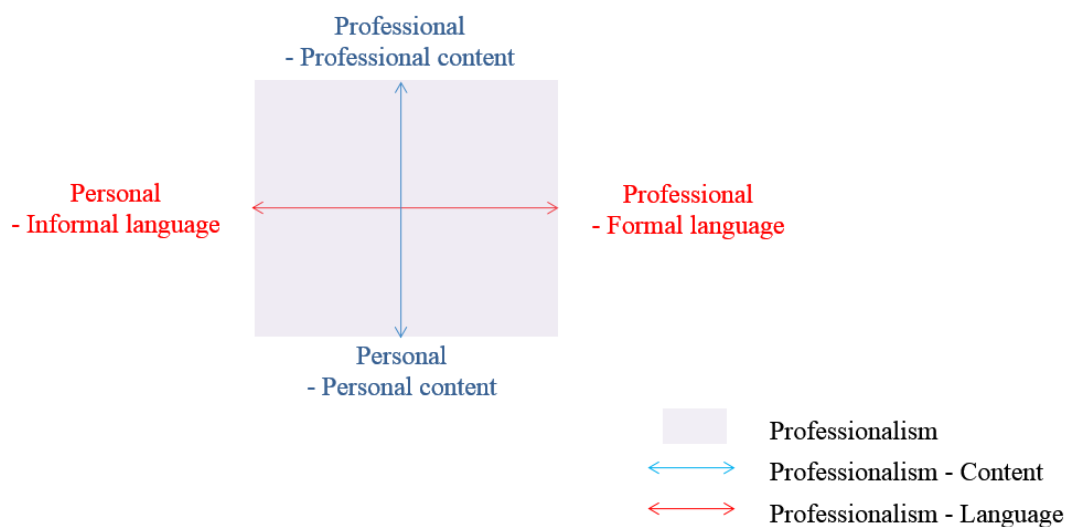
First, I grouped professional content and personal content under a higher order category entitled “content professionalism” which describes the extent to which a CEO’s microblog adheres to the general norms expected for a professional in terms of content. As such, content professionalism spans across a professional-personal spectrum. A CEO’s microblog would be considered professional when it has more posts than others that are coded under the “professional content” category, i.e., work & company related content such as firm, business, product, service, etc. By contrast, a CEO’s microblog would be viewed as personal when it contains more posts, when compared to others, coded under the “personal content” category, i.e., personal life related content, such as leisure, vacation, family, and friends, etc.

Secondly, “formal language” and “informal language” were grouped under a higher order category entitled “language professionalism” which refers to the extent to which a CEO’s microblog adheres to the general norms expected for a professional in terms of language use. Similar to content professionalism, language professionalism also spans across a professional-personal spectrum. From the perspective of language use, I would view a CEO’s microblog as professional when it contains more posts than others that are coded under the category of “formal language”, i.e., using complex vocabulary such as lengthy words. On the other hand, when a CEO’s microblog includes more posts than others that are coded under

“informal language”, i.e., using non-standard vocabulary such as colloquial, abbreviations, intentional misspellings, and emoticons, it would be considered personal in terms of language use.

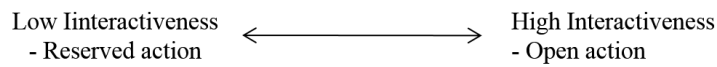
The two spectrums of professionalism in terms of content and language are illustrated in the following figure.

Figure 8. Professionalism of a CEO microblog



Lastly, “open action” and “reserved action” were grouped under “interactiveness” which refers to the effort of a CEO in creating and enhancing consumer interactive experiences by welcoming and encouraging interactions with consumers on his/her microblog. A microblog would be considered enjoying high interactiveness when it has more posts than others that are coded under the “open action” category, such as relating and responding to consumers. In contrast, if a microblog contains more posts that are coded under “reserved action”, it would be considered as having low interactiveness. The open-reserved action spectrum of interactiveness is illustrated in Figure 9.

Figure 9. Interactiveness of a CEO's microblog



To sum up, my axial coding revised and grouped the six categories previously obtained in open coding into three generic categories: content professionalism, language professionalism, and interactiveness.

Selective coding

The next step was selective coding in which a core category should be generated to sum up all categories previous developed to represent the central phenomenon. By reviewing all categories identified in axial coding, I decided to unify them under a core category named “CEO microblogging styles”. As such, the three categories, i.e., content professionalism, language professionalism, and interactiveness, can be viewed as the three dimensions of a CEO’s microblogging style.

7.3.3. Final categorization matrix

However, I found that the third dimension – interactiveness – could be further explored. Since this dimension is about actions, some of its elements may be better captured by means of Twitter analytics than by Tweet content alone. Twitter analytics include all information associated with a Tweet such as when the Tweet is posted, whether the Tweet is a response to another user, how many replies the Tweet has, how many people like that Tweet, how many times the Tweet has been retweeted, etc. According to the theoretical sampling guideline provided by grounded theory, previous analysis directs data collection next. Therefore, I decided to collect Twitter analytics as well for further exploration of the interactiveness dimension. (Such

analytics could also be obtained by using the *Get status/ user_timeline API*.) Following an examination of all the analytics collected, I found the parameter “*created_at*” particularly useful in capturing CEO actions. *Created_at* indicates the exact date and time a Tweet is posted. With this information, one can calculate the tweeting frequency of a blogger. I consider tweeting frequency relevant in capturing the CEO’s effort in creating and enhancing consumer interactive experience because each time a CEO tweets creates an opportunity for a virtual encounter. According to literature in online communication and relationship marketing, the number of encounters and interactions can reinforce parasocial interaction⁴¹ (Auter, 1992; Horton & Wohl, 1956). Therefore, I treated tweeting frequency as another relevant element of a CEO’s interactional effort. CEOs who tweet more than others would be considered as more open in terms of action while those who tweet less often would be viewed as more reserved. Based on the above, the dimension of interactiveness was enriched to include the third element, i.e., “tweeting”, besides “relating” and “responding”.

So far, a categorization matrix was eventually generated for content analysis (II) (see next page).

⁴¹ Parasocial relationship (PSI) refers to the audience’s illusion of having an intimate and personal relationship with a media performer (Horton & Wohl, 1956). It has been extensively studied in television context (e.g., Auter, 1992; Horton & Wohl, 1956; Rubin & Perse, 1987; Stern, Russell, & Russell, 2007) and recently in online communication and relationship marketing (e.g., Ballantine & Martin, 2005).

Figure 10. Categorization matrix - Content analysis

Open coding		Axial coding		Selective coding
Codes	Original sub-categories	Revised sub-categories	Generic categories	Core category
Human resource Investment decision Business insights Management expertise Conference Product/ service ...	Work & Company	Professional content	Content professionalism	CEO microblogging styles
Leisure Vacation Mood Family Friends ...	Personal life	Personal content		
Lengthy words ...	Complex vocabulary	Formal language	Language professionalism	
Colloquial Abbreviation Intentional misspelling emoticon ...	Non-standard vocabulary	Informal language		
1 st -personal pronoun 2 nd -personal pronoun ...	Relating (with consumers)	Open action	Interactiveness	
Responding/ gratitude Responding/ service Responding/ product Responding/ sales ...	Responding (to consumers)			
/	Tweeting – high frequency			
/	No relating	Reserved action		
/	No responding			
/	Tweeting – low frequency			

7.4. Summary

This chapter focuses on the data collection and analysis of content analysis (I). First, I explained how I identified 350 CEO microblogs by verifying, selecting, and merging existing social CEO lists produced by various business practitioners. Second, I elaborated how I collected the most recent 200 Tweets from the 350 identified CEO accounts (i.e., 64, 641 Tweets in total) by using Twitter APIs⁴². Third, I discussed how I randomly selected a small amount of Tweets from the total of 64, 641 and conducted an inductive-oriented content analysis on them. The analysis comprised of open coding, axial coding, and selective coding. I elaborated each of the coding processes with examples of Tweets. Finally, I presented my content analysis result – a categorization matrix, which captures the key dimensions of CEOs' microblogging styles. This matrix was used as the foundation of content analysis (II) – a deductive-oriented analysis of the total of 64,641 Tweets. Procedure and findings from content analysis (II) will be discussed in the next chapter.

⁴² 20 out of the 350 accounts were dropped during this process as explained in Section 7.2.3.

Chapter 8

Content analysis (II):

Mapping CEO microblogging landscape

Brief content:

- 8.1. Introduction
 - 8.2. NVivo for content analysis (II)
 - 8.3. Content professionalism
 - 8.4. Language professionalism
 - 8.5. Interactiveness
 - 8.6. Three-Dimensional overview of CEO microblogging landscape
 - 8.7. CEO microblogging styles
 - 8.8. Potential experimental CEO microblogs
 - 8.9. Summary
-

8.1. Introduction

The categorization matrix produced by content analysis (I) capturing key dimensions of CEOs' different microblogging styles was used as the foundation of content analysis (II). In content analysis (II), each CEO microblog (represented by its 200 most recent Tweets) was coded according to this categorization matrix. The number of codes in each category was compared so as to map the relative position of each CEO microblog on the corresponding dimension. Thus, by coding and comparison, each microblog would have an index for each category facilitating the mapping of its position on the corresponding dimension.

Therefore, content analysis (II) involved the following:

- 1) Coded the data according to the categorization matrix previous developed.
(New categories could be added when emerge during the process.)
- 2) Developed a set of measurements to facilitate the comparison of microblogs in terms of codes in each category.
- 3) Measured and mapped microblogs on each microblogging style dimension.
- 4) Shortlisted CEO microblogs for focus group discussion in the next stage.

8.2. NVivo for content analysis (II)

Content analysis (II) involved a large amount of unstructured qualitative data that were hard to handle manually. For such cases, qualitative theorists have encouraged the use of computer assisted qualitative data analysis software packages, or CAQDAS, to systematically code large size of qualitative data (e.g., Berg, 2001; Denzin & Lincoln, 1998; Krueger, 1998; Merriam, 2001; Miles & Huberman, 1994; Patton, 2002; Silverman, 2000, 2001; Taylor & Bogdan, 1998; Tesch, 1990).

CAQDAS in general have three major functions: (1) text retrieving – returning data by using keywords that appear in the source text; (2) coding – attaching codes to segments of text and managing segments of a given code; and (3) theory building – enabling researchers to make connections between codes and categories of codes, develop classifications, formulate and test assertions on the data (Fielding, 1994). Among various CAQDAS, NVivo was selected as my content analysis tool. NVivo was chosen for two main reasons. First, it is a widely-used software in content analysis with all the fundamental features by (Richards, 1999). Second, it is a

software centrally funded by the University of Oxford⁴³ and therefore free to use.

8.3. Content professionalism

Coding

According to my categorization matrix (Figure 10), content professionalism has two sub-categories: professional content (represented by work & company related key words) and personal content (represented by personal life related key words). In order to identify and code such content in CEOs' Tweets, NVivo was used to run a word-frequency query on all the CEOs' Tweets. This query was set to return a set of the 500 most frequently appeared words of no fewer than three characters (i.e., the minimum word length was set at 3). A close examination was then conducted on these frequently appeared words as well as the context that they were usually associated with, so as to identify a set of work & company related key words (e.g., work, job, business, company, etc.), and personal life related key words (e.g., family, party, weekends, play, etc.). Each key word was then coded and counted every time it appears in any Tweet.

Measuring

The following measure was used to facilitate comparison of microblogs in terms of their codes in content professionalism:

$$\text{Content professionalism} = \frac{\text{Work \& company related key word count}}{\text{Work \& company related key word count} + \text{Personal life related key word count}}$$

⁴³ <http://www.oucs.ox.ac.uk/sls/fulllist.xml>

The appearance of each work & company related and personal life related key words was counted for each CEO microblog, and by using the formula above, each CEO microblog then had an “index” of content professionalism. Such index lies within the range of [0, 1]. The closer the index is to 1, the more professional oriented the CEO’s microblog is in terms its content. By contrast, the closer the index is to 0, the more personal oriented the CEO’s microblog is in terms of its content.

Measure results and Mapping

When each CEO microblog had its own index of content professionalism, they were compared and mapped. As shown in Table 5, the average content professionalism is 0.76 with a median of 0.78, which means on average, 70-80% of the content of CEOs’ Tweets are professional oriented.

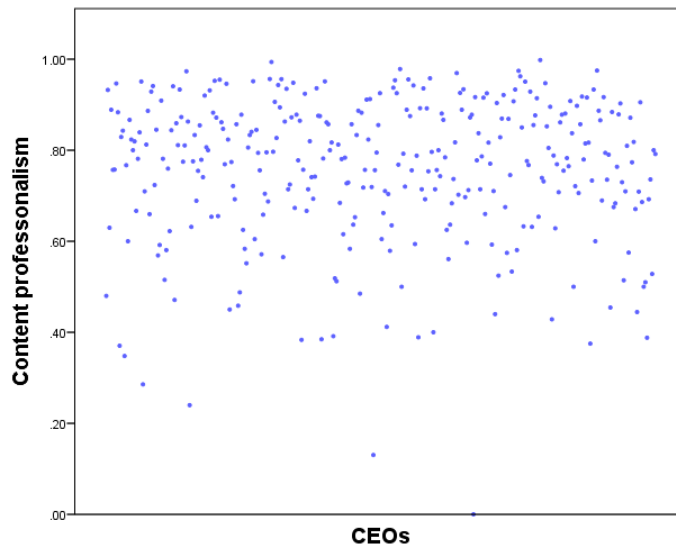
Table 5. Content professionalism descriptive analysis

Content professionalism				
	Percentiles	Smallest		
1 %	.2857143	0		
5 %	.4444444	.1304348		
10 %	.5264446	.24	Obs	330
25 %	.6833333	.2857143	Sum of Wgt.	330
50 %	.7840488		Mean	.7578033
		Largest	Std. Dev.	.1593228
75 %	.8780488	.975		
90 %	.9333333	.9782609	Variance	.0253838
95 %	.9512195	.9937107	Skewness	-1.177564
99 %	.975	.9981718	Kurtosis	4.867283

Figure 11 provides a more vivid image of the distribution of CEOs’ content professionalism which are between [0.4, 1], slightly skew to [0.8, 1]. That is to say, though a lot of CEOs tend to tweet mostly about their work and company, there are also a few CEOs who tend to tweet more about their personal life. This has provided

interesting materials to examine whether there would be a significant difference of the effectiveness between these two tendencies in engaging consumers.

Figure 11. Content professionalism as a scatter plot



8.4. Language professionalism

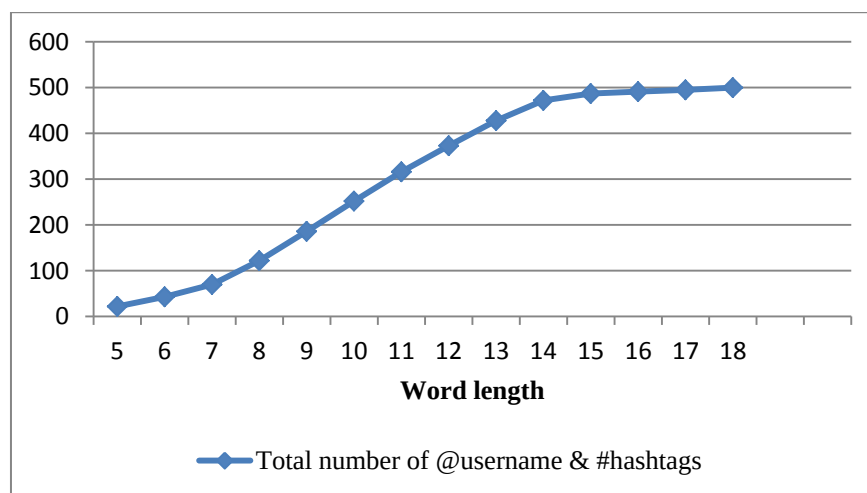
Coding

According to my categorization matrix, language professionalism also has two sub-categories: formal language (represented by lengthy words) and informal language (represented by non-standard vocabulary).

To identify key lengthy words, a word frequency query was run to discover a set of the 500 most frequently used words whose minimum word length was 5. This pool of 500 words was found to be composed of three types of words: (1) usernames, e.g., @JohnTaylor; (2) hashtags, e.g., #business; (3) “real” words. Then the frequency query was run many times, each time increasing the minimum word length by one character until it reached 18.

It was found that the number of usernames and tags increased significantly as the minimum word length increased till 13, then flattened out afterwards (see Figure 12). This implies that for words longer than 13 characters that happen to appear in CEOs' Tweets, most of them are just @usernames or #tags, and meaningful words longer than 13 characters are very rare. Yet some CEOs still use those long words, which can be one indication of their orientation towards formality. Therefore, I decided to collect a pool of the 500 most frequently used words with minimum word length of 13 and identified a set of key lengthy words with real meaning, excluding @usernames and # tags as well as other non-standard words.

Figure 12. Lengthy words frequency results



After examining lengthy words, I looked into non-standard words, which include abbreviation, colloquial, intentional misspelling, and sideways emoticons according to my matrix. To identify them, NVivo was used to identify a pool of 3000 most frequently used words. A set of key abbreviations, colloquial, and intentional misspelled words was identified out of this pool. As for emoticons, since NVivo 10 was unable to recognize punctuation, Word 2010's search function was used instead

to identify emoticons used by CEOs.

Each of the key lengthy words and non-standard words identified during the above process was then coded and counted every time it appears in any Tweet.

Measuring

A measure was developed to facilitate comparison of microblogs in terms of their codes in language professionalism:

$$\text{Language professionalism index} = \frac{\text{Key lengthy word count}}{\text{Key lengthy word count} + \text{Key non-standard word count}}.$$

The appearance of key lengthy words and non-standard words was counted for each CEO microblog, and by using the formula above, each CEO microblog then had an “index” of language professionalism.

Similar to content professionalism, language professionalism is indicated as an index within [0, 1]. The closer the index is to 1, the more professional oriented the CEO’s microblog is in terms of its language use. By contrast, the closer the index is to 0, the more personal oriented the CEO’s microblog is in terms of its language use.

Measure results and Mapping

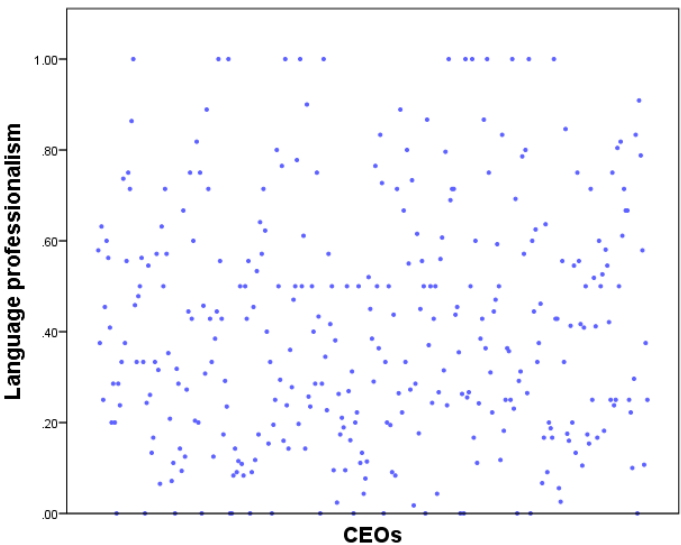
When each CEO microblog had its own index of language professionalism, they were compared and mapped. As indicated by Table 6 (next page), compared content professionalism which is generally quite high among CEOs (mean=0.76, median=0.78), the average language professionalism is 0.40 with a median of 0.38. That is to say, though CEOs usually tweet more about work, they tend to be more casual in their use of language preferring shorter words or non-standard words.

Table 6. Language professionalism descriptive analysis

Language professionalism					
Percentiles		Smallest			
1 %	0	0			
5 %	0	0			
10 %	.0909091	0	Obs		33
25 %	.2	0	Sum of Wgt.		33
50 %	.375		Mean		.404516
		Largest	Std. Dev.		.259953
75 %	.5714286	1			
90 %	.781746	1	Variance		.067575
95 %	.8888889	1	Skewness		.468830
99 %	1	1	Kurtosis		2.45262

Figure 13 is a scatter plot of CEOs’ language professionalism. It shows that CEOs vary in terms of language professionalism. Unlike the case of content professionalism, CEOs are almost evenly distributed along the language professionalism spectrum. This has provided ample materials for the investigation into whether there would be a significant difference of the effectiveness between high language professionalism and low language professionalism in engaging consumers.

