**Understanding the effect of Smart Retail Brand – Consumer Communications via Mobile Instant Messaging (MIM) – An Empirical Study in the Chinese Context**

**Abstract**

Retailers are adopting 'smart' technologies such as contactless, omni-channel, ubiquitous computing and mobile apps. This paper examines consumer behavior responses while using a mobile instant messaging (MIM) channel adopted by a Chinese pure-play retailer. MIM is text-based, mobile computer-mediated communication technology accomplishing real-time interaction with other users. WeChat, a full service MIM application, contains functional and social features including SMS, LBS, voice message, video calls and "Moments" sharing, which is its social propagating feature. There is a paucity of literature on the role of MIM in building relationships and the relevance of emotion and WOM for consumers engaging in MIM interactions. The model was derived from prior research on Stimuli-Organism-Response (SOR) that depicts the effects of environmental/informational stimuli on consumers' responses. Research objectives included investigating the prediction that environmental stimuli comprising socialness perception, media richness, and involvement induce a positive emotional state, which results in positive WOM. The study employed a quantitative approach. The sample comprised young Chinese WeChat users (n=486). SEM was used to analyze the data. Prior research has indicated that building relationships with consumers is more difficult when the relationships are consumer-computer as compared to consumer-person. The findings of this study suggest that such a negative effect can be alleviated by the use of MIM. This study is original in integrating socialness perception, media richness and WOM into the SOR framework. The implications for practitioners are discussed, including retailers' need to be aware of the extent to which consumers are willing to engage with MIM applications**.**

***Key Words***

Mobile Instant Messaging (MIM), Socialness Perception, Involvement, Media Richness, Word-of-Mouth (WOM), WeChat.

***Paper Type***

Research paper

## Introduction

‘Smart retailing’ refers to consumers’ interactions with innovative technologies that aim to improve the shopping experience. Smart retailing is facilitating consumer access to products, services and crucially, information (Pantano and Priporas, 2016; Pantano and Timmermans, 2014), particularly in fashion clothing retailing (Blázquez, 2014). As the capabilities of smartphones develop to approach those of computers (Calvo-Porral and Levy-Mangin, 2015) so the experiential benefits of shopping by mobile phone are being enhanced (Pantano and Priporas, 2016). Smart retail mobile commerce channels have grown significantly in China in recent years. In 2015, total online retail transaction value in China exceeded $625bn, and grew three times as fast as overall retail sales (IMRG, 2017). China has 1.28 billion mobile users (91% of the population). The number of internet shoppers in China has tripled from 2010 to 2015 to a total of 410 million. The iResearch Consulting Group (2017) predicts an annual growth rate of 20% – 30% in Chinese online purchases between 2015 and 2020. Mobile device shopping in China is also growing rapidly and a total of $505.7 billion e-commerce sales in China were made with mobile devices in 2015 (Gustke, 2016). Mobile market growth in China is outstripping the retail market, with growth of 48% in 2015 (IMRG, 2016). Researchers have hitherto paid little attention to Chinese mobile smart retail channels. The extent to which retailers can communicate effectively with mobile consumers using new smart channels is an emerging research area that this paper explores.

MIM apps have a powerful network effect, as they combine various services in one platform, while users update information every second in real time, everywhere (Oghuma et al. 2015). MIM apps have distinct and powerful networking characteristics (Oghuma et al. 2015). MIM related literature is confined to only a few studies. For example, Deng at al. (2010) proposed that satisfaction-loyalty is influenced by trust and service quality; Gan (2017) analysed motivations for liking behaviors on MIM (WeChat) using uses and gratifications theory; Zhang et al (2017) examined MIM’s (WeChat’s) social interaction ties and the influence on perceived value; Peng et al (2016) examined Chinese consumers’ MIM switching behaviors. Although these studies have examined specific aspects of MIM usage, none have examined the linkages with eWOM. This paper seeks to address this research gap by identifying and examining the linkages between socialness perceptions, media richness, involvement, arousal and eWOM. The potential power of this new media rich smart marketing tool is likely to have significant effects on retailers’ strategic planning.

