



## BSEM estimation of network effect and customer orientation empowerment on trust in social media and network environment

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### ABSTRACT

This paper presents a stochastic model that identifies *network effect* and *customer orientation empowerment* as strong antecedents of trustworthiness and *trust* in *social media network* environment. As *Trust* is emerging as a critical influencer of consumer behavior in organizations, social media has become the facilitator or the enabler of this influence. This paper aims to explore and examine the relationships amongst the antecedents of trust in the context of the social media network environment via Bayesian estimation and testing of the structural equation model. In facilitating the estimation of the stochastic model, a survey was conducted on 255 social media users. A series of statistical analyses were conducted prior to the estimation using Bayesian Markov Chain Monte Carlo (MCMC). Results showed that *network effect* and *customer orientation empowerment* were significant predictors of *trustworthiness* and *trust*. Bayesian MCMC results confirmed that the findings were consistent with the literature.

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### 1. Introduction

The notion of *trust*, often used interchangeably with confidence and reliance, is generally agreed to be an essential element of successful relationships. According to Simmel (1978) “without the general *trust* that people have in each other, society itself would disintegrate, for very few relationships are based entirely upon what is known with certainty about another person, and very few relationships would endure if trust were not as strong as, or stronger than, rational proof or personal observation”. It is therefore assumed that the party being trusted will protect the interest of the trusting party. In most circumstances, trust is mutual but sometimes it is not always the case. For example, one would expect an Auto Teller Machine (ATM) banking facility to behave exactly how it was meant to function. In other words, expectations connote trust in the functionality of the machine. Anomalies from the ATM will put the trust into question. In this case, trust is seen as the functionality inherent to the machine. Contrarily, trust is viewed differently in an airline industry. Consumers often rely on the reputation of an airline company and trust that they will reach their intended destinations safely and comfortably. This reliance and confidence connote organizational trust. Consequently trust

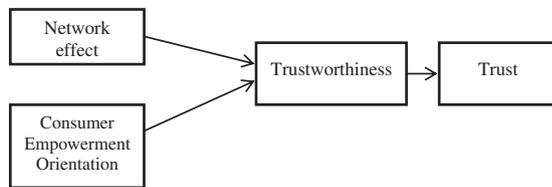
is an important concept in families, organizational and societal interactions and communications. Bok (1978), as cited in Marsh (1994), highlighting the significance of trust stated that “trust is a social good to be protected just as the air we breathe or the water we drink. When it is damaged the society as a whole suffers and when it is destroyed societies falter and collapse”. With today’s technology, the interactions and communications which convey trust are more rigorous and robust. For instance, the introduction of social media has enabled robust communications and interactions within layers of networks and social groups. Today, social media networks are used by governments to reach their citizenry, businesses to reach their customers, friends to reach other friends, police to track criminal, schools to facilitate learning, etc. Investment in social media usage has dramatically increased. According to Barnes (2010), “companies clearly intend to continue immersing themselves” in the social media platform as this approach has been successful for their business. Nielsen (2010) inaugural report on Asia Pacific regions supports the use of social media as a platform for businesses because consumer decisions are largely based on their trust on friends, family and online product reviews; all of which are found in the social media network environment. Lately, Malaysian consumers are spending a lot of time in social media networking. This phenomenon is consistently relevant to the trend as Asia Pacific region has witnessed a tremendous growth in social media usage (ComScore, 2010), Asian penetration rate of social networking sites was 67% for Malaysia ranking 4th behind

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**Table 1**  
Definitions of social media – compiled from various authors.

Authors	Definitions
Blackshaw and Nazzaro (2004)	Describes a variety of new and emerging sources of online information that are initiated, created, distributed, and used by consumers intent on educating each other about products, services, brands and personalities (p. 2)
Solis (2007)	Democratization of content and the shift in of the role people play in the process of reading and disseminating information but also how they create and share content for others to participate. It is the shift from broadcast mechanism to a many-to-many model rooted in a conversational format between authors and people
Drury (2008)	Social media describes online resources that people use to share 'content', videos, photos, images, texts, ideas, insights, humour, opinion, gossip, news – the list goes on (p 274)
Mayfield (2008)	A group of new kinds of online media which share most or all of the following characteristics; participation. ..., openness. ..., conversation. ..., community. ..., and connectedness (p. 5)
Mangold and Faulds (2009)	Social media encompasses a wide range of online, word-of-mouth- forums including blogs, company sponsored discussion boards and chat rooms, consumer-to-consumer e-mail, consumer product or service rating websites and forums, internet discussion boards and forums, mob log (sites containing digital audio, images, movies, or photographs), and social networking websites (p. 358)
Safko and Brake (2009)	Social media refers to activities, practices and behaviors among communities of people who gather online to share information, knowledge and opinions using conversational media. Conversational media are web based applications that make it possible to create and easily transmit content in the form of words, pictures, videos and audios
Kaplan and Heinlein (2010)	Group of internet based application that build on ideological and technological foundations of web 2.0 and that allow the creation and exchange of user generated content (p. 61)