Figure 13. Language professionalism as a scatter plot



8.5. Interactiveness

Coding

As discussed earlier, interactiveness has three sub-categories: relating, responding, and tweeting. Relating is represented by personal pronouns. Therefore, NVivo was used to search and code personal pronouns, such as I, my, you, your, etc. As for responding and tweeting, such actions were better captured by Twitter analytics “*in_reply_to_*” and “*created_at*” obtained via Twitter *REST APIs* instead of coding in NVivo.

Measuring

CEO interactive actions were measured in the following way:

$$\text{Relating rate} = \frac{\text{Number of Tweets with personal pronouns}}{\text{Total number of Tweets collected}}.$$

$$\text{Responding rate} = \frac{\text{Number of responding Tweets}}{\text{Total number of Tweets collected}}.$$

$$\text{Tweeting rate} = \frac{\text{Total number of Tweets collected}}{\text{Posted date of 1st collected Tweet} - \text{Posted date of last collected Tweet}}$$

In the first formula which is for calculating relating rate, the numerator, i.e., number of Tweets containing personal pronouns, was counted for each CEO’s account by using NVivo. The denominator, i.e., total number of Tweets collected, was by default 200 because it was the 200 most recent Tweets per account that were collected for content analysis (II). But it could be less as a few CEOs had posted no more than 200 Tweets since joining Twitter. In any case, the exact number was easily obtained by looking at the database which recorded all the collected Tweets for each account. Thus, by using the relating rate formula above, each CEO then had an “index” for his/ her relating actions.

In the second formula, which is for calculating responding rate, the numerator, i.e., number of responding Tweets, was obtained from the Twitter analytics “*in_reply_to*” which indicates whether a Tweet is a responding Tweet by showing the username to which the Tweet is responding to (i.e., to whom the CEO @). If a Tweet is not responding to anyone, the analytics returns to a null value. Therefore, the number of responding Tweets was obtained by counting Tweets of which “*in_reply_to*” returned to a true value. Then by using the responding formula above, each CEO had an “index” for his/her responding actions.

For tweeting rate, the posted date and time of each Tweet were acquired from the Twitter analytics “*created_at*”. Therefore, using the third formula above, the tweeting rate, i.e., the number of Tweets posted per day of each CEO was then successfully obtained.

Results and mapping

Relating rate

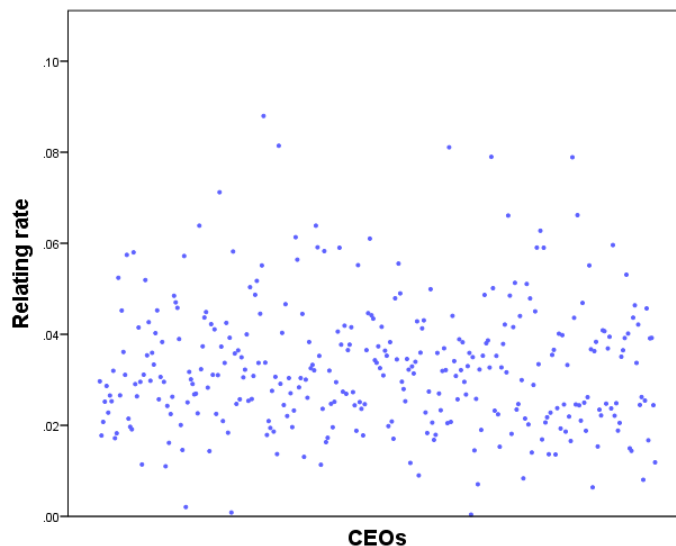
As indicated in Table 7, CEOs’ relating rate has an average of 0.33 and a median 0.31, which means on average, a CEO directly relates with his/her followers 3 out of 10 times when tweeting.

Table 7. Relating rate descriptive analysis

Relating rate				
	Percentiles	Smallest		
1%	.0063654	.0003766		
5%	.0136986	.0008406		
10%	.0172139	.002052	Obs	330
25%	.0232621	.0063654	Sum of Wgt.	330
50%	.0312615		Mean	.0328083
		Largest	Std. Dev.	.014106
75%	.0402663	.0789969		
90%	.0511783	.0810913	Variance	.000199
95%	.0590184	.0814111	Skewness	.8278805
99%	.0789969	.087963	Kurtosis	4.257938

Figure 14 is an overview of the distribution of CEO relating rates. Most CEOs' relating rates are between [0.2, 0.6]. Nevertheless, there are CEOs who relate with their followers very frequently [0.6, 1] or very infrequently [0, 0.2].

Figure 14. Relating rate as a scatter plot



Responding rate

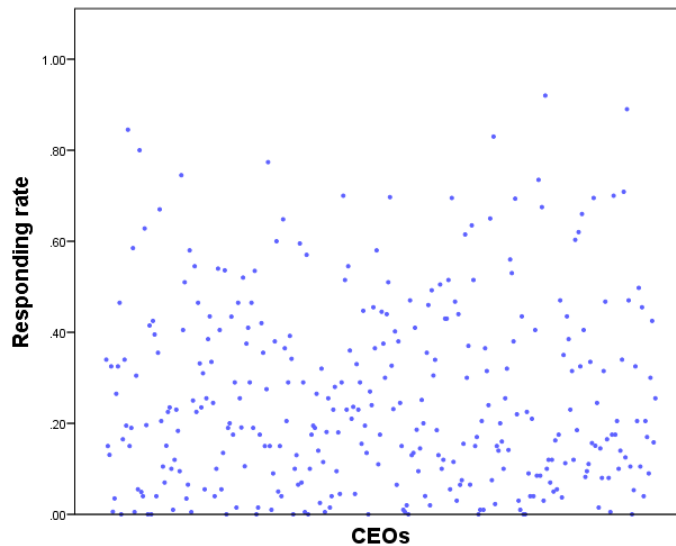
Regarding responding rate, its mean and median respectively stands at 0.26 and 0.21 (see Table 8), which are similar to those of relating rate. To interpret, on average, around 20%-30% of a CEO's Tweets are dedicated to replying to followers.

Table 8. Responding rate descriptive analysis

Responding rate				
Percentiles		Smallest		
1 %	0	0		
5 %	.005	0		
10 %	.0238636	0	Obs	330
25 %	.1	0	Sum of Wgt.	330
50 %	.205	Largest	Mean	.2570742
75 %	.385		Std. Dev.	.2040588
90 %	.545		Variance	.04164
95 %	.67		Skewness	.8420248
99 %	.83		Kurtosis	3.089896

The distribution of CEOs' responding rate is shown Figure 15. CEOs' responding rates are more evenly distributed than relating rates. Yet, they are still slightly concentrated in the area of $[0, 0.6]$, with a few in $[0.6, 1]$.

Figure 15. Responding rate as a scatter plot



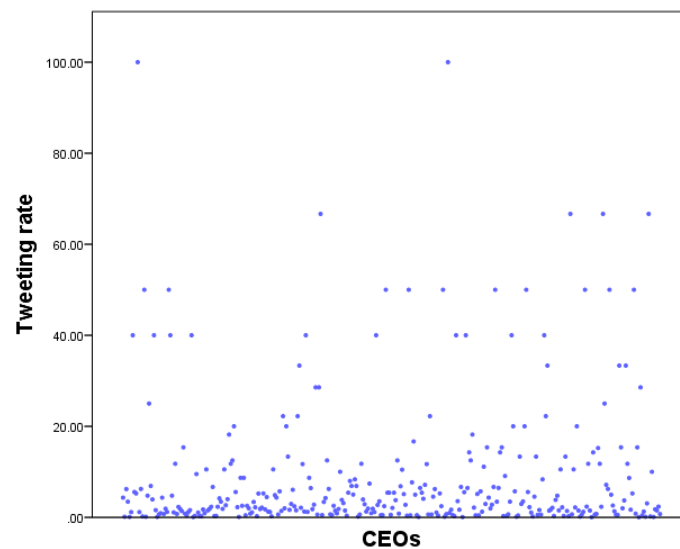
Tweeting rate

Tweeting rate is different from all the above mentioned indices in that it is not a percentage. Instead, it is measured by the number of Tweets a CEO posted per day. Therefore, theoretically, a CEO's tweeting rate can be anything between $[0, +\infty]$. As shown in Table 9, the average tweeting rate is 8.98 with a median of 3. This means an average CEO would most likely tweet around 3-9 times per day. The reason why the mean and median differ so much can be better illustrated by Figure 16 (next page), which demonstrates the distribution of CEOs' tweeting rate. While the majority of CEOs tweet 0-6 times per day, there are a few who tweet more than 40 times a day, which significantly increases the average tweeting rate.

Table 9. Tweeting rate descriptive analysis

Tweeting rate					
	Percentiles	Smallest			
1 %	.0882786	.0478062			
5 %	.1874414	.0520472			
10 %	.3823373	.0871022	Obs		330
25 %	1.104972	.0882786	Sum of Wgt.		330
50 %	3.00905		Mean		8.980445
		Largest	Std. Dev.		14.97532
75 %	9.090909	66.66667			
90 %	26.78571	66.66667	Variance		224.2603
95 %	40	100	Skewness		2.980195
99 %	66.66667	100	Kurtosis		13.45862

Figure 16. Tweeting rate as a scatter plot



Confirmatory factor analysis

In order to obtain the index of interactiveness, a confirmatory factor analysis (CFA) was run on the 3 factors: relating rate, responding rate, and tweeting rate%⁴⁴.

⁴⁴ Since $\text{tweeting rate} \in [0, 100]$ as shown in Figure 16, $\text{tweeting rate\%} \in [0, 1]$ makes it similar to the other two rates.

CFA results confirmed my hypothesis on the construction of the three interactivensess factors (CFI=1, RMSEA=0.00, TLI=1). Therefore, interactivensess was constructed as the average of these three factors.

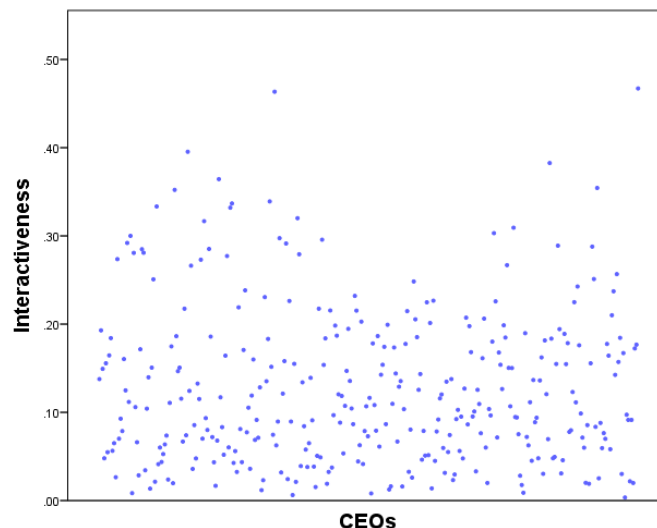
$$\text{Interactivensess} = 1/3 (\text{Relating rate} + \text{Responding rate} + \text{Tweeting rate}\%)$$

Hence, combing relating, responding, and tweeting activities, a CEO's interactivensess index was obtained. Table 10 shows that CEOs have an average interactivensess index of 0.13 with a median of 0.11. Figure 17 illustrates the distribution of CEOs' interactivensess. The majority of CEOs have an interactivensess index within [0, 0.3].

Table 10. Interactivensess descriptive analysis

Interactivensess				
	Percentiles	Smallest		
1%	.0083277	.0034208		
5%	.0196467	.0062416		
10%	.0297909	.008035	Obs	330
25%	.059887	.0083277	Sum of Wgt.	330
50%	.1068529		Mean	.1269512
		Largest	Std. Dev.	.088294
75%	.1775858	.3826391		
90%	.2538576	.395391	Variance	.0077958
95%	.297482	.4634043	Skewness	1.023102
99%	.3826391	.4670886	Kurtosis	3.897007

Figure 17. Interactivensess as a scatter plot



8.6. Three-Dimensional overview of CEO microblogging landscape

After content analysis (II), every CEO account had three indexes respectively measuring its microblogging style respectively in terms of content professionalism, language professionalism, and interactivensess. A 3-D scatter plot was therefore created to provide an overview of CEOs' microblogging styles in dealing with the three dimensions. This plot also illustrates how each CEO is positioned compared to others in terms of their microblogging styles.

To elaborate, Figure 18 is a cube constructed by three dimensions, i.e., content professionalism, language professionalism, and interactivensess. Each CEO has a unique position within this cube, which represents the CEO's own style in terms of those three dimensions. As shown in the graph, CEOs seem concentrated in a certain area of the cube. To be specific, the area of content professionalism $[0.4, 1]$ $\times$ language professionalism $[0, 1]$ $\times$ interactivensess $[0, 0.3]$ is where the majority of CEOs (302 CEOs, 96% of total) are located. Figure 19 shows two rotated cubes to better illustrate the area where most CEOs are concentrated. Figure 20 is a zoomed-in cube which includes the majority of CEOs.

Figure 18. CEO microblogs in 3-D scatter plot

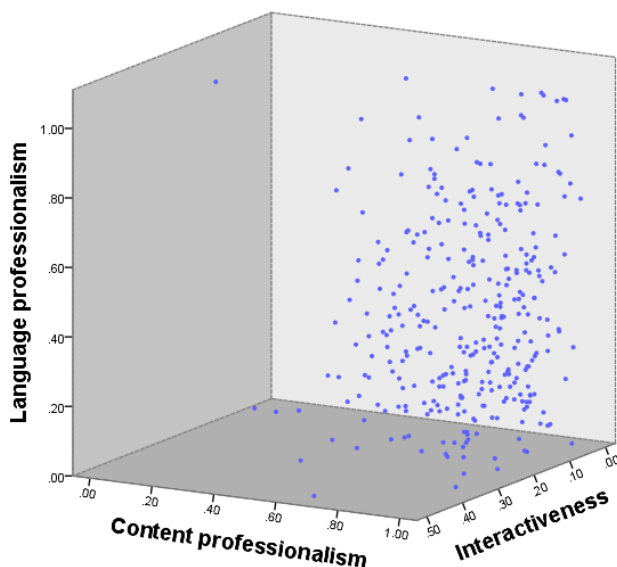


Figure 19. CEO microblogs in rotated cubes

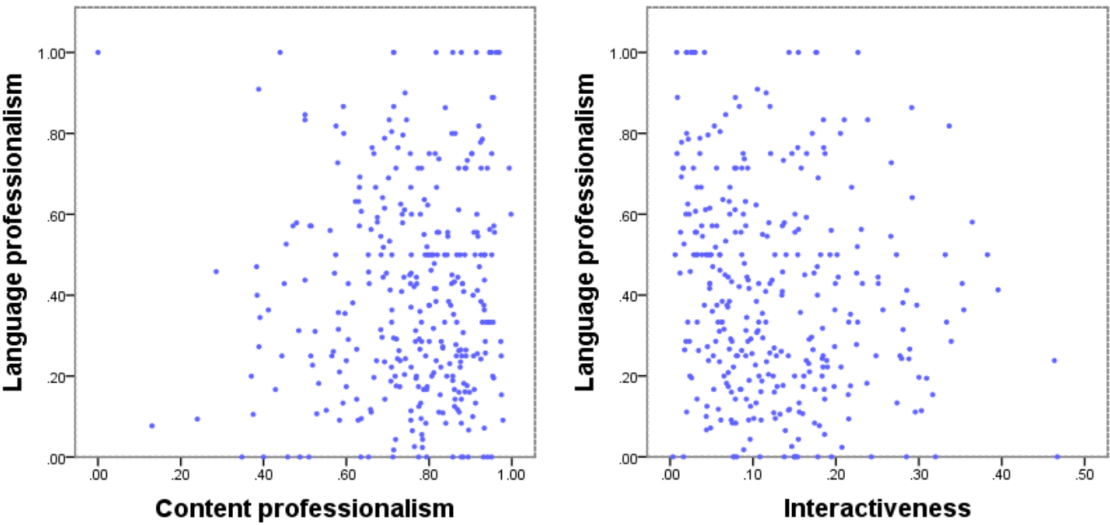
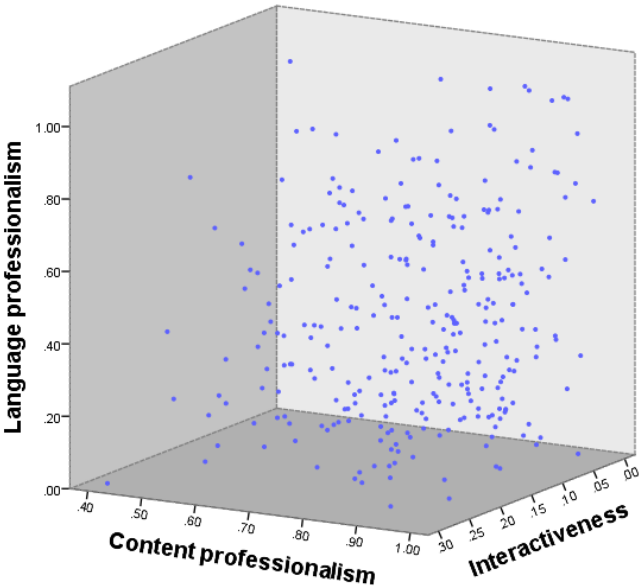


Figure 20. CEO microblogs in 3-D scatter plot (zoomed-in)⁴⁵



⁴⁵ The zoomed-in cube shows 302 CEO microblogs, 96% of total.

8.7. CEO microblogging styles

Mapping all CEOs in a 3-D plot has provided a straight-forward overview of how each CEO uses microblog in dialogue with consumers. Accordingly, CEO microblogs can be classified into eight styles: *Spokesperson*, *Broadcaster*, *Work mentor*, *Work logger*, *Personal mentor*, *Essayist*, *Friend*, and *Diarist*. The position of each style on the three dimensions is illustrated in Figure 21. And a more detailed description of these eight CEO microblogging styles with examples is shown in Table 11.

Figure 21. CEO microblogging styles

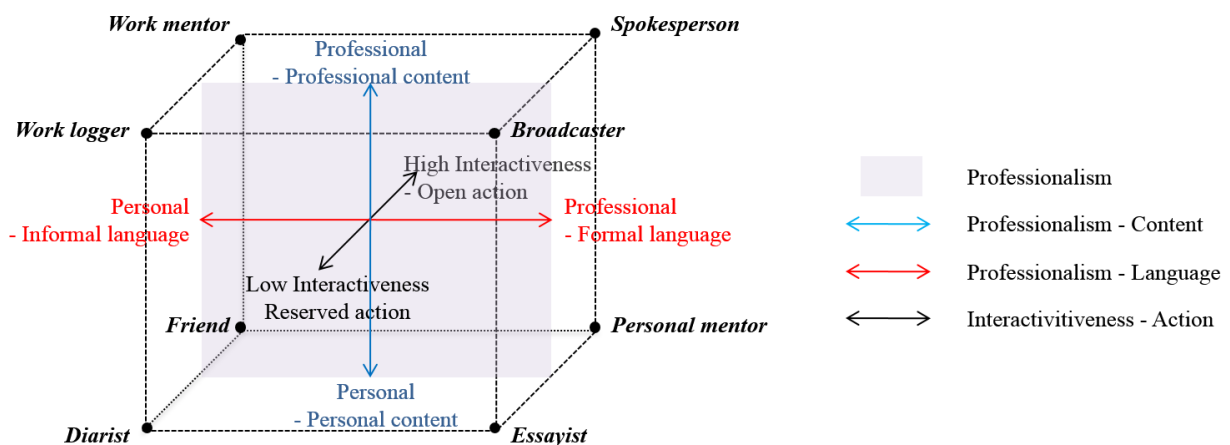


Table 11. CEO microblogging styles with examples

Professionalism		Interactiveness	CEO microblogging styles	Description
Content	Language	Action		
High	High	High	Spokesperson	The CEO often tweets about his/her work in formal language and interacts with consumers a lot, thus his/her style resembles that of a spokesperson of the firm. <i>E.g. We've got a great new product just for you. I'm interested in your views! Click here to let me know what you think!</i>

High	High	Low	Broadcaster	The CEO often tweets about his/her work in formal language, but seldom interacts with consumers, thus his/her style resembles that of a broadcaster. <i>E.g. A great new product will be released today!</i>
High	Low	High	Work mentor	The CEO often tweets about his/her work in informal language and interacts with consumers a lot, thus his/her style resembles that of a work mentor. <i>E.g. Wahay! We've got a coooooool new product just for u. I'm interested in ur views! Click here to let me know what u think!</i>
High	Low	Low	Work logger	The CEO often tweets about his/her work in informal language, but seldom interacts with consumers, thus his/her style resembles that of a work logger noting down his/her work-related activities and thoughts. <i>E.g. Got a coooooool new product today!!!! Hooray!</i>
Low	High	High	Personal mentor	The CEO often tweets about his/her personal issues in formal language and he/she interacts with consumers a lot, thus his/her style resembles that of a personal mentor. <i>E.g. Just two more days till Thanksgiving! I've always loved it! Lets talk last minute planning and final touches! Call me @12pmET @SiriusXM106.</i>
Low	High	Low	Essayist	The CEO often tweets about his/her personal issues in formal language, but seldom interacts with consumers, thus his/her style resembles that of an essayist who writes down his/her personal experience and opinion. <i>E.g. Just 2 more days till Thanksgiving! Always loved it!</i>
Low	Low	High	Friend	The CEO often tweets about his/her personal issues in informal language, and he/she interacts with consumers a lot, thus his/her style resembles that of a friend. <i>E.g. Hooray! Just 2 more days till Thanksgiving! ALWAYS LOVED IT! Let's talk last min planning & final touches! Call me @12pmET @SiriusXM106.</i>
Low	Low	Low	Diarist	The CEO often tweets about his/her personal issues in informal language, but seldom interacts with consumers, thus his/her style resembles that of a diarist who writes down his/her personal experience and opinion. <i>E.g. Hooray! Just 2 more days till thanksgiving!!! ALWAYS LOVED IT!</i>

8.8. Potential experimental CEO microblogs

The 3-D plot has also facilitated identification of potential CEO experimental microblogs for Stage 2 - Focus group discussion because as discussed in Chapter 6 Section 6.3.4, potential experimental microblogs should be those positioned at the two ends of each dimension. Below is a list of potential experimental CEO microblogs for further examination in Stage 2 – Focus group interviews.