This study focusses on the Wechat MIM channel that has grown rapidly in China since 2011 reaching 762 million active monthly users in 2015 (Tecent, 2016a). WeChat is the most popular Chinese MIM application with a majority of Chinese consumers spending nearly four hours a day on the MIM channel WeChat (iResearch, 2014). Fifty-five percent of WeChat users open the app more than 10 times a day (Tecent, 2015). WeChat has become a powerful social communication tool with at least 50% of users WeChat users having more than 300 friends (Tecent, 2015). Leading Chinese retailers have adopted the WeChat MIM channel as part of their smart retail strategy and several retailers communicate on a daily basis with consumers using the channel (Deng et al, 2010, CNNIC, 2016). The high number of users and the high daily usage levels exhibited by WeChat users suggests that WeChat is an important potential source of eWOM.

Studies have examined the relationship between MIM usage and loyalty (Kim et al., 2015). A growing stream of research is seeking to examine social media contexts including Instant Messaging (Alhabash, Chiang, and Huang, 2014, Han, Min & Lee, 2015, Gan, 2017). There remains a significant research gap regarding the role that MIM plays with regard to positive emotional responses and positive mobile consumer word of mouth. (e)WOM is defined as “*Any positive or negative informal communications made by potential, actual, or former customers about a product or company, directed at other consumers about the ownership, usage, or characteristics of particular goods and services and/or their sellers (via the Internet)”* p. 39, (Hennig-Thurau, et al. 2004). For the purposes of this study we have chosen to measure the propensity to provide positive WOM after immersion in the MIM environment as an outcome. This does not preclude negative WOM, as the measures used can accommodate both positive and negative WOM responses.

Social aspects are critical in determining adoption of social media including smart retail channel MIM applications (Gan and Wang, 2015, Li, Chen et al., 2015, Li, Liu, et al., 2015). Studies have identified that gender is a critical moderating variable influencing adoption of social media for interpersonal communications; female respondents prefer to use social media with social interaction aspects (Kimbrough et al., 2013). Female consumers are thus posited to be lead users of the Wechat MIM channel, particularly in the online fashion sector (CNNIC, 2016). Fashion products are the most frequently purchased online items in China, with six million Chinese consumers buying clothing online in 2014 (IMRG, 2014). The analysis of fashion consumer MIM behavior is an identified human and computer responses research gap (Kim et al., 2015). Mobile Fashion consumers are innovative users and analysis of their lifestyle consumption activities will provide valuable insights into future Chinese mobile consumer behaviors (Goldsmith et al., 2012, Kim et al., 2015). Research into mobile channels has hitherto focused on technology adoption motivations, experiences, uses and gratification, as consumers began the process of moving towards mobile channels (Pantano and Priporas, 2016). Researchers have identified a need to examine emotional and social influence aspects in the MIM setting (Gan, 2017).

Emotional response and experiential research has been increasingly associated with mobile platforms; for instance, the experiential view of emotional responses to the mobile consumption experience (Li et al., 2012, Pantano and Priporas, 2016), and emotional responses towards mobile phone usage (Fortunati and Taipale, 2012). Pleasure and arousal are two dimensions acting as vital stimulations for experience-oriented consumers, which leads to outcomes associated with positive mobile shopping responses (Li et al., 2012, Gao, 2015, Gan, 2017). Emotions derived from experiences such as sharing, usage, and loyalty of goods and services, leading to consumption can induce positive or negative WOM (Kozinets, 2010). Positive emotions have a positive influence on WOM, which stimulates potential customers to action and enhances the relationship when consumers interact with other consumers or the online retailer (Gelb and Johnson, 1995; Jayawardhena and Wright, 2009).