**Fig. 1.** Hypothesized model.

Philippines (87%), Indonesia (84%) and Singapore (77%) respectively (ibid).

Since trust is emerging as a critical influencer of consumer behavior (Al-Oufi, Kim, & Abdulmotaleb, 2012), the understanding of its impact in the social media networks in Malaysia will enable organizations to effectively manage their social media marketing efforts. As a result, it is worthwhile to study what are the antecedents of trust and the impact of trustworthiness in a social media network environment. As Shaw (1997) would say, “a solid foundation of trust best enables high performance companies and teams to adapt to changing circumstances and to deliver hard business results”. Many literatures outline several antecedents of *trust* (see Appendix 1), Nevertheless this paper draws from the Kharouf and Sekhon (2008) model of *trustworthiness* that divides *trust* into two antecedents; i.e. the high level and the low level antecedents. As an extension of the model by Kharouf and Sekhon (2008), we propose that *network effect* and *customer empowerment orientation* are significant predictors of *trustworthiness* and *trust* specifically in the social media network environment. This is discussed in the literature. In view of the above this paper aims to explore the antecedents of trust in the context of the social media network environment and then examines the relationships amongst these antecedents via Bayesian estimation and testing of the structural equation model. It is our hope that the outcome and resulting model developed from this study will help organizations evaluate or gauge the use of social media networks when integrating with the marketing communication mix strategies.

## 2. Literature review

### 2.1. Social media

The emergence of social media has created new ways of doing business (Liu & Lee, 2010). Social media depicts the aspects of communication that are ‘socially’ relevant. In essence, the meaning of

social media differs from one another. In a technical point of view, social media was earlier termed as ‘social software’, ‘computer mediated communication’, ‘digital media’, ‘web 2.0’ and ‘computer supported cooperative work’ (Solis & Breakenridge, 2009). These terms have also been used interchangeably with ‘new media’. However Penn (2008) stresses that social media and new media are not exactly the same and should not be used interchangeably. Penn (2008) insists that social media is interactive and certainly requires third party participation while new media need not necessarily have these characteristics. The interaction involves a rigorous two-way communications between the consumers and producers via an open and unrestrictive network” (Miller, 2011). Kioussis (2002) highlights three thematic rationalization of interactivity in social media. The first view, which is also consistent with the view of Manovich (2001), highlights interactivity as an implicit platform in the technological structures of computer mediated communications. The second perspective relates to how communication happens and what the outcome is as a result of that communication. The third standpoint relates to the perception or the ‘state of mind’ of the audience from an interaction experience point of view; whether the audience take an ‘passive’ or ‘active’ role or not. Therefore interactivity of social media is best defined as ‘a measure of media’s potential ability to let the user exert an influence on the context and/or form of the mediated communication’ (Jensen, 1998: 461, cited in Kioussis (2002). In the digital world, interactivity is considered to be one of the more ‘value added’ characteristics of digital media (Lister, Dovey, Giddings, Grant, & Kelly, 2009). Interactivity provides business with the flexibility to communicate their products’ values more effectively to the users’ needs and demands. Therefore, *social media* is any tool or service that uses the Internet to facilitate conversation and interaction (Solis, 2010). General definitions of social media from various authors is summarized in Table 1.

In the social media environment, most of what is communicated is based on personal perceptions, thoughts, experience and opinions which are subjective in nature. In services marketing, this challenge becomes very crucial, as a service must be purchased before it can be experienced, thus increasing perceived risk (Berry & Parasuraman, 1991). Therefore it is a dilemma for consumers’ deciding whom they should trust. In the social media environment, the traditional gauge of trust or interpersonal cues like appearance, body language, facial expressions, inflection and voice intonation etc. are obscure. Building trust in these networks is unorthodox. Metzger (2004) asserts that ‘trust’ has been found to be strongly related to information disclosure. Trust in people or businesses are relative to their profile and trustworthiness of information

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