Figure 22. Potential experimental CEO microblogs

Microblogging styles	CEOs	CEO microblogs
Spokesperson	Mark Babbitt	@MarkSBabbitt
	Mark Fidelman	@markfidelman
	Faisal Hoque	@faisal_hoque
Broadcaster	Richard Goyder	@RGoyder
	Bruce Broussard	@BruceDBroussard
	Angela Ahrendts	@AngelaAhrendts
	J.T. O'Donnell	@jtodonnell
	Hikmet Ersek	@WesternUnionCEO
Work mentor	Jason Fried	@jasonfried
	Daniel Newman	@danielnewmanUV
	Howard Lindzon	@howardlindzon
	Olalah Njenga	@olalah
Work logger	Barry Libert	@barrylibert
	Yukiyoshi Watanabe	@WatanabeCEO
	Drew Houston	@drewhouston
	Jason Alba	@jasonalba
Personal mentor	Dorie Clark	@dorieclark
	Yongmaan Park	@Solarplant
	Dionne Lew	@DionneLew
Essayist	Bill Gates	@BillGates
	Tim Cook	@tim_cook
	Randy P. Seitz	@CEOStruggles
Friend	Anne Deeter Gallaher	@AnneDGallaher
	Elizabeth Guarino	@BestEverYou
	Kevin Systrom	@kevin

Diarist	Mark Gale	@MarksKiosk
	Brian J. Dunn	@briandunn
	David Sifry	@dsifry

8.9. Summary

This chapter has discussed data collection procedure and results analysis of content analysis (II). First, I elaborated how the total of 64,641 Tweets were coded according to the categorization matrix developed from content analysis (I). Second, I explained the measuring and mapping of the 330 existing CEO microblogs onto each microblogging style dimension based on their codes. Finally, I presented a three-dimensional mapping of CEO microblogs and shortlisted 28 CEO microblogs for focus group discussion. The next chapter is dedicated to the focus group discussions on the shortlisted microblogs.

Chapter 9

Focus groups – A linkage step

Brief content:

9.1. Introduction

9.2. Procedure

9.3. Results

9.3.1. Measures

9.3.2. Ratings

9.4. Summary

9.1. Introduction

As can be seen from Figure 22, content analysis (II) has identified 28 potential experimental microblogs among which three are in the category of *Spokesperson*, five in *Broadcaster*, four in *Work Mentor*, four in *Work Logger*, three in *Personal Mentor*, three in *Essayist*, three in *Friend*, and three in *Diarist*. Now before conducting Phase (II) - experiment, I need to validate whether each of these microblogs indeed belong to the assigned category and select the most representative blog from each category for the experiment. Therefore, I conducted a series of semi-structured focus group interviews with undergraduate students who were attending my Marketing tutorials at Oxford Said Business School to examine these 28 shortlisted microblogs.

Regarding the reasons for using semi-structured focus group interviews instead of other formats of interviews (such as individual or structured interviews) and selecting business school students as participants, please refer to Chapter 5 Section 5.3.3.

9.2. Procedure

There were in total 20 students attending my Marketing tutorial. They were organized into four groups each having 5 participants.

Participants were asked to quickly review the most recent 50 Tweets of the shortlisted 28 CEO accounts and rate their perception of these accounts in terms of content professionalism, language professionalism, and interactiveness on a 7-point scale. Then they formed focus groups to express and discuss their observations of these microblogs so as to help me better understand how these microblogs were perceived.

As elaborated in Chapter 5 Section 5.3.1, the focus group discussion was semi-structured, i.e., I had a set of predetermined questions while allowing for a certain scope for probing and following up. The protocol for me to guide the group discussion is attached in Appendix 8 which summarizes the issues to discuss and their related questions.

9.3. Results

9.3.1. Measures

Out of the 20 participants, 16 allowed their opinions to be used in my research. Therefore, my analysis was based on the input of these 16 participants. As a word of caution: findings from these focus groups could be culturally biased because all participants are British.

In general, participants have used similar measures as mine in evaluating a CEO microblog in terms of content professionalism, language professionalism, and

interactiveness (see Figure 10. Categorization matrix - Content analysis). There are nonetheless some new insights discovered from these focus group interviews.

Content professionalism

Similar to my way of measuring content professionalism, focus group participants in general have looked at whether the content of a CEO microblog is work & company related or related to the CEO's personal life when determining the extent of content professionalism of the blog. For example, a CEO microblog is rated high in content professionalism when its content is largely "related to his/her work/ company/ industry"; when it provides "information relevant to business, such as development of stock prices", and "gives insight into the CEO's everyday business life"; and when the CEO "focuses on representing their business", "sticks closely to their field of business", "promotes their products", and shares experiences on "leadership" and "management technique"; etc.

A CEO microblog is rated personal when the CEO shares "personal views", has "conversation regarding their daily lives", and gives off a "human sense that people may form a stronger relationship with" rather than "a more robotic approach with little sense of personality being portrayed".

Language professionalism

When measuring language professionalism of a CEO microblog, most participants have examined the degree of formality of the blog's language, which is similar to what I have done as well.

Elements that made participants feel that a blog's language is professional include "nothing wrong in terms of grammar" "using punctuation correctly" "normal

sentence” “full sentence” and “email style”. On the other hand, “emoticons” “slangs” “jokes” “abbreviations” “colloquial language” “fragmentary sentences” “short Tweets” would make respondents rate a CEO blog low in language professionalism.

There is however an element on which participants have divided opinions. That is the use of the hashtag. Hashtagging is a special function of Twitter. Below is the definition and usage of hashtags explained by Twitter’s official help center.

Definition: The # symbol, called a hashtag, is used to mark keywords or topics in a Tweet. It was created organically by Twitter users as a way to categorize messages.

Using hashtags to categorize Tweets by keyword:

People use the hashtag symbol # before a relevant keyword or phrase (no spaces) in their Tweet to categorize those Tweets and help them show more easily in Twitter Search.

Clicking on a hashtagged word in any message shows you all other Tweets marked with that keyword.

Hashtags can occur anywhere in the Tweet – at the beginning, middle, or end.

Hashtagged words that become very popular are often Trending Topics.

Example: In the Tweet below, @eddie included the hashtag #FF. Users created this as shorthand for "Follow Friday," a weekly tradition where users recommend people that others should follow on Twitter. You'll see this on Fridays.



Twitter’s official help center
<https://support.twitter.com/articles/49309>

Since hashtag is not a traditional linguistic element and can occur anywhere in a Tweet, some respondents found it absurd and felt that it disturbs the flow of the language thus making a message look very informal. Others did not find hashtagging as particularly affecting the formality of a message. They saw hashtag as simply a

function that people can use on Twitter to highlight key words. Some even argued that by adding hashtags, the CEO helps readers to quickly discern the topic of a Tweet thus enabling the Tweet to get trending more easily which is beneficial for promoting the firm/ brand. So in this sense, using hashtags indicates that the CEO knows how to take advantage of this linguistic function of social media for the benefit of the firm and therefore should be viewed as very professional (in the context of the communication platform).

No consensus has been reached in the group discussion about the use of hashtags. My observation on this debate is that whether using the hashtag is enhancing or reducing language professionalism depends very much on individual openness/ tolerance to a new linguistic element. Some find it disturbing, some like it, while others just hold neutral feelings. Therefore, I suggested participants just leave “hashtag” use aside when analyzing CEO’s language professionalism.

Another element which is slightly different from the mainstream measures is the “consistency with brand culture”. That is whether “the CEO’s language mirrors the culture of the company or brand”. For example, “the CEO of a game company speaking informally may be reasonable whilst the CEO of an investment bank not so”. Although this point was raised by just one participant, most other participants agreed with this observation. Therefore, in addition to language formality, business and brand culture of each of the 28 shortlisted CEO’s firm was taken into account for the evaluation of their language professionalism in order to select the most representative blog for each category.

Interactiveness

For interactiveness, most participants and I have looked into the same elements, i.e., how often the CEO relates with consumers, responds to consumer, and tweets.

Regarding relating, typical comments from participants include “directly addressing followers such as ‘join us’ ‘how’d your week go?’” “actively collecting people together by asking questions” “inviting comments” “asking for direct feedback”, etc. As for responding, participants in general mentioned the following: “responses to posts” “replying to Tweets individually” “having real conversations” “involve the community in conversations” “chatty”, etc. And lastly, participants also took into account tweeting frequency when evaluating CEO interactiveness. A CEO who “has tweeted a lot” and “has tweeted regularly” would be considered having high interactiveness.

Meanwhile, many participants mentioned “retweeting” as a criterion in measuring interactiveness. Retweeting is another special function offered by Twitter. Below is its definition and usage, as explained by Twitter’s official help center:

What is a Retweet?

A Retweet is a re-posting of someone else’s Tweet. Twitter’s Retweet feature helps you and others quickly share that Tweet with all of your followers.

Sometimes people type RT at the beginning of a Tweet to indicate that they are re-posting someone else’s content. This isn’t an official Twitter command or feature, but signifies that they are quoting another user’s Tweet.

What does a Retweet look like?

Retweets look like normal Tweets with the author’s name and username next to it, but are distinguished by the Retweet icon and the name of the user who retweeted the Tweet. If you see a message from a stranger in your timeline, look for retweeted by info in the Tweet — the retweeter should be someone you follow.

Twitter official help center
<https://support.twitter.com/articles/77606-faqs-about-retweets-rt>

Some participants rated a CEO high in interactiveness when the CEO retweets often, regardless of whose and how the posts are retweeted. A CEO can retweet links to articles or webpages, posts of colleagues, or anything he/she finds interesting to share. Such retweets are all considered as contributing to interactiveness because the CEO is “reposting others’ posts and that shows his/her effort in interacting with others”.

However, other participants held a different opinion. They were more specific when using retweet as a measure. For them, just retweeting does not contribute to increasing the CEO’s interactiveness. Attention should be paid to whose posts the CEO is retweeting and how the CEO retweets those posts. Typical comments from these participants include: “Researchers may simply look at the quantity of retweets (in evaluating interactiveness) whilst in fact it is the accounts these (retweets) go to that are more important. Are these consumers or are they just (personal) friends or similar business accounts (such as the CEO’s colleagues)?” “Retweeting is considered a very low form of interactiveness unless it is retweeting posts of consumers”.

I found the debate on this issue enlightening and very useful for my research. It is my observation that these two different standpoints in how to use retweet in measuring interactiveness originate from people’s different definitions of interactiveness in this context. The former regards interactiveness as the CEO’s effort in interacting with any individual including his/her personal friends, colleagues, and other business accounts, etc. The latter believes that the only meaningful form of interactiveness is that between the CEO and consumers. Given that my research concern is focused on consumer engagement, I favored the latter view and suggested focus groups take into consideration of whether the CEO retweets posts of consumers

when examining interactiveness of the 28 shortlisted CEO accounts.

Another issue which came into the attention of the focus groups is the “unreasonably high tweeting frequency” of some CEOs. There are a few CEOs who tweet remarkably large amounts of Tweets per day. For example, Mark Babbitt and Faisal Hoque can post up to 40 Tweets in a day and Daniel Newman used to tweet more than 60 times a day. Many participants felt that such robotic manner of tweeting cannot be counted as a sincere effort at interacting with consumers. In general, participants agreed that for a CEO, tweeting on average more than 20 times per day would be too much and subjected to the suspicion of robotic handling especially if the blog content is largely not original (such as simply retweeting others’ posts). Therefore, it was agreed that attention should be paid to CEOs who tweeted on average more than 20 Tweets a day. The blog would be rated as having low interactiveness if the CEO posts unreasonably large amount of Tweets regularly which contains little original content.

Below is a summary of the revised measures of CEO microblogging style dimensions based on focus group discussions. These measures are what has been agreed by most participants in focus groups.

Figure 23. Revised measures of CEO microblogging style dimensions

CEO microblogging style dimensions	Measures
Content professionalism	Work & company related content Personal life related content
Language professionalism	Formality: Formal language: complex vocabulary Informal language: non-standard vocabulary Consistency with brand culture *
Interactiveness	Relating with consumers (addressing, questioning, inviting, etc.) Responding to consumers Retweeting consumer posts * Tweeting (low – high – robotic*)

Notes: Elements marked with * are newly added measures contributed by focus groups.

9.3.2. Ratings

After agreeing on a set of measures for evaluating the three dimensions of CEOs' microblogging styles (see Figure 23), the focus group discussion proceeded to rate each shortlisted CEO micoblog using the agreed measures. Following are the eight blogs that stand out based on focus group ratings, each represents a typical microblogging style. (For focus group average ratings of the 28 shortlisted CEO microblogs, please refer to Appendix 9).

Hikmet Ersek (Twitter ID: WesternUnionCEO): CEO of the Western Union Company since September 2010. Western Union is an American international financial services company and an industry leader in global money transfer⁴⁶. Mr. Ersek joined the firm in 1999 as Regional Vice President of Southern Europe and then held various positions ever since, including Managing Director and Chief Operating Officer. Before joining Western Union, Mr. Ersek used to work for GE Money Capital during 1996 – 1999 and Europay/ MasterCard during 1986-1996⁴⁷.

Mr. Ersek's microblog has been rated as having a typical *Spokesperson* style (Content professionalism: high; Language professionalism: high; Interactiveness: high). The majority of his Tweets are about Western Union's business and his work as the CEO. His Tweets are written in a very formal manner: using full sentences with correct grammar and punctuation without colloquial terms/ misspellings/ emoticons. He often relates with his consumers by using 1st- and 2nd- personal pronouns, inviting

⁴⁶ <http://www.westernunion.co.uk/gb/Home.page>

⁴⁷ <http://www.bloomberg.com/research/stocks/people/person.asp?personId=23350647&ticker=WU>

consumers to comment, and thanking consumers. What's more, he also makes a personal effort to solve consumer complaints which is very rare among CEOs.

Below are some of Mr. Ersek's typical Tweets:

 **Hikmet Ersek** @WesternUnionCEO · Jan 20
Today WU announced we're expanding our presence w/ @UAEExchange securing retail presences in 16 major European cities bddy.me/1wo4htM

 **Hikmet Ersek** @WesternUnionCEO · Mar 8
#DidUKnow Nearly 51% of WU customers sending cross border money transfers are women #WD2015 bddy.me/1DYrF5l

 **Hikmet Ersek** @WesternUnionCEO · Feb 17
My conversation with @CNNi Marketplace Africa about the unique role WU plays in moving money around the world bddy.me/1ABesUf

 **Hikmet Ersek** @WesternUnionCEO · Jan 29
Pleased to extend our WU Agent agreement with USSC, our largest Agent in the #Philippines: bddy.me/1HjS5pt pic.twitter.com/HL5tgDaGGT

← ↻ 4 ★ + 👤 ...

 **Puri K.** @myaching2002 · Feb 2
@WesternUnionCEO ussc is a crap, i tried to claim usd in philippines&they always have no currency in stock. Dey shud not have made it avail!

← ↻ ★ + 👤 ...

 **Hikmet Ersek** ✓
@WesternUnionCEO



+ 👤 Follow

@myaching2002 Hello, could you please provide us with your
Email
Phone contact number
Country and city
Please do so through Direct message.

← ↻ 1 ★ + 👤 ...

2:47 AM - 2 Feb 2015

Angela Ahrendts (Twitter ID: AngelaAhrendts): Senior Vice President of Retail and Online Stores at Apple Inc. since May 2014. Apple is an American corporation that “designs, manufactures, and markets mobile communication and media devices, personal computers, and portable digital music players” (Apple, 2014). Its well-known products include iPhone, iPad, Mac, iPod, etc. Prior to Apple, Ms. Ahrendts had served as CEO for Burberry, a British global luxury brand for coat, apparel, and accessories (Burberry, 2014) for eight years since July 2006⁴⁸.

Ms. Ahrendts’ microblog has been rated as having a typical *Broadcaster* style (content professionalism: high; language professionalism: high; interactiveness: low). She tweets mainly about her company and work such as attending conferences, having interviews, giving talks, etc. The language used by Ms. Ahrendts is highly formal: using full sentences, containing quite a few lengthy words, without colloquial terms/ misspellings/ emoticons. However, her interactiveness is very low. She seldom relates with or replies to consumers. And her tweeting frequency is 0.1 Tweet per day which is low compared to others.

Below are some typical Tweets from Ms. Ahrendts:



Angela Ahrendts @AngelaAhrendts · Sep 19

Wrapping up an unforgettable launch day, back home with customers in California!



Angela Ahrendts @AngelaAhrendts · Sep 19

Phenomenal start to a historic day and an honor to be with our incredible team and first customers in Sydney.

⁴⁸ <http://www.bloomberg.com/research/stocks/people/person.asp?personId=2015350&ticker=BRBY:LN>



Angela Ahrendts @AngelaAhrendts · 14 May 2013

Honoured to be speaking at the GE Crotonville leadership conference today and hear one of the worlds greatest leaders @JeffImmelt

Olalah Njenga (Twitter ID: Olalah): CEO (2003 - present) of YellowWood Group, an American marketing consulting firm providing advisory services nationally⁴⁹. As an accomplished marketing strategist, Ms. Njenga has “helped companies from 14 different industries grow and win in their respective markets ... based on her strategic planning effort”. Ms. Njenga “has the distinction of being a Braintrust Contributor® for Forbes Small Business and is a featured expert for the Washington Post. Her media credits include the BBC, NPR, Marketplace, the New York Times, Fox News, and local affiliates for ABC, NBC and CBS. She offers her unique perspective and advice about small business through her guest columns with the News & Observer and Carolina Business Connection, as well as her regular segments on NBC® 17’s live morning show, My Carolina Today”⁵⁰.

Ms. Njenga’s microblog has been rated as having a typical *Work Mentor* style (content professionalism: high; language professionalism: low; interactiveness: high). As a marketing strategist and small business policy enthusiast, Ms. Njenga mainly tweets about her work as the CEO and her insights on marketing, strategy, and small business entrepreneurship. She tweets in a casual and friendly manner, using smiley faces, abbreviations, and colloquial terms. She also interacts with consumers quite often by addressing them and replying to them.

⁴⁹ <http://yellowwoodgroup.com/>

⁵⁰ <http://olalah.com/about/>

Some of Ms. Njenga's typical Tweets are as follows:

- 
- Olalah Njenga**
- @olalah · Apr 11
-
- @Spherion @nytimes Thanks for sharing the story. I hope other #smallbusiness owners learn from my #fail and trust their own rules and gut
-
-
- 
- Olalah Njenga**
- @olalah · Apr 2
-
- @sparkermx Thrilled that you enjoyed my presentation at @ecuccob. #Hashtag Yourself has become favorite one to present. Best 2 U
-
-
- 
- Olalah Njenga**
- @olalah · Jan 9
-
- Balance sheets are sexy. #olalahisms
-
-
- 
- Olalah Njenga**
- @olalah · Feb 9
-
- Many thanks for the favorties, retweets and new followers. I appreciate you!