The objective of this research is to examine the effects of an emerging smart retailer-consumer communications technology and to examine Chinese MIM behavior, focusing on the extent to which the channel is perceived to be a social and media rich channel, effectively aiding the replication of human-human interactions by computer-human interactions. Retail channels that replicate social aspects are considered to be at the forefront of smart retail channel development. Accordingly, the study addresses the following research questions: (1) to what extent is the new MIM channel considered by consumers to exhibit socialness perceptions attributes; (2) to what extent do consumers feel involved and emotionally engaged in their interactions with MIM communications’ by pure-play retailers; and (3) to what extent does media richness affect the consumer experience during usage of the retailer smart channel?

To address the research questions, an environmental psychology approach (Mehrabian and Russell, 1974) was adopted with a proposed extension of the Stimuli-Organism-Response (SOR) framework to include socialness perceptions constructs adapted from Wakefield et al (2011) and a media richness construct adapted from Daft and Lengel, (1984). This paper makes a contribution to mobile commerce literature by extending the environmental psychology SOR framework by integrating social perception elements employed in previous SOR studies (Wakefield et al., 2011) with media richness theory constructs (Koo and Ju, 2009). Media richness as part of SOR was validated by Koo and Ju’s work, (2009) where it was treated as a stimulus construct. Media richness is considered a significant MIM construct given the heuristics required for effective human-mobile social interaction replications. This paper also proposes an additional extension to SOR, whereby WOM is treated as the response outcome. In the MIM context, WOM has significant effects on behaviors and eWOM messages reach large audiences that share similar interests (Christodoulides, Michaelidou, and Argyriou, 2012). Research examining emotional and cognitive aspects of WOM (Ladhari, 2007, Kim and Niehm, 2009) finds that pleasure and arousal have significant influences on WOM recommendation intention. Hence, an extension of SOR including integration of social aspects, media richness, emotional responses and WOM within the environmental psychology theory is proposed, which extends current mobile commerce theoretical frameworks.

The rest of the paper proceeds as follows. In Section 2, relevant literature is reviewed, after which the research model and hypotheses are developed in Section 3. The research methodology is outlined in Section 4. Section 5 reports the results, which are discussed in Section 6. The conclusion, contributions to theory, managerial implications, limitations and recommendations for future research are addressed in Section 7.

## Literature Review

### *2.1 Environmental Psychology Theory*

Mehrabian and Russell (1974) first used environmental psychology theory to analyse consumers’ responses to various retail stimuli that activated emotional reactions affecting consumers’ behavioral responses. Environmental psychology theory posits that retailers manipulate store stimuli within their store environments to create emotional responses (Vieira, 2013). Consumers’ emotional reactions to an environment are considered to be organism responses (Mehrabian and Russell, 1974). The theory identifies the influence of environmental cues on consumers’ internal states, resulting in approach and avoidance behaviors (Mehrabian and Russell, 1974). SOR has been demonstrated to be applicable in the online shopping context (see, for example, Kim and Johnson, 2016; Liu et al., 2016). Environmental inputs are often analyzed within the SOR paradigm, and the influences of social factors are frequently evaluated within distinct organisms such as e-service quality (White, Joseph-Mathews and Voorhees, 2013), cognition, and affect (Li et al., 2012). Wang et al. (2007) integrates social response theory and SOR to create a conceptual model to examine the effects of web site socialness perceptions on pleasure and arousal. Li et al (2012) applies an extended environmental psychology SOR framework in the mobile consumption experience, to examine if positive media richness perceptions can lead to positive effects on pleasure and arousal while using mobile devices. Research has called for new approaches that will enhance current theoretical approaches by integrating aspects of social influence theories (Gan, 2017). This current research proposes to address this gap by adapting an SOR framework incorporating socialness perception as a retailer-manipulated cue and the perception of media richness as a retailer-manipulated mobile cue. The following sections evaluate the interrelations between socialness perception, involvement, media richness and emotions, within the SOR framework.