Barry Libert (Twitter ID: barrylibert): Chairman and CEO (2011 - present) of OpenMatters⁵¹, which is a technology angel investor and digital advisory firm based in Boston, MA, US. The firm mainly focuses on investing in midsize and growth companies in social, mobile, and big data sector. But it also provides advisory services to a number of larger enterprises which seeks to leverage information technologies to drive revenues and reduce costs⁵². Such firms include Deloitte, GE Healthcare, ESPN, and Goldman Sachs⁵³.

Mr. Libert's microblog has been rated as having a typical *Work Logger* style (content professionalism high; language professionalism: low; interactiveness: low). The blog content is mainly concerned with the digital industry. Language is largely

⁵¹ <http://www.barrylibert.com/#linkedin>

⁵² <https://www.linkedin.com/company/openmatters>

⁵³ <http://www.openmatters.com/portfolio/>

informal: Tweets are generally short with random capitalization and font. What's more, Mr. Libert seldom interacts with consumers. There is hardly any relating or responding activities found on his blog.

Below are some of Mr. Libert's typical Tweets:

 **Barry Libert** @barrylibert · Dec 6
Digital Strategy Think Tank #alpsdigital [twy.la/1wK6Ufb](https://twitter.com/twy/1wK6Ufb) #digitalstrategy

 **Barry Libert** @barrylibert · Dec 6
Cloud Computing Services Bundle [twy.la/1FZdiyS](https://twitter.com/twy/1FZdiyS) #Cloud

 **Barry Libert** @barrylibert · Jan 14
'Facebook At Work' Hits App Stores [lnkd.in/eZ43zyK](https://www.linkedin.com/company/inkd/eZ43zyK)

Dave Sifry (Twitter ID: dsifry): Vice President Product and Engineering of Handle, Inc. since 2014. Handle is a San Francisco based technology firm speccialized in app development. Before serving Handle, Mr. Sifry has founded and built several software and internet companies during the last 20 years. He is the founder of Technorati Media, Inc., which is currently the largest advertising online network, serving as CEO for the first 5 years (2002 -2007) of the firm's lifetime and continues to serve on its board of directors. In 2007, he started Offbeat Guides, an online personalized travel guide and has served as CEO for 5 years till 2012 before he sold the company to Look, Buy, Fly Travel. The other firms he founded include Sputnik, a wifi gateway company and Linuxcare, a linux service firm⁵⁴.

Mr. Sifry's microblog has been rated as having a typical *Personal Mentor* style (content professionalism: low; language professionalism: high; interactiveness: high).

⁵⁴ <https://www.linkedin.com/in/dsifry>

The blog content is largely personal. Mr. Sifry talks about his daily life and leisure activities, posts photos he takes while traveling, and shares his personal opinions on various non-work-related issues. The language used is in general quite formal though some emoticons are occasionally used. Mr. Sifry often interacts with consumers by addressing them, inviting them into conversation, and replying to many consumer comments.

Below are some of Mr. Sifry's typical Tweets:



David Sifry @dsifry · Feb 15

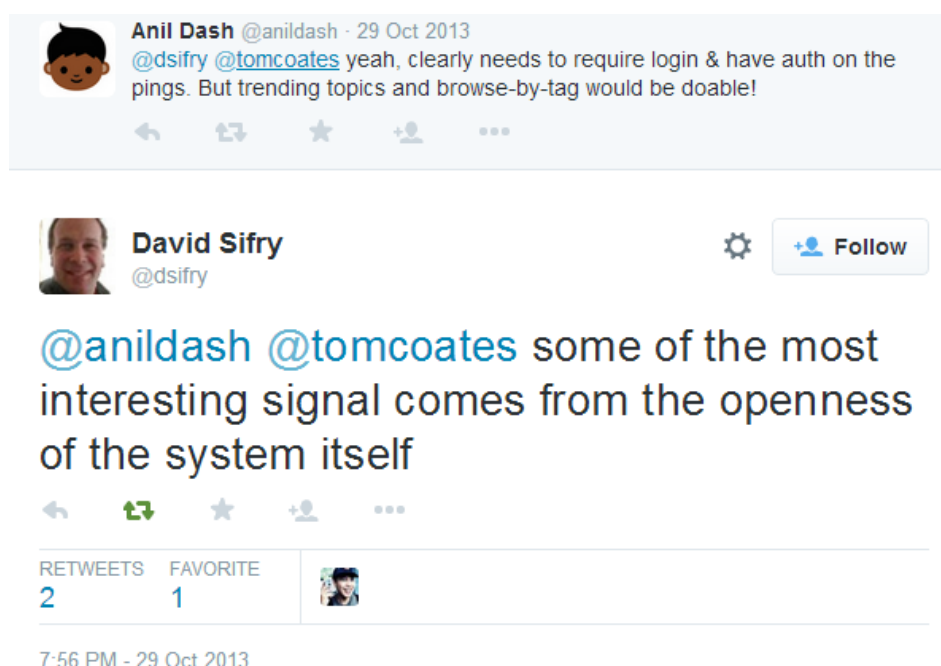
Another gorgeous summer day in San Francisco! Are we still in the northern hemisphere? 😊



David Sifry @dsifry · Feb 21

Lake Tahoe rock statues, looking out at South Lake Tahoe across the lake. It is like a summer day here!





Randy P. Seitz (Twitter ID: CEOStruggles): CEO (2012 – present) of Penn-Northwest Development Corporation, a civil organization that works to drive economic development of Mercer County, Pennsylvania, US. The firm provides marketing, coordination, and financial services to help retain and expand existing business, and to attract new business to the region⁵⁵. Mr. Seitz is also the founder and CEO (2004-present) of Randy P. Seitz & Associates DBA CEO Struggles. That is a consulting firm dedicated to “solve the struggle of non-profit CEOs and the agencies they serve”⁵⁶. Mr. Seitz’s previous engagement include President and CEO (2004) of Encanto Snack Products, LTD., President and CEO (2001-2002) of Mission Economic Development Authority, etc⁵⁷.

⁵⁵ <http://www.penn-northwest.com/>

⁵⁶ <https://twitter.com/ceostruggles>

⁵⁷ <https://www.visualcv.com/rseitz>

Mr. Seitz's microblog has been rated as having a typical *Essayist* style (content professionalism: low; language professionalism: high; interactiveness: low). The blog contains many inspirational quotes and, in fact, that is the sole content of the blog. One might argue that such content is related to Mr. Seitz's role as CEO of a consulting firm dedicated to help CEOs who struggle in their business. But most participants in my focus groups did not see it that way because from Mr. Seitz's microblog, people gain little insight into the concerned industry/ firm/ services or Mr. Seitz's job as the CEO. Therefore, the focus groups rated Mr. Seitz's blog very low in content professionalism. In terms of language, the majority of quotes posted by Mr. Seitz are very formal: using full sentence and correct grammar. Interaction between Mr. Seitz and his followers is rare. By only posting inspirational quotes, Mr. Seitz seems never opens the floor for a conversation or interaction with his consumers – he tweets without asking for opinion or feedback.

Following are some of Mr. Seitz's Tweets:



Randy P. Seitz @CEOStruggles · Apr 27

Daily Mojo: "If you can't help 100 people, then just help one!" - Mother Theresa



Randy P. Seitz @CEOStruggles · Apr 24

Daily Mojo: Life is a tool that teaches—both good and bad. The difference is our perception.



Randy P. Seitz @CEOStruggles · Apr 7

Daily Mojo: It's easy to complain about not having any shoes, until you meet a man with no feet. Be thankful for what you do have.

Jason Alba (Twitter ID: jasonalba): founder and CEO (2006 – present) of JibberJobber.com which is a job search spreadsheet and career management website. The website is dedicated to help job seekers, recruiters to organize their job hunt and manage a professional network. Before founding JibberJobber, Mr. Alba has been General Manager for Nuvek during 2004-2006 and IT Manager for Varsity Contractor during 1999-2006⁵⁸.

The microblog of Mr. Alba has been rated as having a typical *Friend* style (content professionalism: low; language professionalism: low; interactiveness: high). Mr. Alba feels free to share his daily life, personal mood, and thoughts on Twitter. He tweets in a casual and friendly way with emoticons and some intentional misspellings. He also frequently addresses consumers and replies to them.

Below are some of Mr. Alba's Tweets:



Jason Alba @jasonalba · Mar 2

Last night I slept in a bed between my two youngest who, when asleep, transform into a soccer player (Kim) and a boxer (Daniel) #feelinglt



Jason Alba @jasonalba · Nov 21

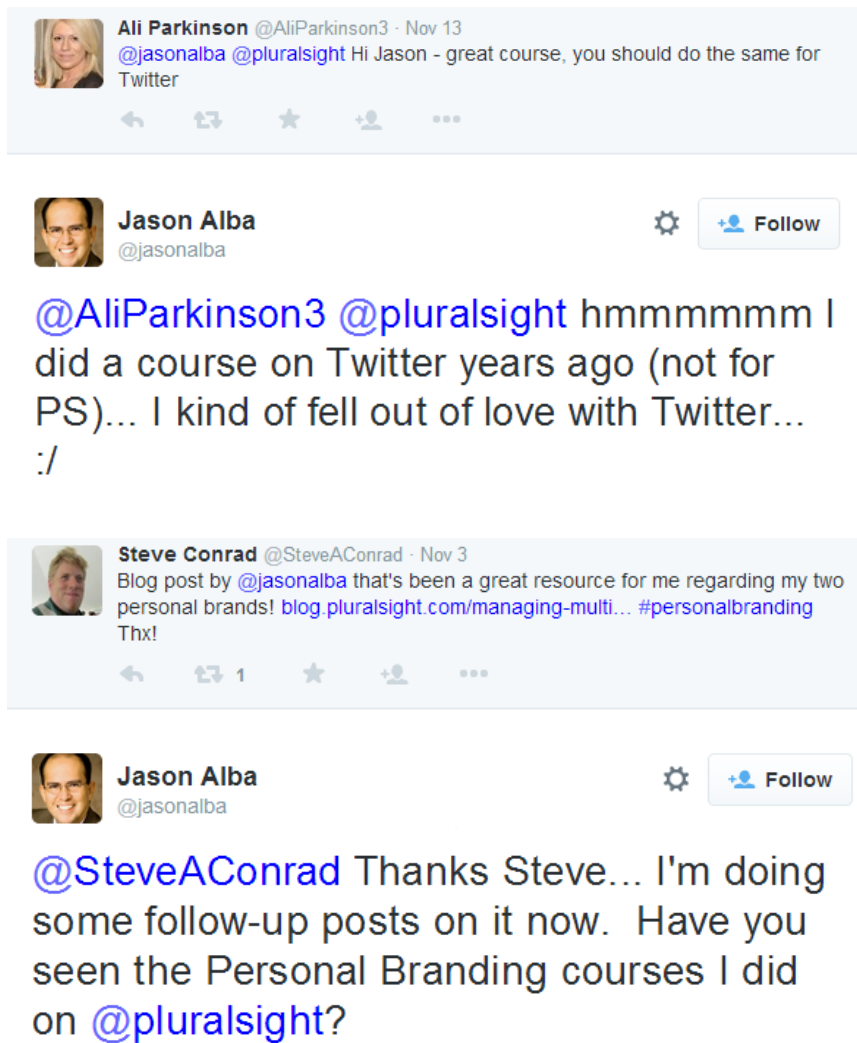
After dealing with a few integrity issues from various people recently, it's refreshing to work with someone with HIGH integrity.



Jason Alba @jasonalba · Mar 4

watching this made me thankful that no one is doing a Boiling Water Challenge this winter. [youtube.com/watch?v=amy5z1...](https://www.youtube.com/watch?v=amy5z1...)

⁵⁸ <https://www.linkedin.com/in/jasonalba>

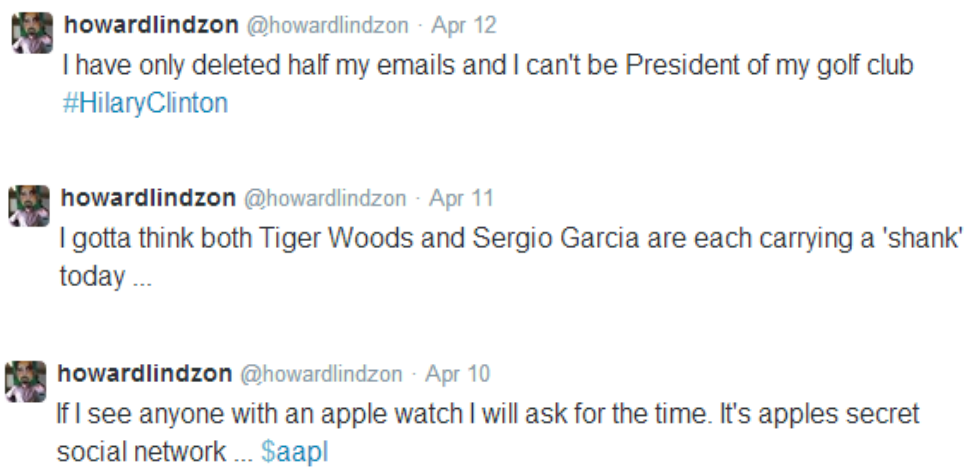


Howard Lindzon (Twitter ID: howardlindzon): Co-founder, former CEO, and current Chairman of StockTwits since 2010. StockTwits is a well-known “real time communication platform for financial community” for “identifying and following investing information across the web”. It is named “one of the Best Websites, 2010” by Time Magazine⁵⁹. Meanwhile, Mr. Lindzon is also the managing partner of Social Leverage and limited partner of Knight’s Bridge Capital Partners, both of which are investment companies.

⁵⁹ <https://www.linkedin.com/company/stocktwits>

Mr. Lindzon's microblog has been rated as having a typical *Diarist* style (content professionalism: low language professionalism: low; interactiveness: low). Besides retweeting posts from his company's official account, Mr. Lindzon shares his opinions extensively on various issues in a casual and joking way. He sometimes chats with his fellow colleagues or personal friends but not much with his consumers.

Below are some sampled Tweets from Mr. Lindzon:



To sum up, thanks to the focus group discussions, eight CEO microblogs were eventually selected for my experiment, which was the next step of my research.

Figure 24. Selected experimental CEO microblogs

Microblogging styles	CEO microblog
Spokesperson	Hikmet Ersek (Twitter ID: WesternUnionCEO)
Broadcaster	Angela Ahrendts (Twitter ID: AngelaAhrendts)
Work mentor	Olalah Njenga (Twitter ID: Olalah)
Work logger	Barry Libert (Twitter ID: barrylibert)
Personal mentor	Dave Sifry (Twitter ID: dsifry):
Essayist	Randy P. Seitz (Twitter ID: CEOStruggles)
Friend	Jason Alba (Twitter ID: jasonalba)
Diarist	Howard Lindzon (Twitter ID: howardlindzon)

9.4. Summary

This chapter has discussed the procedure and results of a series of focus group interviews with undergraduate students attending my Marketing tutorials at Oxford Said Business School. The purpose of these focus groups is to verify my findings from content analysis (I) & (II), and select the most appropriate CEO microblogs for experiment. I first outlined the procedure of group interviews. Then, I discussed my observations from the group discussions regarding how to measure and rate the 28 shortlisted CEO microblogs in terms of their microblogging styles. The focus group interviews have helped me revise my measures and ratings of the 28 shortlisted CEO microblogs and eventually select eight blogs that are believed to be the most appropriate ones for the experiment which was conducted next.

Chapter 10

Experiment: Hypotheses and design

Brief content:

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10.2.2. Language professionalism

10.2.3. Affective-Cognitive & Affective-Behavioral engagement link

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10.3.1.2. Affective engagement

10.3.1.3. Behavioral engagement

10.3.1.4. Additional items

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10.3.3. Questionnaire design

10.4. Summary

10.1. Introduction

Following Phase (I) of my research (content analysis (I) & (II), and focus group interviews), eight microblogs were eventually selected each represents a specific CEO microblogging style. These eight CEO microblogging styles were used as treatments in my research Phase (II) – experiment. That is a web-based experiment with a 2×2×2 factorial design conducted to test the effectiveness of the eight CEO

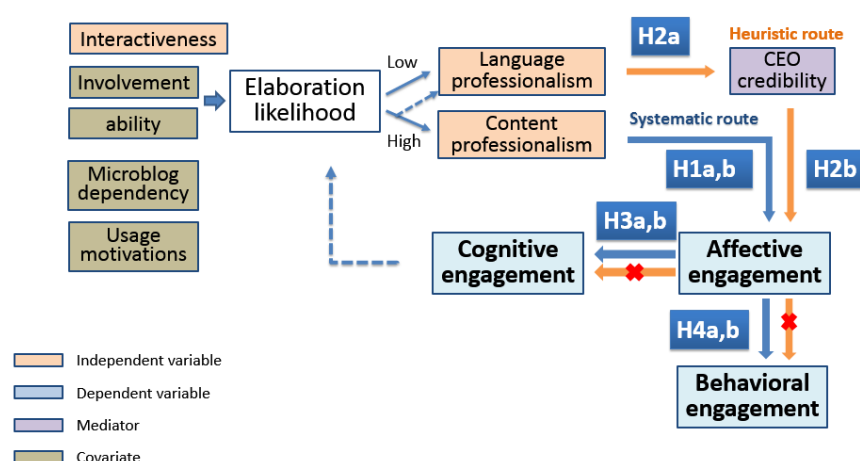
microblogging styles in engaging consumers. In the experiment, consumer-related covariate information was solicited from participants using an online questionnaire before they were randomly assigned to browse through one of the eight selected CEO microblogs. Participants were then asked to respond to another online questionnaire aimed at measuring their engagement with the assigned CEO microblog as well as their perception of the CEO's credibility.

Before conducting the experiment, I had several hypotheses regarding the effectiveness of different microblogging styles in engaging consumers. In this chapter, I will first present my hypotheses, based on which a refined CEO microblog engagement model will be introduced. Then I will discuss how my online survey was designed to measure variables outlined in the model.

10.2. Hypotheses

My hypotheses were formulated based on the model that I developed in Chapter 3 and the findings obtained from Phase (I) of my research. Below is a refined model of CEO microblog engagement integrating my hypotheses.

Diagram 6. CEO microblog engagement model (Refined version)



In this section, I will explain how my hypotheses were formed. As a reminder, a key proposition of my model of CEO microblog engagement is that the CEO's efforts in creating and enhancing the audience's interactive experiences, now termed as "interactiveness", can be a motivational factor influencing a consumer's elaboration likelihood. Specifically, when viewing a CEO microblog, if the CEO does not make an effort in drawing the audience into the conversation (i.e., low interactiveness), readers will be less motivated to spare much cognitive resources to elaborate upon what the CEO says in his/her microblog posts. Instead, they would just briefly browse through the microblog deploying limited cognitive resources (i.e., low elaboration likelihood). At this time, only heuristic cues, such as the language style used by the CEO, which require minimal cognitive resources, may be noticed and processed (i.e., heuristic route).

By contrast, if the CEO does make an effort in drawing the audience into the conversation (i.e., through high interactiveness), readers will be likely not only to notice and process heuristic cues such as the language used by the CEO but also more motivated to pay attention to and elaborate upon what the CEO actually says (i.e., content) in his/her microblog posts (i.e., high elaboration likelihood – systematic route).

10.2.1. Content professionalism

As reviewed in Chapter 3, message content variables are commonly associated with central/systematic route processing (e.g., Allen & Reynolds, 1993; McGarty, Halsam, Hutchinson, & Turner, 1994; Stiff, 1986). In the field of marketing and communication, considerable research attention has been paid to the effect of

message content on the receiver's attitude towards the communication.

However, no previous study has evaluated the effect of content professionalism orientation (i.e., work vs life messages) of a CEO microblog on audience attitude. Based on my content analysis of 330 CEO microblogs, work-oriented content typically includes sharing what CEOs do at work (e.g., meetings, interviews, store visit, etc.); their visions on the firm's business, strategy, and values; their insights into the industry; their management expertise; etc. Life-oriented content is often about what CEOs do in their leisure time, such as posting photos of where they spend their vacations, talking about how much they love their family, recommending a book to read or a movie to watch, etc. I believe that while life-oriented content may have something interesting to offer, for example, by enabling people to have a peek into how a successful person may live his/her life, it is the work-oriented content that is more likely to be more appreciated by the general audience on the microblog. In part, this is because a career dimension, rather than a personal life dimension, is what defines a CEO – distinguishing the CEO from others in the eyes of the general public. Work-oriented content, which typically contains information related to the CEO's career and insights into the firm and sector, is something unique, and probably the most valuable asset, that a CEO can offer to the audience on microblog, and is thus more likely to be appreciated by the audience.

Granted, people may have different motivations for viewing a CEO's microblog, and may expect to get different things out of viewing it. Prior research has identified six primary motivators for using social media: Information – search for information, advice, knowledge, opinions, etc. (Kaye, 2007; Park et al., 2009); entertainment – gratification, relaxation, enjoyment, emotional release, etc. (Park et al., 2009; Shao,

2009); personal inspiration – self-expression, self-identity, self-fulfillment (Papacharissi, 2007); social interaction – belonging, interpersonal connections, social empathy, etc. (Daugherty et al., 2008; Kaye, 2007); empowerment – demand of improvement and excellence from the company (Muntinga et al., 2011); and remuneration – rewards, economic incentives (Youcheng & Fesenmaier, 2003). But I propose that, regardless of what people initially expect to get from a CEO microblog, they will in general appreciate work-oriented content.

I think it is easy to understand that why people would appreciate and like work-oriented content if they initially expect to get information (about the firm or the CEO), inspiration, or empowerment through viewing a CEO microblog. But I believe that even for those who seemingly do not have particular interest in work-oriented content (as they might just want to have fun and relax (entertainment), have a little chat with the CEO (interaction), or win a coupon via an online draw possibly posted by the CEO (remuneration)), they would also appreciate when they see a CEO post work-oriented content because the CEO is apparently offering their most distinctive value to the general viewers by doing this. In fact, what a CEO does at work can be fun (e.g., business trips, meeting different people, etc.); a chat with the CEO can well be about the CEO's work and firm; a draw posted by the CEO can be a draw to promote his/her company's new products. Work-oriented content is not in contradiction to those seemingly non-work-related motivations. Therefore, I propose that people may want various things in viewing a CEO microblog, but they will in general appreciate and prefer work-oriented content over life-oriented content on the blog. And as discussed at the beginning of this section, content variable is commonly associated with central route processing (which should be activated when elaboration likelihood is high), I

proposed the following:

H1a: *When interactiveness of a CEO microblog is high, content professionalism increases consumer affective engagement with the CEO microblog.*

H1b: *When interactiveness of a CEO microblog is low, content professionalism does not have a significant effect on consumer affective engagement with the CEO microblog.*

Notice that the influence of content professionalism on consumer affective engagement was hypothesized to be conditional upon the interactiveness of the CEO microblog (a proposed motivational factor influencing elaboration likelihood) because content has been commonly viewed as requiring more cognitive resources for elaboration. Thus the path: “content professionalism → consumer affective engagement (when interactiveness is high)” has been treated as a systematic route processing in my model.

10.2.2. Language professionalism

Based on research in language and attitude, my initial model developed in Chapter 3 proposed that language variables may influence consumer perceptions of the CEO, which, in turn, may influence consumer affective engagement with the CEO’s microblog. But that model did not specify what those language variables can be and what specific consumer perception such variables may influence. Now, based on my content analysis of CEO microblogs, we know the CEOs’ use of language when tweeting can be best characterized by language professionalism, which captures the degree of formality of language.

According to Haberstroh's (2010) research on online counseling sessions, counsellors who wrote informally were perceived as demonstrating low expertise, an essential component of credibility (McGinnies & Ward, 1980). Therefore, I hypothesized that in the CEO microblogging context, language professionalism (formal – informal) may influence the perceived CEO credibility.

H2a: Language professionalism increases the perceived CEO credibility.

Communicator credibility has received considerable attention in the marketing literature. It has been shown to be influential in persuading consumers and influencing attitude (e.g., Clark & Evans, 2014; Craig & McCann, 1978; Harmon & Coney, 1982; Kumkale, Albarracin, & Seignourel, 2010; McGinnies & Ward, 1980; Mclaughlin, 2016; Moore, Hausknecht, & Thamodaran, 1986; O'Reilly, Macmillan, Mumuni, & Lancendorfer, 2016; Pornpitakpan, 2004; Sternthal, Phillips, & Dholakia, 1978; Wu & Shatfer, 1987). Therefore, I further proposed:

H2b: Language professionalism increases the perceived CEO credibility, which, in turn, increases consumer affective engagement.

Notice that the influence of language professionalism on consumer effective engagement was hypothesized to be independent of the interactiveness of the CEO microblog (a proposed motivational factor influencing elaboration likelihood), because language style has been commonly treated as a cue peripheral to the content of message requiring minimal cognitive resources for elaboration. Therefore, the path: “language professionalism → perceived CEO credibility → consumer affective engagement” has been treated as a heuristic route in my model.

10.2.3. Affective – Cognitive & Affective – Behavioral engagement links

Another key proposition of my engagement model is about the affective – cognitive and affective – behavioral engagement links: affective engagement formed through the systematic route influences the consumer's cognitive and behavioral engagement with the CEO microblog; whereas the affective engagement formed through the heuristic route does not. Following are four hypotheses illustrating those links:

Affective – Cognitive engagement link:

H3a: When interactiveness of a CEO microblog is high, content professionalism increases consumer affective engagement with the CEO microblog, which, in turn, increases the consumer's cognitive engagement with the CEO microblog.

H3b: When interactiveness of a CEO microblog is low, content professionalism does not have a significant effect on consumer affective engagement with the CEO microblog, which, in turn, does not have a significant effect on the consumer's cognitive engagement with the CEO microblog.

Affective – Behavioral engagement link:

H4a: When interactiveness of a CEO microblog is high, content professionalism increases consumer affective engagement with the CEO microblog, which, in turn, increases the consumer's behavioral engagement with the CEO microblog.

H4b: *When interactiveness of a CEO microblog is low, content professionalism does not have a significant effect on consumer affective engagement with the CEO microblog, which, in turn, does not have a significant effect on the consumer's behavioral engagement with the CEO microblog.*

10.2.4. A note on elaboration likelihood

As shown in Diagram 6, my model implies that when viewing a CEO microblog for the first time, that is, before forming an attitude towards to the blog (i.e., affective engagement in my research context), the audience's elaboration likelihood (i.e., the cognitive resources spared for elaboration) would be increased by the interactiveness (i.e., effort of the CEO in drawing audience into conversation) of that blog. And after the formation of affective and cognitive engagement with the blog, the audience's elaboration likelihood would be affected not only by interactiveness, but also by content professionalism of the blog, because content professionalism (combined with interactiveness) was hypothesized to influence cognitive engagement (through the mediation of affective engagement) which by definition includes cognitive resources used for elaboration of the blog⁶⁰. Since the link between the elaboration likelihood and cognitive engagement is self-explained by definition, as long as my hypothesis regarding the path: "content professionalism → affective engagement → cognitive engagement" (H3a, b) are tested and supported, we can infer that the audience elaboration likelihood towards subsequent content posted onto the CEO microblog

⁶⁰ Cognitive engagement also include other cognitive resources such as attention, immersion, learning, etc., directed to the CEO microblog.

after their formation of affective and cognitive engagement would be influenced by both the interactiveness and content professionalism of the blog.

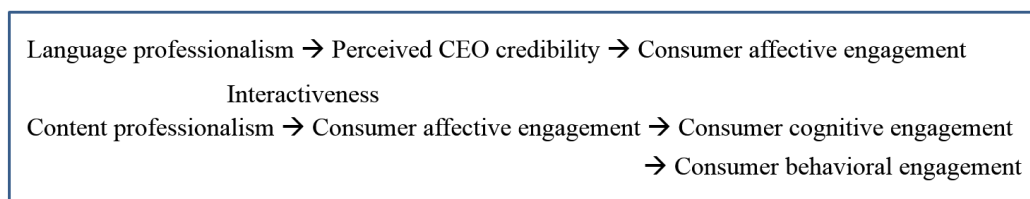
Now let's focus on the audience's initial elaboration likelihood when they first view the blog before forming affective engagement. As discussed earlier, such initial elaboration likelihood was suggested to be influenced by the interactiveness of the blog (content professionalism would not exert an effect at this stage). Although it is difficult to directly test this "interactiveness → initial elaboration likelihood" link as the second element of the link can hardly be accurately monitored in a self-reported online survey, this link can be indirectly assessed through testing hypotheses regarding systematic and heuristic route processing (H1 ~ H2) which were formulated based on the assumption of this link.

10.2.5. Overview of hypotheses and experiment framework

Diagram 6 shows my CEO microblog engagement model refined based on input of Phase (I) research. H1a,b are about the systematic route by which content professionalism combined with interactiveness may have an effect on consumer affective engagement. H2a, b are concerned with the heuristic route by which language professionalism influences consumer affective engagement via perceived CEO credibility. H3 ~ H4 are about the affective – cognitive and affective – behavioral engagement links.

The diagram below summarizes my hypotheses:

Diagram 7. Overview of hypotheses



The central idea behind my hypotheses is that, among the three microblogging style factors, language professionalism is an important heuristic cue which would increase consumer affective engagement via the perceived CEO credibility regardless of the other two factors, but its influence stops at affective engagement and would not extend to cognitive or behavioral engagement. Whereas for content professionalism and interactiveness, these two have to be both high in order to increase affective engagement, but their influence can extend to the cognitive and behavioral dimensions of engagement.

10.3. Measures and design

The above four sets of hypotheses were tested in an experiment. In the experiment, the three dimensions of engagement (i.e., cognitive, affective, and behavioral engagement) were treated as dependent variables. The three microblogging style factors (i.e., content professionalism, language professionalism, interactiveness) were treated as independent variables. The perceived CEO credibility was treated as a mediator. Meanwhile, the four consumer-related factors, i.e., consumer involvement, ability, microblog dependency and usage motivations, were treated as covariates. In this section, I will discuss these variables were measured in my experiment using online questionnaires.

10.3.1. Measuring dependent variable: Consumer engagement level

In order to measure the consumer engagement level generated by different CEO microblogging styles, a measurement scale was developed based on my definition of consumer engagement with a CEO microblog proposed in Chapter 2 Section 2.2.

10.3.1.1. Cognitive engagement

Consumer engagement with a CEO microblog was defined as a three-dimensional concept consisting of cognitive, affective, and behavioral aspects. The cognitive aspect captures the cognitive resources (e.g., attention, immersion, thought elaboration) that the consumer allocates to the CEO's microblog. The following four items were therefore adapted from prior literature to measure "attention" "immersion" and "thought elaboration".

Adapted from So, King, & Sparks (2014) consumer engagement scale:

Item1.1. I was concentrating when reading (CEO name's) Twitter page.

(Attention)

Item1.2. I was totally immersed when reading (CEO name's) Twitter page.

(Immersion)

Adapted from Reynolds (1997) message elaboration scale:

Item1.3. I read (CEO name's) Tweets carefully.

(Thought elaboration)

Item1.4. I tended to carefully reflect on what (CEO name) wrote on Twitter.

(Thought elaboration)

10.3.1.2. Affective engagement

The affective dimension of engagement refers to the consumer's positive affect formed with the CEO microblog. As observed from my content analysis, a CEO microblog can be characterized by its content, language, and interactiveness, I therefore designed the following three items to capture the audience affect generated.

- Item2.1.* Content wise, I like the way (CEO name) tweets.
- Item2.2.* Language wise, I like the way (CEO name) tweets.
- Item2.3.* I like the way (CEO name) interacts with his/her followers.

Besides, I added another item which was adapted from Vivek (2009) engagement scale.

- Item2.4.* I enjoy reading (CEO name's) Tweets.

10.3.1.3. Behavioral engagement

The behavioral dimension of CE describes the consumer's positive behavioral manifestations towards the CEO microblog, such as following or replying to the CEO, liking or retweeting the CEO's posts. Therefore, the following four items were created to measure behavioral engagement.

- Item3.1.* I am very likely to click the "like" button for some of (CEO name's) Tweets. (Likes are represented by a small heart. They are commonly used to show appreciation for a Tweet.)
- Item3.2.* I am very likely to favorably reply to some of (CEO name's) Tweets.
(A reply is a response to another user's Tweet)
- Item3.3.* I am very likely to favorably retweet some of (CEO name's) Tweets.
(A retweet is a re-posting of someone else's Tweet. It helps you quickly share that Tweet with all of your followers.)
- Item3.4.* I am very likely to follow (CEO name) on Twitter.
(Following someone on Twitter means you are subscribing to their Tweets and their updates will appear in your Home tab.)

10.3.1.4. Additional items

In addition, during the focus group discussions, besides reviewing the 28

shortlisted CEO microblogs, participants were also asked to discuss the reliability and validity of the above measurement items (see Appendix 8 for the focus discussion procedure). Two additional items were added for measuring behavioral engagement based on the opinions of focus group participants.

Item3.5. I am very likely to recommend that my friends follow (CEO's name) on Twitter.

Item3.6. While browsing through (CEO's name) Twitter page, I became interested in his/her firm and products, and I will probably search for more information about them afterwards.

In total, 14 items were generated to measure consumer engagement with a CEO microblog – 4 items for measuring cognitive engagement, 4 items for affective engagement, and 6 items for behavioral engagement.

10.3.2. Measuring mediator and covariates

Perceived CEO credibility

As illustrated in Diagram 6, the perceived CEO credibility was treated as a mediator in my experiment. In focus group discussion, the most frequently used description by participants when referring to their positive perception of a CEO included “I feel that (CEO name) is a nice CEO” and “I feel that (CEO name) is a nice person”. The first sentence emphasizes that the CEO seems to know the field and doing his/her job right; whereas the second sentence is directed towards the character and personality of the CEO. These two aspects are consistent with what constitutes source credibility (e.g., McGinnies & Ward, 1980). Therefore, I used these two sentences as measurement items of the perceived CEO credibility in my experiment.

Covariates

All of the measurements for covariates in this study were adopted from past research and adapted to fit the CEO microblogging context. The consumer involvement scale was adapted from Ashley et al. (2011) and Vivek (2009). It consisted of two items: (1) “I closely keep track of issues related to the XX sector.” (2) “News about the XX sector tends to get my attention a lot.” Consumer ability was measured by a proxy, i.e., the consumer’s highest education level. As for microblog dependency, its measures were adapted from an internet dependency scale (Lu, 2008) and a television affinity index (Rubin & Rubin, 1981, 1982): (1) “Using Twitter is part of my daily routine.” (2) “I lose track of time when I am using Twitter.” Consumer motivations in viewing CEO microblogs were measured based on Muntinga et al.’s (2011) study on social media usage motivations: “What would you usually expect when browsing through a CEO’s Twitter page? Please indicate how much you agree/disagree with the following statements: (1) I expect to get useful information about the company and industry; (2) I expect to know the CEO better; (3) I expect to have fun and relax; (4) I expect to be inspired by the CEO; (5) I expect to have a chance to speak with the CEO; (6) I expect to have my opinion heard by the CEO. (7) I expect to get monetary reward”.

10.3.3. Questionnaire design

The questionnaire used in the experiment consisted of five main parts (see Appendix 10). Part (I) measured covariates, i.e., participants’ involvement with the assigned CEO’s industry, microblog dependency, and motivations in viewing CEO microblogs. Part (II) randomly assigned participants with one of the eight

experimental CEO microblogs to browse through by giving them the corresponding Twitter account link. Part (III) measured participants' engagement level with the randomly assigned CEO microblog (dependent variable) as well as their perception of the CEO's credibility (mediator). In the Part (IV), participants were asked to give their general impression of the assigned CEO's microblog in at least 20 words. This short answer question was designed as a due diligence check to verify whether the participant had browsed through the assigned CEO's Twitter page and completed the questionnaire with reasonable care. Part (IV) of the questionnaire asked participants for the most basic demographic information including age, gender, and highest education level⁶¹.

10.4. Summary

This chapter is about experiment hypotheses formation and measures development. I have presented my hypotheses regarding the effectiveness of different microblogging styles in engaging consumers, based on which a refined CEO microblog engagement model was introduced. Then I discussed how variables outlined in the model were measured in the experiment. In the next chapter, I will proceed to present experiment results and analysis.

⁶¹ Education level was to be used as a proxy for measuring consumer ability which was treated as a covariate.

Chapter 11

Experiment: Results and analysis

Brief content:

11.1. Introduction

11.2. Sample

11.3. Exploratory factor analysis (EFA) for consumer engagement

11.4. ANCOVA: Consumer engagement

11.4.1. Model specification and assumption checks

11.4.2. Effects of consumer-related covariates on consumer engagement

11.4.3. Effects of CEO microblogging style factors on consumer engagement

11.5. ANCOVA and mediation analysis: Consumer engagement dimensions

11.5.1. Affective engagement

11.5.2. Cognitive and behavioral engagement

11.6. Summary

11.1. Introduction

A web-based experiment with a 2×2×2 factorial design was conducted on the Prolific Academic website⁶² to test the effectiveness of the eight CEO microblogging styles in engaging consumers. In the experiment, consumer-related covariate information (e.g., involvement, microblog dependency and usage motivations) was solicited from participants using an online questionnaire before they were randomly assigned to browse through one of the eight selected CEO microblogs. Participants

⁶² Prolific Academic is the world's largest crowdsourcing community of people who volunteer to take part in surveys. Researchers post studies and recruit the right participants fast. Participants earn rewards while helping to advance human knowledge.

were then asked to respond to another online questionnaire aimed at measuring their engagement with the assigned CEO microblog as well as their perception of the CEO's credibility (for survey questions, see Appendix 10).

In this chapter, experiment sample is described and results are presented and interpreted.

11.2. Sample

The target population of the study is web users in the United States who have access to Twitter⁶³. The sample of the experiment comprised of 811 US web users who have registered on the Prolific Academic website and volunteered to participate in my study. All of the participants were residents in the United States. The average age of the sample was 31 years old (ranging from 16 to 74 years) with 60% aged between 16-29 years, 33% aged between 30-49 years. Among the participants, 58% were male and 42% were female. Approximately 30% had “some college” experience and 56% had “some college+” experience as their highest level of education. This basic demographic composition is similar to the US web user demographics in terms of age and education as past research suggests that internet in the US is most popular among people under age 30 and with college+ experience (Pew Research Center 2014⁶⁴). But it should be noted that in terms of gender, my sample was slightly unbalanced with 58% of male participants while the internet is found to be equally popular among males and females in the US (Pew Research Center 2014).

⁶³ Theoretically, every internet user can have access to Twitter and view a CEO's public Twitter page even if he/she isn't registered on Twitter.

⁶⁴ <http://www.pewinternet.org/data-trend/internet-use/latest-stats/>

In total, 825 questionnaires were completed among which 14 failed the due diligence check. The remaining 811 questionnaires were accepted for further data analysis.

11.3. Exploratory factor analysis (EFA) for consumer engagement

For data analysis, this study mainly conducted multivariate ordinary least squared (OLS) regressions, covariate analysis of variances (ANCOVA), and mediation analysis to examine the main and interaction effects of the three CEO microblogging style factors, i.e., content professionalism, language professionalism, and interactiveness, on consumer engagement via perceived CEO credibility while controlling for the influences of various consumer-related covariates. Because the consumer engagement scale was newly developed in this study, an exploratory factor analysis (EFA)⁶⁵ was also conducted to test its 14 measurement items.

The EFA was conducted using the principal axis factor (PAF) method and an oblique (i.e., direct oblimin) rotation with Kraiser normalization to test the 14 engagement measurement items. PAF method is a common estimation method of EFA which does not require multivariate normality (Fabrigar, Wegener, MacCallum, & Strahan, 1999). Oblique rotation is a common rotation method of EFA which allows for correlation between factors.

The analysis yielded a three-factor solution which supports my newly developed engagement scale. Table 12 presents the factor loadings and variances explained. Four

⁶⁵ EFA was used in the current study rather than principal component analysis (PCA) because the purpose of factor analysis in this study is to test a new scale rather than to reduce the measure.

items loaded onto factor 3 (0.6384 – 0.8115) which were all related to cognitive engagement. Four items loaded onto factor 2 (0.6270 – 0.8082) which were all designed to measure affective engagement. Six items loaded on factor 1 which were all related to behavioral engagement (0.7365 – 0.8937).