### *2.2 Social response theory*

Social response theory holds that individuals treat computerized machines as social actors (Moon, 2000; Nass and Moon, 2000; Nass et al., (1997), Huang and Lin, 2011). Disagreement can occur due to the interactivity between humans and a particular channel, which causes effects on subsequent interactions (Moon, 1998a; Moon, 1998b). Social conventions, that occur in human-human interactions, are analyzed within human-computer interaction (Wang et al., 2007), including politeness (Nass, Moon and Carney, 1999), reciprocity (Moon, 2000), and inter-dependency between team mates (Nass, Fogg and Moon, 1996). It is suggested that humans develop relationships with computerized machines, which are psychologically similar to relationships with individual(s) (Wang et al., 2007; Huang and Lin, 2011).

Social response theory also examines psychological boundaries related to human-computer relationships; these are considered to be constructed through computerized machines’ behavioral characteristics (Moon, 2000). The theory states that humans are socially oriented (Nass and Moon, 2000). Humans tend to apply a number of heuristic behaviors to avoid a variety of information processing tasks (Huang and Lin, 2011). Research evidence suggests that mindlessness is one reason for these responses (Nass and Moon, 2000). Langer (1989) demonstrates that computerized communication cues stimulate a variety of human response scripts. Humans tend to respond automatically to the computerized machine using their own scripts (Wang et al., 2007). The theory assumes that consumers’ preferences favor familiar information sources (Steuer and Nass, 1993). Human’s interactions with computerized machines remain broadly similar (Moon, 2000), and are exemplified by a variety of interpersonal social behavioral rules (Moon, 2000). Social responses can therefore constitute an important component of human-computer interactions and accordingly are incorporated into the conceptual framework of this current study.

### *2.3 Media richness theory*

Media richness theory is derived from information processing theory and refers to communication efficiency between individuals who are affected by media fitness (Daft and Lengel, 1984; Daft and Lengel, 1986; Trevino, Lengel and Daft, 1987). Media richness relates a medium’s ability to convey a variety of information, (Daft and Lengel, 1984; 1987; 1986), Media richness is based on four criteria: capacity for immediate feedback, language variety including body, natural and numeric languages, capacity for personal focus and capacity for multiple cues, including body gestures, (Daft and Lengel, 1984; 1987).

Richer media allows users to communicate in an immediate way, improving the understanding of ambiguous messages (Dennis and Kinney, 1998). Electronic media is not as rich as face-to-face communications, due to lack of voice tone with natural language. However, video clips, fast feedback, and natural language usage can enhance richness (Vickery et al., 2004). MIM channels such as WeChat can add to richness by incorporating photo sharing, voice messages, video calls and “Moments” sharing, so it is appropriate for this research to apply media richness theory in examining perceptions during media usage.

This research proposes to extend the SOR framework by integrating the extensions proposed by Wang (2007) and Li et al (2012) whereby constructs of media richness and socialness perception are integrated within an environmental psychology framework with the addition of the outcome response of WOM. The proposed SOR theoretical extension employing WOM as the response outcome in the framework is discussed in the following section.

### *2.4 WOM and Environmental Psychology O to R Responses*

Environmental psychology research examining both emotional and cognitive aspects finds that pleasure and arousal organism responses have a significant influence on WOM (Ladhari, 2007). e-WOM has been defined as “*Any positive or negative informal communications made by potential, actual, or former customers about a product or company, directed at other consumers about the ownership, usage, or characteristics of particular goods and services and/or their sellers (via the Internet)”* p. 39, (Hennig-Thurau, Qwinner, Walsh and Gremler, 2004; Westbrook, 1987, cited in de Matos and Rossi, 2008 p.579). Ha and Im (2012) identify significant effects between retail environment cues, emotional effects (O) and WOM intention (R). WOM is posited as being a significant construct in the mobile context (Ha and Im, 2012). Mobile pure-play retailers (smart retailers) are attempting to replicate the social side of shopping including positive WOM on mobiles using instant messages (Gan, 2017). Evaluating consumer WOM behaviors in this channel in terms of the media richness and social response constructs will contribute to a deeper understanding of human-computer interactions.