Table 12. Exploratory factor analysis for measurement items of consumer engagement

	Items	Factor loadings			
		1	2	3	%
1.1	I was concentrated when reading (CEO name's) Twitter page.			0.8115	47%
1.2	I was totally immersed when reading (CEO name's) Twitter page.			0.7248	
1.3	I read (CEO name's) Tweets carefully.			0.7982	
1.4	I tended to carefully reflect on what (CEO name) wrote on Twitter.			0.6384	
2.1	Content wise, I like the way (CEO name) tweets.		0.8124		68%
2.2	Language wise, I like the way (CEO name) tweets.		0.8280		
2.3	I like the way (CEO name) interacts with his/her followers.		0.6735		
2.4	I enjoy reading (CEO name's) Tweets.		0.6270		
3.1	I am very likely to click the "like" button for some of (CEO name's) Tweets.	0.7727			73%
3.2	I am very likely to favorably reply to some of (CEO name's) Tweets.	0.8286			
3.3	I am very likely to favorably retweet some of (CEO name's) Tweets.	0.8596			
3.4	I am very likely to follow (CEO name) on Twitter.	0.8937			
3.5	I am very likely to recommend that my friends follow (CEO name) on Twitter.	0.8533			
3.6	While browsing through (CEO name's) Twitter page, I became interested in his/her firm and products, and I will probably search for more information about them afterwards.	0.7365			

Extraction method was principal axis factoring (PAF) with oblique oblimin rotation and Kraiser normalization.

11.4. ANCOVA: Consumer engagement

11.4.1. Model specification and assumption checks

A multivariate regression model (M1) was first constructed to test the effect of CEO microblogging style factors, consumer-related covariates, and their interactions on consumer engagement. Notice that age as a basic consumer demographic variable was also included in the model. Results showed that all the interaction effects between microblogging style factors and consumer motivational factors were

insignificant (see Appendix 11). Therefore, a reduced model (M2) excluding these interactions was conducted. Likelihood ratio test comparing the two models suggested that removing those interactions did not affect model fit (LR $\chi^2(8) = 18.20$, $p = 0.6363$). Hence, the reduced model (M2) was used as a base for further analysis. Notice that M2 was in fact equivalent to an ANCOVA model of a $2 \times 2 \times 2$ factorial design (content professionalism: low – high; language professionalism: low – high; interactiveness: low – high) with five consumer-related covariates (i.e., consumer involvement, ability, motivations, microblog dependency, and age).

Assumption checks on M2 indicated that (1) there was a severe outlier as assessed by leverage versus residuals plot and added variable plots; (2) engagement level was normally distributed in each cell of the design except for one group where normality was slightly violated ($p = 0.064$) according to Shapiro-Wilk's test of normality; (3) homoscedasticity was not violated as assessed by Levene's test of equal variance ($p = 0.299$); (4) multicollinearity for all independent variables was low (VIF ranged from 1.02 - 2.79); (5) linearity between engagement and covariates was good as assessed by partial residual plots. Therefore, I excluded the severe outlier and ran a robust ANCOVA model (M3) which relaxed the assumption of normality.

11.4.2. Effects of consumer-related covariates on consumer engagement

As shown in Appendix 11, M3 revealed the following covariates as having a significant positive effect on consumer engagement with a CEO microblog: consumer involvement with relevant industry ($t=7.77$, $p=0.000$, $\beta=0.200$), microblog dependency ($t=2.74$, $p=0.006$, $\beta=0.06$), motivation for information of the company ($t=3.68$, $p=0.000$, $\beta=0.111$), motivation for entertainment ($t=2.65$, $p=0.008$, $\beta=0.074$),

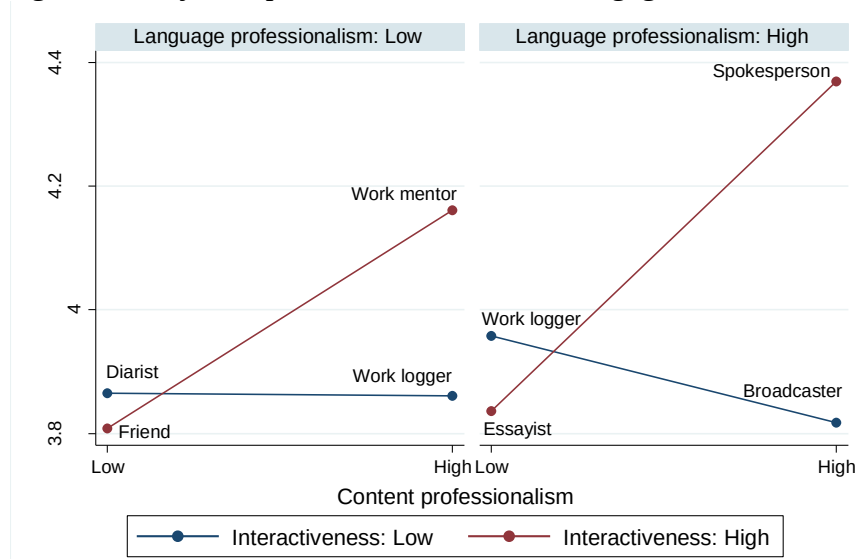
motivation for personal inspiration ($t=4.49$, $p=0.000$, $\beta=0.134$), and age ($t=5.11$, $p=0.000$, $\beta=0.017$). However, the effect of consumer ability ($t=-1.52$, $p=0.130$, $\beta=-0.041$), consumer motivation for information of the CEO ($t=0.75$, $p=0.455$, $\beta=0.023$), motivation for empowerment ($t=1.62$, $p=0.105$, $\beta=0.053$), motivation for interaction ($t=-0.59$, $p=0.557$, $\beta=-0.019$), motivation for remuneration ($t=1.45$, $p=0.147$, $\beta=0.041$) were not significant.

11.4.3. Effects of CEO microblogging factors on consumer engagement

After controlling for the influences of consumer-related covariates by holding them at means, the effects of the three microblogging style factors on consumer engagement were as summarized in Table 13.

As shown in Table 13, among the three CEO microblogging style factors, the effect of language professionalism on engagement was positive but not significant ($F(1,791)=0.85$, $p=0.3581$), but there was a significant interaction between content professionalism and interactiveness ($F(1,791)=12.14$, $p=0.0005$) such that when interactiveness of the CEO microblog was high, content professionalism increased consumer engagement; when interactiveness of the blog was low, content professionalism did not have a significant effect on consumer engagement. These results combined to suggest that the *Spokesperson* microblogging style (i.e., high content professionalism $\times$ high language professionalism $\times$ high interactiveness) is most likely to result in the highest engagement level. The predicted engagement level for each microblogging style is illustrated in Figure 25.

Figure 25. Adjusted prediction for consumer engagement



11.5. ANCOVA and mediation analysis: Consumer engagement dimensions

In order to get an in-depth understanding of the effect of microblogging style factors on engagement and therefore testing my hypotheses, a robust ANCOVA with mediation analysis was conducted on the three dimensions of engagement respectively. Table 13 summarizes the effects of CEO microblogging style factors on consumer engagement (on both aggregated level and dimensional levels). In what follows, results of each dimension are detailed.

Table 13. Main & interaction effects of microblogging factors on consumer engagement

VARIABLES	M3 (Robust ANCOVA) Aggregated engagement			M4 (Robust ANCOVA) Affective engagement			M5 (Robust ANCOVA) Cognitive engagement			M6 (Robust ANCOVA) Behavioral engagement		
	df	F	P>F	df	F	P>F	df	F	P>F	df	F	P>F
Content professionalism	1	6.57	0.0106**	1	5.26	0.0221**	1	5.56	0.0186**	1	3.49	0.0619
Language professionalism	1	0.85	0.3581	1	4.44	0.0355**	1	0.71	0.3988	1	1.48	0.2238
Interactiveness	1	5.45	0.0198**	1	8.02	0.0047***	1	0.8	0.3726	1	3.38	0.0663
Content professionalism # Language professionalism	1	0.02	0.8894	1	2.36	0.1249	1	0.44	0.507	1	0.51	0.4763
Content professionalism # Interactiveness	1	12.14	0.0005***	1	9.6	0.0020***	1	6.22	0.0129**	1	7.95	0.0049***
Language professionalism # Interactiveness	1	0.43	0.5141	1	0	0.9773	1	0.21	0.6496	1	1.1	0.2939
Content professionalism # Language professionalism # Interactiveness	1	1.17	0.2789	1	0.11	0.7443	1	2.61	0.1067	1	1.49	0.2225
Denominator	791			791			791			791		

*** p<0.01, ** p<0.05

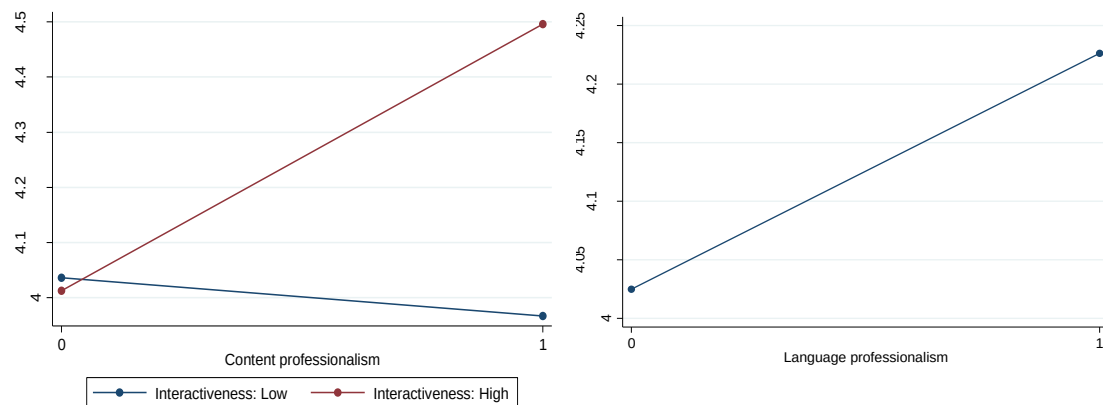
11.5.1. Affective engagement

According to the results of robust ANCOVA on affective engagement (M4), covariates' effects were found similar to those on the aggregated engagement level. After controlling for the influences of these covariates, it was found that there was a significant interaction between content professionalism and interactiveness ($F(1,791)=9.60$, $p=0.0020$) such that when interactiveness of the CEO microblog was high, content professionalism increased consumer affective engagement with the blog, thus supporting H1a; while when interactiveness of the CEO microblog was low, content professionalism did not have a significant effect on consumer affective engagement with the blog, thus supporting H1b.

What's more, independent of content professionalism and interactiveness, language professionalism had a significant positive effect on consumer affective engagement ($F(1,791)=4.44$, $p=0.0355$). A bias-corrected bootstrapping mediation analysis (model 1, 200 iterations, Hayes, 2013) was used to test the indirect language professionalism effect on affective engagement via perceived CEO credibility (i.e., language professionalism $\rightarrow$ perceived CEO credibility $\rightarrow$ consumer affective engagement). The indirect effect was significant ($\beta = 0.198$, $95\%CI=0.107/0.319$). The direct effect of language professionalism on affective engagement was not significant ($\beta = 0.020$, $p=0.819$), indicating an indirect only mediation. That means language professionalism increased affective engagement mainly via increasing perceived CEO credibility, thus supporting H2a and H2b.

The following figure demonstrates the effects of the three microblogging factors on consumer affective engagement.

Figure 26. Adjusted prediction for consumer affective engagement



11.5.2. Cognitive and behavioral engagement

According to the results of robust ANCOVA on cognitive (M5) and behavioral engagement (M6), covariates' effects were also found to be similar to those on the aggregated level of engagement. After the influences of these covariates were held at means, it was found that:

(1) Language professionalism did not have a significant effect on either cognitive engagement ($F(1,791)=0.71$, $p=0.3988$) or behavioral engagement ($F(1,791)=1.48$, $p=0.2238$), implying that the positive effect of language professionalism on affective engagement did not transfer to the other two dimensions of engagement, consistent with what was proposed by my CEO microblog engagement model (see Diagram 7 in Chapter 10).

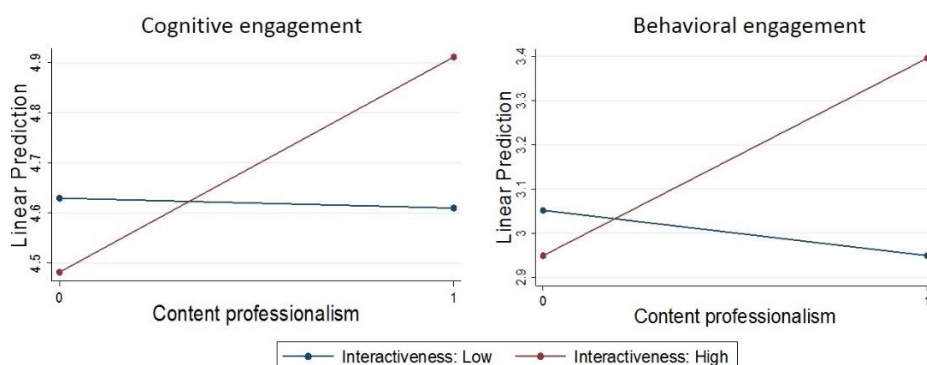
It was also found that the interaction effect of content professionalism and interactiveness was significant on both cognitive ($F(1,791)=6.22$, $p=0.0129$) and behavioral engagement ($F(1,791)=7.95$, $p=0.0049$). A bias-corrected bootstrapping method (model 8, 200 iterations, Hayes, 2013) was used to test the two paths: “content professionalism → consumer affective engagement → consumer cognitive

engagement” and “content professionalism $\rightarrow$ consumer affective engagement $\rightarrow$ consumer behavioral engagement”, separately both for high and low interactiveness. I had predicted that when interactiveness of a CEO microblog is high, content professionalism increases consumer affective engagement, which, in turn, increases consumer cognitive and behavioral engagement. The mediation analysis showed that interactiveness was indeed a significant moderator. When interactiveness was high, the indirect effect of content professionalism on cognitive and behavioral engagement via affective engagement were both positive and significant (for cognitive engagement: $\beta=0.223$, 95%CI=0.091/0.320; for behavioral engagement: $\beta=0.325$, 95%CI=0.133/0.458). Meanwhile, the direct effect of content professionalism on cognitive and behavioral engagement were not significant (for cognitive engagement: $\beta=0.186$, $p=0.128$; for behavioral engagement: $\beta=0.075$, $p=0.508$), indicating an indirect-only mediation. The above results therefore support H3a and H4a.

By contrast, when interactiveness was low, neither indirect nor direct effect of content professionalism was significant on the cognitive and behavioral aspect of engagement, thus supporting H3b and H4b.

The following figure demonstrates the effects of the content professionalism and interactiveness on consumer cognitive and behavioral engagement. (Notice that language professionalism did not have a significant effect on these two dimensions.)

Figure 27. Adjusted prediction for consumer cognitive & behavioral engagement



11.6. Summary

This chapter has presented the procedure and results of my research Phase (II) – an online experiment which tested the effectiveness of the eight typical CEO microblogging styles in engaging consumers.

Key findings of the experiment include:

First, regarding covariates, consumers' involvement with the relevant industry, dependency on microblog, motivations in viewing CEO microblogs (in particular for company information, entertainment, and inspiration), and age in general all positively affect consumers' engagement with a CEO microblog.

Second, regarding the three CEO microblogging style factors, language professionalism is an important heuristic cue which would increase consumer affective engagement via the perceived CEO credibility regardless of the other two factors, but its influence stops at affective engagement and would not extend to cognitive or behavioral engagement. Whereas for content professionalism and interactiveness, these two have to be both high in order to increase affective engagement, but their influence can extend to the cognitive and behavioral dimensions of engagement. The above findings support all my hypotheses, and suggested that the *Spokesperson* microblogging style (i.e., high content professionalism $\times$ high language professionalism $\times$ high interactiveness) is most likely to generate the highest engagement levels in all three dimensions.

Third, there is no significant interaction effect between CEO microblogging style factors and consumer motivational factors. That is to say, regardless of what people initially expect to get from a CEO microblog, they would appreciate work-oriented

content, formal language, and interactiveness on a CEO microblog. This finding is consistent with what I proposed in Chapter 10 Section 10.2.1.

Theoretical contributions and managerial implications of the above findings and my research are discussed in the next chapter.

Chapter 12

Research contributions, implications, and limitations

Brief content:

- 10.1. Introduction
 - 10.2. Research contributions and implications
 - 10.3. Research limitations and future research
 - 10.4. Concluding thoughts
-

12.1. Introduction

This research aims to draw the attention of both marketing practitioners and academics to the potentially influential role of CEOs as ambassadors of their firms on social media. In particular, using a mixed methods approach, the study has explored the ways in which CEOs use microblogs in dialogue with consumers, and measured the marketing effectiveness of such efforts. The main objective is to understand how different microblogging factors work to influence consumer engagement, thereby identifying the microblogging style of corporate executives that is most likely to result in the greatest consumer engagement.

In this study, both a general and a microblog context specific definition of consumer engagement were developed through synthesizing various current conceptualizations of this emergent concept. Then drawing theories from attitude and persuasion literature, in particular, the Elaboration Likelihood Model and the Heuristic-Systematic Model, a CEO microblog engagement model was proposed for

identification and examination of potential consumer- and firm- related drivers of consumer engagement with a CEO microblog. Guided by this model, a content analysis of 330 existing CEO Twitter accounts was conducted identifying three general features characterizing CEOs' use of microblog (i.e., content professionalism, language professionalism, and interactiveness), which, in turn, classified those CEO Twitter accounts into eight microblogging styles (i.e., *Spokesperson*, *Broadcaster*, *Work mentor*, *Work logger*, *Personal mentor*, *Essayist*, *Friend*, and *Diarist*). The effectiveness of these eight styles in engaging consumers was investigated by means of an online experiment with 811 participants.

The experiment results suggest that after controlling for the influences of key consumer-related covariates (i.e., involvement, ability, motivations, microblog dependency, etc.), the dynamic effect of the three CEO microblogging style (i.e., firm-related) factors on consumer engagement can be summarized as follows: language professionalism is an important heuristic cue which would increase consumer affective engagement via the perceived CEO credibility regardless of the other two factors, but its influence stops at affective engagement and would not extend to cognitive or behavioral engagement. Whereas for content professionalism and interactiveness, these two have to be both high in order to increase affective engagement, but their influence can extend to the cognitive and behavioral dimensions of engagement. Therefore, the *Spokesperson* microblogging style (i.e., high content professionalism $\times$ high language professionalism $\times$ high interactiveness) is most likely to generate the highest consumer engagement.

12.2. Research contributions and implications

As one of the earliest empirical attempts to understand CEOs' use of microblogs in dialogue with consumers, this study used a mixed methods research design combining qualitative (e.g., content analysis, focus groups) and quantitative (e.g., experiment, EFA, ANCOVA) approaches to identify the CEO microblogging style that is most likely to generate the greatest consumer engagement.

Through investigating how CEOs use microblogs in engaging consumers, the study has successfully addressed the two research questions of "How should consumer engagement be conceptualized, defined, and measured in a microblogging context?" and "How do specific individual (e.g., firm, consumer) factors affect and/or interact to generate particular consumer engagement levels with a CEO microblog?".

As such, the study contributes to the growing body of knowledge on consumer experience and behavior in social media by providing a comprehensive conceptualization of consumer engagement in a microblogging context, by developing and implementing a scale to effectively measure consumer engagement with a CEO's microblog, and by identifying and testing various consumer- and firm-related engagement antecedents.

The study findings provide theoretical, managerial and methodological implications that may help both marketing academics and practitioners understand the important role and influence that social CEOs have through their use of microblogs in engaging consumers. There are potentially five specific contributions.

First, by focusing on CEOs, my research draws the attention of both corporate marketing communication practitioners and academics to the potentially influential

role of the social CEO as ambassador of the firm which involves engaging consumers in more direct and interactive communications on social media.

Second, this study serves as one of the earliest qualitative exploration of CEOs' use of microblogs. By examining 330 existing CEO Twitter accounts in terms of content, language use, and interactional efforts, this study is able to identify three features characterizing CEOs' usage of microblogs which, in turn, classifies them into eight microblogging styles. This three dimensional microblogging style typology may not only be relevant to describing the microblogging activity of a CEO, but potentially also that of any individual representing an organization, or themselves, such as a political leader or a celebrity. Therefore, this typology may provide future researchers with a useful perspective in examining and categorizing microblogs.

Third, and more importantly, this research has identified and tested various consumer- and firm- related engagement antecedents. Specifically, the effectiveness of different CEO microblogging styles in engaging consumers was tested taking into account various consumer-related covariates (i.e., consumer involvement, ability, motivation, microblog dependency). The research findings are particularly useful for social media marketing practitioners in developing effective consumer engagement strategies. For example, if the primary goal is to create positive consumer attitude and affect, a CEO just needs to pay attention to the language he/she uses and remember that formal language would be more appreciated. But if the goal is to create not only positive affect, but also behavioral outcomes, it is recommended that the CEO also pay attention to the content and interactiveness of his/her microblog by tweeting more about work and making an effort in welcoming and encouraging consumer interactions on his/her blog. In general, the *Spokesperson* style (i.e., high content professionalism ×

high language professionalism × high interactiveness) is the one highly recommended as it has been found to generate highest engagement levels on all three dimensions (i.e., cognitive, affective, and behavioral) of consumer engagement. Besides, it is normally expected that marketing managers make an effort in understanding what their consumers expect to see and get on their company executives' microblogs and advise the CEO to tailor his/her Tweets and activities accordingly. But this study found that there is no significant interaction between CEO microblogging style factors and consumer motivations in influencing consumer engagement. That is to say, regardless of what people initially expect to get from a CEO microblog, they would appreciate work-oriented content, formal language, and interactiveness on a CEO microblog. That implies there is in fact less of a need to consider consumers' usage motivations when designing the CEO's microblogging strategy or to tailor the CEO's microblogging style to align with consumers' expectations.

Fourthly, in the process of testing the effect of microblogging styles on consumer engagement, this study has offered a microblog-specific definition and measurement scale for consumer engagement. My investigation into the conceptualization of consumer engagement will contribute further scholarly insights into the nature and dimensionality of this emerging concept; while the newly developed measurement scale will be useful for managers to better craft and calibrate their social media communications and more efficiently monitor the effectiveness of their use of social media in engaging with consumers.

Another contribution of this study lies in its adoption of mixed methods research design. So far, research studying consumer engagement with social media has been predominantly conceptual in nature. The few empirical studies that exist have either

opted for a quantitative or a qualitative approach. This study is one of the earliest empirical attempts in this field which uses a mixed methods approach combining both qualitative and quantitative techniques. The qualitative approach has enabled my research to be well grounded in the phenomenon being studied, while the quantitative approach has helped me efficiently discover potential causal relationships among variables. The use of mixed methods has proved to be beneficial in particular when studying complex and rapidly evolving subjects such as consumer engagement with social media. And this study may be an example of how to effectively combine different methods when investigating a new phenomenon.

12.3. Research limitations and future research

Despite these contributions, this research is also subject to several limitations.

First, my experiment used real CEO microblogs as treatments. Although using such microblogs may increase external validity, it is prone to reduce internal validity of the experiment. It is possible that the observed outcomes (i.e., participants' engagement levels) are caused not only by the manipulated experimental variables of the eight experimental microblogs (i.e., content professionalism, language professionalism, and interactiveness), but also by differences between CEOs. Because the eight experimental CEOs work in different industries; some work for large companies while others for small-medium size firms; some might be more famous than others, etc. Differences in appearance of the eight experimental microblogs, such as header and avatar image, font size and color, etc., might also account for the observed outcomes.

Regarding possible influence of the difference between CEOs, my experiment has attempted to control it by asking participants to indicate how much they agree/disagree with the following two statements which capture participants' prior interest and knowledge about the industry in which the assigned CEO works: (1) "I closely keep track of issues related to the XX sector." (2) "News about the XX sector tends to get my attention a lot." Although the word "sector" already include information related to the firm and the CEO, it may be perceived as too general. Future research may consider revising these statements. For example, (1) "I closely keep track of issues related to [CEO name] and his/her firm." (2) "News about [CEO name] and his/her firm tends to get my attention a lot."

Regarding differences in appearance between experimental microblogs, one possible way of eliminating their influence is to create eight CEO microblogs instead of using real ones. The researcher can create eight CEO Twitter accounts identical to each other in terms of appearance but differing and only differing in terms of content professionalism, language professionalism, and interactiveness. The researcher may as well make the CEOs identical, with each working in the same industry or even for the same company, thus also eliminating influence of any possible difference between CEOs. The challenge of this method lies in how to make these self-created CEO accounts look authentic and real. A reasonable length of tweeting timeline (e.g., 3 - 6 months) may be needed to convey an authentic appearance of these accounts. And more importantly, a professional English-native writer, preferably with industrial and managerial background, is needed to compose Tweets for these eight microblogs so that each blog represents a typical microblogging style. Pilot studies may also be required to make sure these crafted microblogs indeed look authentic and real to

general viewers. Considering my time and financial constraints, I had decided to drop the option of creating eight distinct CEO microblogs. It is nevertheless recommended that, if conditions allowed, future research consider creating CEO microblog prototypes and use them as treatments which should enhance internal validity of the experiment.

Second, experiment participants in this study are all US residents. Future research may wish to examine the effect of cultural difference on consumer engagement, in particular, how consumer cultural difference interacts with different CEO microblogging styles in generating particular consumer engagement levels. Notice that adding cultural difference into the mix will generate a higher-order (more than 3-way) ANCOVA which can be potentially more complicated and challenging.

Third, this study is focused on the corporate executive microblogging context. Future investigation may wish to extend to other social media platforms, such as Facebook or Instagram, which, whilst they may have many similarities with microblogs, also have their own distinctive features. Similarly, other categories of participants on social media, such as political leaders and celebrities could be interesting subjects to study. I speculate that the effect of microblogging styles on consumer engagement may be similar between political leaders and CEOs but vary when it comes to celebrities because celebrities usually have larger and more affective fan base and the public generally has higher tolerance for their use of more informal language and varied types of behavior than in the case of those who represent commercial organizations or political parties.

Finally, in my survey, although I asked participants to write down their impression about the assigned microblogs, I did not analyze such qualitative data in depth. This data was primarily used as a due diligence check to screen out participants who obviously did not browse through the assigned microblogs with reasonable care. I believe such qualitative data can provide further insight into the mechanism underlying the effect of CEO microblogging styles on consumer engagement. Therefore, a follow up study of this data may be the next step in my journey to understanding the phenomenon.

12.4. Concluding thoughts

In developing my dissertation research, I examined and discarded a number of possible topics and ultimately decided to focus on CEO microblogging activity (e.g., using Twitter). My dissertation considers the characteristics and function of CEO microblogging activity within a broader corporate marketing communications mix.

This is a very new topic in the marketing literature, but one that my supervisors and I are confident will become increasingly important in coming years as companies realize that social media can be used for more than basic corporate marketing communications purposes and the potentially influential role that the CEO can play in this context, i.e., ambassador of the firm.

I believe that identifying a fruitful phenomenon of significance is more important than making an incremental contribution to someone else's phenomenon. "In the phenomenon of direct, unmediated communication between corporate leaders and the public we have, granted, another instance of the disintermediation effect of the internet, but it is not just another instance. This is not a case where traditional

market intermediaries have been made obsolete. This is ... a case where a powerful class of actors has broken free of the muffling influences of corporate spokespeople, press releases and ghost-written books, and is exploring what to do with their voices.”⁶⁶

As a pioneer research on this new and important phenomenon, my work has explored the ways in which CEOs use microblogs in dialogue with consumers and measured the marketing effectiveness of such effort. My study has successfully addressed the two research questions of “How should consumer engagement be conceptualized, defined, and measured in a microblogging context?” and “How do specific individual (e.g., firm, consumer) factors affect and/or interact to generate particular consumer engagement levels with a CEO microblog?”

My study has also provided a useful framework to explain how different CEO microblogging style factors may interact to influence consumer engagement and thereby identifying the microblogging style of CEOs that is most likely to result in the greatest consumer engagement – an insight that will offer clear prescriptions to corporate executives and strategic marketing communicators in designing effective microblogging strategies to capitalize on the capabilities of social media in engaging consumers.

⁶⁶ Extract from the reference letter for the author of this dissertation written by John Deighton, Baker Foundation Professor of Business Administration at Harvard Business School.

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Appendices

Appendix 1. Engagement conceptualizations & dimensionality in marketing literature

Author(s)	Research type	Concept	Definition	Dimensionality
Algesheimer et al., (2005)	Empirical: Quantitative	Brand community engagement	The positive influences of identifying with the brand community, which are defined as the consumer's intrinsic motivation to interact and cooperate with community members.	Unidimensional (B): e.g., helping other members, participating in joint activities, and otherwise acting volitionally in ways that the community endorses.
Patterson et al. (2006)	Conceptual	Customer engagement	The level of a customer's physical, cognitive, and emotional presence in their relationship with a service organization.	1. Absorption (C) 2. Dedication (A) 3. Vigor/ Interaction (B)
Bowden (2009)	Conceptual	Customer engagement process	A psychological process that models the underlying mechanisms by which customer loyalty forms for new customers of a service brand as well as the mechanisms by which loyalty may be maintained for repeat purchase customers of a service brand.	1. Calculative commitment (C) 2. Affective commitment (A) 3. Repeat purchase (B)
Calder et al. (2009)	Empirical: Quantitative	Online engagement	A second-order construct manifested in various types of first-order 'experience' constructs, with 'experience' being defined as "a consumer's beliefs about how a (web)site fits into his/her life."	1. Stimulation & inspiration (A) 2. Social facilitation (B) 3. Temporal (C) 4. Self-esteem & civic mindedness (A) 5. Intrinsic enjoyment (A) 6. Utilitarian (C) 7. Participation & socializing (B) 8. Community (A)
Sprott, Czellar, & Spangenberg (2009)	Empirical	Brand engagement in self-concept	An individual difference representing consumers' propensity to include important brands as part of how they view themselves.	Unidimensional (A)

Higgins & Scholer (2009)	Conceptual	Engagement	A state of being involved, occupied, fully absorbed or engrossed in something (i.e. sustained attention), generating the consequences of a particular attraction or repulsion force. The more engaged individuals are to approach or repel a target, the more value is added to or subtracted from it.	1. Sustained attention (C) 2. Force of attraction or repulsion (A) 3. Approach or repel (B)
Mollen & Wilson (2010)	Conceptual	Online brand engagement	The customer's cognitive and affective commitment to an active relationship with the brand as personified by the website or other computer-mediated entities designed to communicate brand value.	1. Sustained cognitive processing (C) 2. Instrumental value (C) 3. Experiential value (A): e.g., emotional bonding, pleasure satisfaction
Van Doorn et al. (2010)	Conceptual	Customer engagement behavior	Customers' behavioral manifestation toward a brand or firm, beyond purchase, resulting from motivational drivers such as word-of-mouth activity, recommendations, helping other customers, blogging, writing reviews.	Unidimensional (B):
Phillips & McQuarrie (2010)	Empirical: Qualitative	Advertising engagement	Consumers engage with ads in five modes each serves as a distinct route to persuasion.	1. Immerse (C) 2. Transport (A) 3. Feel (A) 4. Identify (A) 5. Act (B)
Hollebeek (2011a)	Conceptual	Customer brand engagement	The level of an individual customer's motivational, brand-related and context-dependent state of mind characterized by specific levels of cognitive, emotional and behavioral activity in brand interactions.	1. A customer's level of concentration &/or engrossment in the brand (C) 2. A customer's level of brand-related inspiration &/or pride (A) 3. A customer's level of energy exerted in interacting with a focal brand (B)

Hollebeek (2011b)	Empirical: Qualitative	Customer brand engagement	A customer's level of cognitive, emotional and behavioral investment in specific brand interactions.	1. Immersion (C): "A customer's level of brand-related concentration in specific brand interaction." 2. Passion (A): "The degree of a customer's positive brand-related affect in particular brand interaction." 3. Activation (B): "A customer's level of energy, effort &/or time spent on a brand in particular brand interaction."
Brodie et al. (2011)	Conceptual	Customer engagement	A motivational state that occurs by virtue of interactive, co-creative customer experiences with a focal agent/object (e.g. a brand) in focal brand relationships.	1. Cognitive (C) 2. Emotional (A) 3. Behavioral (B)
Vivek et al. (2012)	Conceptual	Consumer engagement	The intensity of an individual's participation & connection with the organization's offerings & activities initiated by either the customer or the organization	1. Experiences (C) 2. Feelings & connection (A) 3. Participation (B)
Brodie et al. (2013)	Empirical: Qualitative	Consumer engagement in a virtue brand community	A multidimensional concept comprising cognitive, emotional, and/ or behavioral dimensions, [which] plays a central role in the process of relational exchange where other relational concepts are engagement antecedents and/or consequences in iterative engagement processes within the brand community.	1. Cognitive (C) 2. Emotional (A) 3. Behavioral (B)
Tsai & Men (2013)	Empirical: Quantitative	Consumer engagement with brand Facebook page	Types of activities that consumers are engaged in when visiting brand pages on Facebook, including consuming, contributing to, and creating content.	Unidimensional (B)

Hollebeek et al. (2014)	Empirical	Consumer brand engagement	A consumer's positively valenced cognitive, emotional and behavioral brand-related activity during, or related to, specific consumer/brand interactions.	1. Cognitive processing (C): "A consumer's level of brand-related thought processing and elaboration in a particular consumer/brand interaction." 2. Affection (A): "A consumer's degree of positive brand-related affect in a particular consumer/ brand interaction." 3. Activation (B): "A consumer's level of energy, effort, and time spent on a brand in a consumer/brand interaction."
Dwivedi (2015)	Empirical (Quantitative)	Consumer brand engagement	Consumers' positive, fulfilling, brand-use-related state of mind that is characterized by vigor, dedication and absorption.	1. Vigor (B) 2. Dedication (A) 3. Absorption (C)
Zheng et al. (2015)	Empirical (Quantitative)	User engagement	Individual participation and promotional behavior	1. Participation (B) 2. Promotional behavior (B)
So et al. (2016)	Empirical (Quantitative)	Customer engagement	A customer's personal connection to a brand as manifested in cognitive, affective, and behavioral responses outside of the purchase.	1. Enthusiasm (A) 2. Attention (C) 3. Absorption (C) 4. Interaction (B) 5. Identification (A)
Dessart et al. (2016)	Empirical (Quantitative)	Consumer engagement	The state that reflects consumers' individual dispositions toward engagement foci, which are context-specific. Engagement is expressed through varying levels of affective, cognitive, and behavioral manifestations that go beyond exchange situations.	1. Attention (C) 2. Absorption (C) 3. Enthusiasm (A) 4. Enjoyment (A) 5. Sharing (B) 6. Learning (B) 7. Endorsing (B)

Pansari & Kumar (2017)	Conceptual	Customer engagement	The mechanics of a customer's value addition to the firm, either through direct or/and indirect contribution.	1. Direct contribution - customer purchase (B) 2. Indirect contribution - Customer referrals (B) - Customer influence (B) - Customer knowledge (C)
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Proposed consumer engagement dimensionality: C: Cognitive; A: Affective; B: Behavioral

Appendix 2. Social CEO lists

Title	Source	Number of CEOs included
Comprehensive lists		
Ultimate list of social CEOs on Twitter	Strategic Objectives	294
CEO Twitter list	Twibes.com	120
Impact lists		
The most influential execs on web	Reuters & Klout 50	50
Influential CEOs – A public list	@MyTwitChimp	51
Top CEO's on Twitter: Executives with massive Twitter followers and top Klout scores	SocialNewsDaily.com	32
Ranking of the top 60 CEOs on social media	WorldofCEOs.com	60
The top 25 CEOs to follow on Twitter	theceoguru.com	25
Specialized lists		
CEOs that Tweet	CEO.com	25
The most digitally engaged FTSE100 executives	Text100	10
The top 30 charity CEOs on social media	Amar	30

Appendix 3. CEO microblogging styles

Professionalism		Interactiveness	CEO microblogging styles	Description
Content	Language	Action		
High	High	High	Spokesperson	The CEO often tweets about his/her work in formal language and interacts with consumers a lot, thus his/her style resembles that of a spokesperson of the firm. <i>E.g. We've got a great new product just for you. I'm interested in your views! Click here to let me know what you think!</i>
High	High	Low	Broadcaster	The CEO often tweets about his/her work in formal language, but seldom interacts with consumers, thus his/her style resembles that of a broadcaster. <i>E.g. A great new product will be released today!</i>
High	Low	High	Work mentor	The CEO often tweets about his/her work in informal language and interacts with consumers a lot, thus his/her style resembles that of a work mentor. <i>E.g. Wahay! We've got a coooooool new product just for u. I'm interested in ur views! Click here to let me know what u think!</i>
High	Low	Low	Work logger	The CEO often tweets about his/her work in informal language, but seldom interacts with consumers, thus his/her style resembles that of a work logger noting down his/her work-related activities and thoughts. <i>E.g. Got a coooooool new product today!!!! Hooray!</i>
Low	High	High	Personal mentor	The CEO often tweets about his/her personal issues in formal language and he/she interacts with consumers a lot, thus his/her style resembles that of a personal mentor. <i>E.g. Just two more days till Thanksgiving! I've always loved it! Lets talk last minute planning and final touches! Call me @12pmET @SiriusXM106.</i>
Low	High	Low	Essayist	The CEO often tweets about his/her personal issues in formal language, but seldom interacts with consumers, thus his/her style resembles that of an essayist who writes down his/her personal experience and opinion. <i>E.g. Just 2 more days till Thanksgiving! Always loved it!</i>

Appendix 2 (cont). CEO microblogging styles

Professionalism		Interactiveness	CEO microblogging styles	Description
Content	Language	Action		
Low	Low	High	Friend	The CEO often tweets about his/her personal issues in informal language, and he/she interacts with consumers a lot, thus his/her style resembles that of a friend. <i>E.g. Hooray! Just 2 more days till Thanksgiving! ALWAYS LOVED IT! Let's talk last min planning & final touches! Call me @12pmET @SiriusXM106.</i>
Low	Low	Low	Diarist	The CEO often tweets about his/her personal issues in informal language, but seldom interacts with consumers, thus his/her style resembles that of a diarist who writes down his/her personal experience and opinion. <i>E.g. Hooray! Just 2 more days till thanksgiving!!! ALWAYS LOVED IT!</i>

Appendix 4. Potential CEO experimental microblogs

Microblogging styles	CEOs	CEO microblogs
Spokesperson	Mark Babbitt	@MarkSBabbitt
	Mark Fidelman	@markfidelman
	Faisal Hoque	@faisal_hoque
Broadcaster	Richard Goyder	@RGoyder
	Bruce Broussard	@BruceDBroussard
	Angela Ahrendts	@AngelaAhrendts
	J.T. O'Donnell	@jtodonnell
	Hikmet Ersek	@WesternUnionCEO
Work mentor	Jason Fried	@jasonfried
	Daniel Newman	@danielnewmanUV
	Howard Lindzon	@howardlindzon
	Olalah Njenga	@olalah
Work logger	Barry Libert	@barrylibert
	Yukiyoshi Watanabe	@WatanabeCEO
	Drew Houston	@drewhouston
	Jason Alba	@jasonalba
Personal mentor	Dorie Clark	@dorieclark
	Yongmaan Park	@Solarplant
	Dionne Lew	@DionneLew
Essayist	Bill Gates	@BillGates
	Tim Cook	@tim_cook
	Randy P. Seitz	@CEOStruggles
Friend	Anne Deeter Gallaher	@AnneDGallaher
	Elizabeth Guarino	@BestEverYou
	Kevin Systrom	@kevin
Diarist	Mark Gale	@MarksKiosk
	Brian J. Dunn	@briandunn
	David Sifry	@dsifry

Appendix 5. Focus Group Interview: Participant Information Sheet

Saïd Business School
University of Oxford

Park End Street, Oxford OX1 1HP, UK
T +44 (0)1865 288800
www.sbs.oxford.edu



1. Study title

Consumer engagement – The role of the social CEO

2. Background and aims of the study

This research draws the attention of both marketing practitioners and academics to the potentially influential role of CEOs as ambassadors of their firms on social media. In particular, it explored the ways in which CEOs use microblogs in dialogue with consumers and measured the marketing effectiveness of such efforts. The main objective is to understand how different microblogging style factors work to influence consumer engagement and thereby identifying the microblogging style of corporate executives that is most likely to result in the greatest consumer engagement.

Researcher:

Tong WU, DPhil student, Saïd Business School, University of Oxford

tong.wu@sbs.ox.ac.uk

3. Why have I been invited to take part?

You have been invited because you are currently taking a Marketing course or some Marketing tutorial(s) at Saïd Business School. We anticipate that you will be interested in looking into social media engagement, a hot topic nowadays in the field Marketing. We value your input as we believe that you, as a business school student, will have informative and interesting opinion to share with us.

4. Do I have to take part?

You choose whether to allow us to use your data (e.g., your opinion and input in the group discussion). We reassure you on the anonymity of all your quotes and that there is no academic penalty for not giving consent.

5. What will happen in the study?

If you are happy to take part in the study, you will be asked to sign a consent form.

Then, you will be required to quickly review the latest 50 Tweets of a list of 28 CEO accounts and rate your perception of the content professionalism, language professionalism, and interactiveness of these accounts on a 7-pointed scale. This may take 1-1.5 hour and can be done at home.

Respondents may then form a focus group to (1) freely express their feelings about these microblogs so as to help the researcher to better understand how the these microblogs are perceived;

and (2) review a newly developed engagement measurement scale. This may take 30-45 minutes and will be conducted at Said Business School.

6. Are there any potential risks in taking part?

No.

7. What happens to the research data provided?

We would like to ask your permission to use direct quotes of some of your response to our questions and group discussion. But we reassure you on the anonymity of all your quotes. Your data will be securely stored in the researcher's private database permanently.

8. Will the research be published?

This is a student dissertation research. The University of Oxford is committed to the dissemination of its research for the benefit of society and the economy and, in support of this commitment, has established an online archive of research materials. This archive includes digital copies of student theses successfully submitted as part of a University of Oxford postgraduate degree programme. Holding the archive online gives easy access for researchers to the full text of freely available theses, thereby increasing the likely impact and use of that research.

If you agree to participate in this project, the research will be written up as a dissertation. On successful submission of the dissertation, it will be deposited both in print and online in the University archives, to facilitate its use in future research. The dissertation will be published with open access. But again, we will make sure all your response and discussion is in anonymity.

9. Who has reviewed this project?

This project has been reviewed by, and received ethics clearance through, the University of Oxford Central University Research Ethics Committee. Prof. Thomas Noe and Prof. Jonathan Reynolds have also reviewed this project.

10. Who do I contact if I have a concern about the study or I wish to complain?

If you have a concern about any aspect of this project, please speak to the relevant researcher (tong.wu@sbs.ox.ac.uk) or her supervisor (jonathan.reynolds@sbs.ox.ac.uk), who will do his/her best to answer your query. The researcher should acknowledge your concern within 10 working days and give you an indication of how he/she intends to deal with it. If you remain unhappy or wish to make a formal complaint, please contact the chair of the Research Ethics Committee at the University of Oxford who will seek to resolve the matter in a reasonably expeditious manner:

Chair, Social Sciences & Humanities Inter-Divisional Research Ethics Committee:

Email: ethics@socsci.ox.ac.uk;

Address: Research Services, University of Oxford, Wellington Square, Oxford OX1 2JD

Appendix 6. Focus Group Interview: Participant Consent Form

STUDY TITLE: *Consumer engagement – The role of the social CEO*

RESEARCHER DETAILS: Tong WU, Doctoral student, Said Business School,
tong.wu@sbs.ox.ac.uk

PURPOSE OF STUDY: Review 28 CEO microblogs and a newly developed consumer engagement measurement scale.

	Participant Consent
I have read the study information sheet and had the opportunity to ask questions, and received satisfactory answers”.	
I understand that this project has been reviewed by, and received ethics clearance through, the University of Oxford Central University Research Ethics Committee (ref. SBS C1A 14-024).	
I understand that my giving consent to allow my data to be used with anonymity in the study is voluntary and I am free to choose not to give consent without any academic penalty.	
I understand my data will be safely stored in the researcher’s private database permanently.	
I understand that this study is a part of a dissertation research, which on successful submission will be deposited both in print and online in the University archives.	
I understand how to raise concerns or make a complaint.	
I consents to being audio recorded.	
I agree to allow my data to be used with anonymity by the study.	

Name of Participant: _____

Signature: _____ Date: _____

Name of researcher: _____

Signature: _____ Date: _____

Appendix 7. Focus group questionnaire

Please quickly review the most recent 50 tweets of the following CEO accounts and rate your perception in terms of content professionalism¹, language professionalism, and interactiveness² of each account on a 7-point scale (1=very low; 7=very high).

How well do you think the three dimensions, i.e., content professionalism, language professionalism, and interactiveness, capture CEOs' use of microblogs in dialogue with consumers?

CEOs	Content professionalism	Language professionalism	Interactiveness
Mark Babbitt			
Mark Fidelman			
Faisal Hoque			
Richard Goyder			
Bruce Broussard			
Angela Ahrendts			
J.T. O'Donnell			
Hikmet Ersek			
Jason Fried			
Daniel Newman			
Howard Lindzon			
Olalah Njenga			
Barry Libert			
Yukiyoshi Watanabe			
Drew Houston			
Jason Alba			
Dorie Clark			
Yongmaan Park			
Dionne Lew			
Bill Gates			
Tim Cook			
Randy P. Seitz			
Anne Deeter Gallaher			
Elizabeth Guarino			
Kevin Systrom			
Mark Gale			
Brian J. Dunn			
David Sifry			

¹ Professionalism refers to the extent to which a CEO's microblog adheres to the general norms expected for a professional. Professionalism is a concept anchored in two dimensions: Tweet content (work or life) and language (formal or informal), each of which spans across a professional – personal spectrum.

² Interactiveness refers to the effort of a CEO in creating and enhancing consumer interactive experiences by welcoming and encouraging interactions with consumers on his/her microblog.

Appendix 8. Focus group discussion procedure

1. Introduction:

Interviewer introduces self and asks all the group members to make introductions.

2. Warming-up

“The topic for our discussion today is about how CEOs use Twitter to engage with their consumers. So how do you think of this topic? Do you find it interesting?”

- This question is supposed to be an ice breaker warming up participants to the context and subject matter thus preparing them for the more penetrating questions later on.

3. Issues and related discussion questions

3.1. Measures of CEO microblogging styles

“You were asked to rate each CEO microblog on the three dimensions which are content professionalism, language professionalism, and interactiveness. So please tell me how you actually measured these three dimensions. In other words, what made you rate a certain microblog high or low in each dimension?”

- * Allow participants to respond one by one.
- * Probe for further explanation when necessary.

Possible probing questions can be:

- Did you use any analytic tool to evaluate these CEO microblogs?
- What are the difficulties that you had when trying to measure this dimension?
- How well do you think the three dimensions capture CEOs’ use of microblogs in dialogue with consumers?
- Could you come up with other dimensions?
- Etc.

- * Summarize

3.2. Ratings of CEO microblogs

“Now we know the measures that each of you used in evaluating these shortlisted CEOs, which are similar/ different (depending on the actual answers provided on the previous questions). Let’s see if the results turn out to be similar/ different. For (CEO name), what is your rating of his/her microblog on the three dimensions?”

- * Allow participants to respond one by one.
- * Probe for further explanation when the respondent’s ratings seem different from others or from the researcher’s own ratings.

Possible probing questions can be:

- Why is your rating for this CEO so high/ low?
- How do you like this CEO’s way of tweeting?
- What is your impression of this CEO?
- Is there any comment you have on this CEO?
- Would you like to revise your ratings after our discussion?
- Etc.

- * Summarize

3.3. Consumer engagement measures

“We designed this scale to measure consumer engagement with a CEO microblog. How do you think of it? Is there any item that you would like to remove or add?”

- * Allow participants to respond one by one.
- * Probe for further explanation when necessary.
- * Summarize

4. Closing

Appendix 9. Focus group average ratings of shortlisted CEO microblogs

Twitter ID	Content professionalism	Language professionalism	Interactiveness
Mark Babbitt	7.0	3.0	3.0
Mark Fidelman	7.0	5.0	3.5
Faisal Hoque	7.0	4.0	5.0
Richard Goyder	7.0	6.0	2.0
Bruce Broussard	5.5	4.5	1.5
Angela Ahrendts	7.0	7.0	1.0
J.T. O'Donnell	6.0	5.0	1.0
Hikmet Ersek	6.0	7.0	6.5
Jason Fried	4.0	3.0	7.0
Daniel Newman	6.0	3.0	5.0
Howard Lindzon	1.0	1.0	2.0
Olalah Njenga	6.5	3.0	6.5
Barry Libert	7.0	3.0	1.0
Yukiyoshi Watanabe	7.0	7.0	2.0
Drew Houston	5.0	5.0	2.0
Jason Alba	2.5	3.0	6.0
Dorie Clark	3.5	4.0	6.0
Yongmaan Park	3.5	5.0	5.0
Dionne Lew	4.5	4.5	5.0
Bill Gates	7.0	5.0	3.5
Tim Cook	4.0	6.0	3.0
Randy P. Seitz	1.5	6.0	2.0
Anne Deeter Gallaher	3.5	3.5	6.5
Elizabeth Guarino	4.0	3.0	6.5
Kevin Systrom	3.5	4.0	6.5
Mark Gale	7.0	3.5	2.0
Brian J. Dunn	6.0	6.0	3.0
David Sifry	2.5	6.0	6.0

Appendix 10. Sample online survey questionnaire

Welcome

Thanks for showing interest in this study.

Before you start, please read the following

Consent form

I understand my participation is voluntary and that I am free to withdraw from the study at any time, without giving any reason, and without any adverse consequences.

I understand my data will be held permanently and securely in accordance with the Data Protection Act in the researcher's private database for use in future research publications.

I consent to the publication of study results as long as the information is anonymous so that no identification of participants can be made.

This project has been reviewed by, and received ethics clearance through, the University of Oxford's Central University Research Ethics Committee (ref. SBS C1A 14-024).

I confirm that I have read and understand the explanations and I voluntarily consent to participate in this study.

☐ I agree (1)

☐ I disagree (2)

Q1. Please indicate how much you agree/disagree with the following statements.

	Strongly agree						Strongly disagree
I closely keep track of issues related to the financial services sector.	☐	☐	☐	☐	☐	☐	☐
News about the financial services sector tends to get my attention a lot.	☐	☐	☐	☐	☐	☐	☐
Using Twitter is part of my daily routine.	☐	☐	☐	☐	☐	☐	☐
I lose track of time when I am using Twitter.	☐	☐	☐	☐	☐	☐	☐

Q2. What would you usually expect when browsing through a CEO's Twitter page?
Please indicate how much you agree/disagree with the following statements.

	Strongly agree						Strongly disagree
I expect to get useful information about the company and industry.	☐	☐	☐	☐	☐	☐	☐
I expect to know the CEO better.	☐	☐	☐	☐	☐	☐	☐
I expect to have fun and relax.	☐	☐	☐	☐	☐	☐	☐

I expect to be inspired by the CEO.	☐	☐	☐	☐	☐	☐	☐
I expect to have a chance to speak with the CEO.	☐	☐	☐	☐	☐	☐	☐
I expect to have my opinion heard by the CEO.	☐	☐	☐	☐	☐	☐	☐
I expect to get monetary reward.	☐	☐	☐	☐	☐	☐	☐

The following questions aim to measure how engaging @WesternUnionCEO is on Twitter.

Please reading through at least the most recent 50 Tweets of @WesternUnionCEO: <https://twitter.com/WesternUnionCEO>.

Then, tell us how you feel about his Tweets by answering the following questions. (You are of course welcome to go beyond 50 Tweets and explore @WesternUnionCEO's Twitter activity more fully.)

Q3. As you might have noticed, @WesternUnionCEO is the CEO of Western Union, an American international financial services company. Now please indicate how much you agree/disagree with the following statements regarding your feelings about him and his Twitter page.

	Strongly agree				Strongly disagree			
I feel that he is a nice CEO.	☐	☐	☐	☐	☐	☐	☐	☐
I feel that he is a nice person.	☐	☐	☐	☐	☐	☐	☐	☐
I was concentrating when reading his Twitter page.	☐	☐	☐	☐	☐	☐	☐	☐
I was totally immersed when reading his Twitter page.	☐	☐	☐	☐	☐	☐	☐	☐
I read his Tweets carefully.	☐	☐	☐	☐	☐	☐	☐	☐
I tended to carefully reflect on what he wrote on Twitter.	☐	☐	☐	☐	☐	☐	☐	☐
Content wise, I like the way he tweets.	☐	☐	☐	☐	☐	☐	☐	☐
Language wise, I like the way he tweets.	☐	☐	☐	☐	☐	☐	☐	☐
I like the way he interacts with his followers.	☐	☐	☐	☐	☐	☐	☐	☐
I enjoy reading his Tweets.	☐	☐	☐	☐	☐	☐	☐	☐
I am very likely to click the "like" button for some of his Tweets.	☐	☐	☐	☐	☐	☐	☐	☐
<i>(Likes are represented by a small heart. They are commonly used to show appreciation for a Tweet.)</i>	☐	☐	☐	☐	☐	☐	☐	☐
I am very likely to favorably reply to some of his Tweets.	☐	☐	☐	☐	☐	☐	☐	☐
<i>(A reply is a response to another user's Tweet)</i>	☐	☐	☐	☐	☐	☐	☐	☐
I am very likely to favorably retweet some of his Tweets.	☐	☐	☐	☐	☐	☐	☐	☐
<i>(A retweet is a re-posting of someone else's Tweet. It helps you quickly share that Tweet with all of your followers.)</i>	☐	☐	☐	☐	☐	☐	☐	☐

I am very likely to follow him on Twitter.

(Following someone on Twitter means you are subscribing to their Tweets and their updates will appear in your Home tab.) ○ ○ ○ ○ ○ ○ ○

I am very likely to recommend that my friends follow him on Twitter. ○ ○ ○ ○ ○ ○ ○

While browsing through his Twitter page, I became interested in his firm and products, and I will probably search for more information about them afterwards. ○ ○ ○ ○ ○ ○ ○

Q4. What is your gender?

- ☐ Male
- ☐ Female

Q5. In what year were you born?

Q6. What is the highest level of education you have completed?

- ☐ Less than High School
- ☐ High School / GED
- ☐ Some College
- ☐ 2-year College Degree
- ☐ 4-year College Degree
- ☐ Masters Degree
- ☐ Doctoral Degree
- ☐ Professional Degree (JD, MD)

Q7. Please give your general impression of @WesternUnionCEO's Tweets. For example, what do you like or dislike about the content of his Tweets, the language he uses, and the way he communicates and interacts with his audience/ followers. (at least 20 words)

Appendix 11. Results of multivariate regression analysis of microblogging style factors and consumer-related factors on engagement

	M1	M2 (ANCOVA)	M3 (Robust ANCOVA)	M4 (Robust ANCOVA)	M5 (Robust ANCOVA)	M6 (Robust ANCOVA)
VARIABLES	Aggregated Engagement	Aggregated Engagement	Aggregated Engagement	Affective engagement	Cognitive engagement	Behavioral engagement
Involvement with CEO's industry	0.195*** (0.0253)	0.191*** (0.0249)	0.200*** (0.0257)	0.194*** (0.0303)	0.146*** (0.0325)	0.255*** (0.0347)
Ability	-0.0491 (0.0282)	-0.0425 (0.0279)	-0.0411 (0.0271)	-0.0298 (0.0336)	-0.0922*** (0.0322)	-0.0183 (0.0355)
Microblog dependency	0.0624*** (0.0206)	0.0645*** (0.0203)	0.0582*** (0.0213)	0.0805*** (0.0252)	0.0231 (0.0265)	0.0778*** (0.0277)
Motivation for information of company	0.0998 (0.0638)	0.111*** (0.0297)	0.111*** (0.0303)	0.160*** (0.0382)	0.0901** (0.0371)	0.0962** (0.0379)
Motivation for information of CEO	-0.0157 (0.0626)	0.0220 (0.0309)	0.0230 (0.0308)	0.0200 (0.0371)	0.0441 (0.0389)	0.0137 (0.0404)
Motivation for entertainment	0.0674 (0.0542)	0.0765*** (0.0260)	0.0736*** (0.0278)	0.0431 (0.0342)	0.0918*** (0.0337)	0.0925*** (0.0335)
Motivation for empowerment	0.0936 (0.0609)	0.0520 (0.0330)	0.0530 (0.0327)	-0.00411 (0.0387)	0.0365 (0.0418)	0.126*** (0.0433)
Motivation for interaction	-0.0849 (0.0632)	-0.0233 (0.0324)	-0.0189 (0.0321)	0.0125 (0.0376)	-0.00877 (0.0414)	-0.0618 (0.0422)
Motivation for inspiration	0.0392 (0.0589)	0.131*** (0.0286)	0.134*** (0.0299)	0.0637 (0.0365)	0.131*** (0.0362)	0.202*** (0.0385)
Motivation for monetary reward	0.0985 (0.0544)	0.0462 (0.0290)	0.0410 (0.0282)	-0.0271 (0.0327)	0.0526 (0.0344)	0.103*** (0.0387)

Age	0.0161*** (0.00368)	0.0151*** (0.00363)	0.0170*** (0.00333)	0.0222*** (0.00389)	0.0180*** (0.00419)	0.00959** (0.00467)
1.Content professionalism	-0.496 (0.396)	0.0301 (0.148)	-0.00379 (0.149)	0.186 (0.179)	-0.249 (0.201)	0.0868 (0.182)
1.Language professionalism	-0.575 (0.396)	0.132 (0.145)	0.0925 (0.162)	0.0865 (0.195)	0.0208 (0.198)	0.210 (0.187)
1.Interactiveness	-0.119 (0.403)	-0.00711 (0.145)	-0.0572 (0.150)	-0.0432 (0.179)	-0.0572 (0.189)	-0.0845 (0.187)
1.Content professionalism#1.Language professionalism	-0.162 (0.229)	-0.148 (0.226)	-0.136 (0.229)	-0.409 (0.277)	0.357 (0.293)	-0.375 (0.287)
1.Content professionalism#1.Interactiveness	0.281 (0.210)	0.316 (0.206)	0.357 (0.207)	0.161 (0.244)	0.614** (0.268)	0.314 (0.264)
1.Language professionalism#1.Interactiveness	-0.133 (0.211)	-0.104 (0.207)	-0.0643 (0.211)	-0.208 (0.262)	0.0659 (0.260)	-0.0354 (0.260)
1.Content professionalism#1.Language professionalism#1.Interactiveness	0.431 (0.308)	0.325 (0.302)	0.316 (0.291)	0.572 (0.354)	-0.122 (0.373)	0.465 (0.381)
1.Content professionalism#c.motivation for information of company	0.0323 (0.0598)					
1.Content professionalism#c.motivation for information of CEO	0.00323 (0.0628)					
1.Content professionalism#c.motivation for entertainment	0.00211 (0.0528)					
1.Content professionalism#c.motivation for empowerment	-0.0454 (0.0681)					
1.Content professionalism#c.motivation for interaction	0.0549 (0.0667)					
1.Content professionalism#c.motivation for inspiration	0.0819 (0.0577)					
1.Content professionalism#c.motivation for monetary reward	-0.0344					

	(0.0574)
1.Language professionalism#c.motivation for information of company	0.0286
	(0.0614)
1.Language professionalism#c.motivation for information of CEO	0.0687
	(0.0644)
1.Language professionalism#c.motivation for entertainment	0.0283
	(0.0531)
1.Language professionalism#c.motivation for empowerment	-0.00640
	(0.0669)
1.Language professionalism#c.motivation for interaction	-0.0106
	(0.0658)
1.Language professionalism#c.motivation for inspiration	0.0404
	(0.0587)
1.Language professionalism#c.motivation for monetary reward	-0.0127
	(0.0577)
1.Interactiveness#c.motivation for information of company	-0.0246
	(0.0607)
1.Interactiveness#c.motivation for information of CEO	0.00671
	(0.0637)
1.Interactiveness#c.motivation for entertainment	0.0283
	(0.0531)
1.Interactiveness#c.motivation for empowerment	-0.0528
	(0.0673)
1.Interactiveness#c.motivation for interaction	0.115
	(0.0659)
1.Interactiveness#c.motivation for inspiration	0.0437
	(0.0579)
1.Interactiveness#c.motivation for monetary reward	-0.0654

Appendices

	(0.0579)					
Constant	1.541*** (0.410)	0.870*** (0.247)	0.827*** (0.241)	1.692*** (0.306)	1.415*** (0.312)	-0.686** (0.297)
Observations	811	811	810	810	810	810
R-squared	0.338	0.323	0.333	0.208	0.229	0.337
Standard errors in parentheses						
*** p<0.01, ** p<0.05						