## Research model and hypotheses development

### *3.1 Socialness Perception*

Wang et al. (2007) note that socialness perception has a positive influence on emotional bonds within an organisation. “Socialness” is defined as the phenomenon of human beings regarding computerized machines as social actors (Reeves and Nass, 1996; Steuer and Nass, 1993). Short et al., (1976) state that human-computer interactions are positively affected by the social sense and an individual’s loyalty is improved by high quality social interaction and social environments (Oliver, 1997). In the context of this study, the socialness perception of WeChat is the extent to which humans detect ‘socialness’ in a WeChat account, which elicits the WeChat user’s social responses, including excitement, entertainment, and enjoyment (Wakefield et al., 2011). In the context of this paper, enjoyment refers to the extent to which WeChat users enjoy using WeChat (Huang and Li, 2013), and enjoyment plays a critical role in stimulating consumers to use the service (Nysveen, Pedersen and Thorbjornsen, 2005; Zhou and Lu, 2011). Deng*,* Lu, Wei and Zhang (2010) define the social value of MIM as the benefits users can obtain during MIM usage. WeChat is a type of MIM, used to communicate users’ emotions of belonging in order to improve the perceived social value (Deng et al., 2010). Research indicates that socialness perception of websites is closely related to enjoyment, and has a significant influence on users’ purchase intentions and WOM (Huang and Li, 2013). Users may have positive emotions towards WeChat (Huang and Li, 2013), which may lead to higher levels of positive WOM. Thus, computer-based socialness perception has a positive direct influence on arousal and pleasure (Wang et al, 2007). Based on these arguments, the following hypotheses are proposed:

* *H1: Socialness perceptions have a positive effect on pleasure during WeChat usage.*
* *H2: Socialness perceptions have a positive effect on arousal during WeChat usage.*
* *H9: Socialness perceptions have a positive effect on involvement during Wechat usage.*
* *H11: Socialness perceptions have a positive effect on WOM during Wechat usage.*

### *3.2 Involvement*

Involvement is an aroused goal-oriented status that a consumer has towards a particular product or activity (Cheung and To, 2011; Mittal, 1989; Rothschild, 1979). Richins and Bloch (1986) argue that involvement relates to situational or enduring aspects. Enduring involvement can stimulate a hedonic emotion when consumers spend time experiencing the shopping process (Jayawardhena and Wright, 2009; Machleit and Eroglu, 2000). For mobile shoppers, the hedonic aspects are at least as important as the utilitarian ones (Gao, Waechter, & Bai, 2015; Kang, Mun, and Johnson, 2015, Zaman et al, 2010). In this study, involvement represents the extent to which consumers focus on the act they are experiencing when using WeChat (Huang and Li, 2013). When consumers are involved, they concentrate on the experience, chat with friends, enjoy retailer WeChat messages, or link to the retailers WeChat site. This concentration results in enhanced communication effectiveness and improves the user experience (Huang and Li, 2013), which positively influences users’ emotional connections during WeChat usage. Message contents are highly interrelated with cognitive involvement (Smith *et al.,* 2013; Zaichkowsky, 1994). Affective involvement is stimulated by emotions, hedonic motivations, feelings, and aesthetics of personal relevance (Smith *et al*., 2013; Zaichkowsky, 1994). Therefore:

* *H3: Involvement has a positive effect on pleasure during WeChat usage.*
* *H4: Involvement has a positive effect on arousal during WeChat usage.*

### *3.3 Media Richness*

Based on the functional value of the MIM context, WeChat has practical benefits, such as sending texts, images, and multi-image-text messages, voice chat, news alerts, in-app shopping, brand message gathering, new music alerts, and so on (Deng *et al*., 2010). Compared to lean media, rich media has many benefits when conveying complex messages in order to improve task performance (Pollach, 2008). Consumers concentrate more on the capability of media information dissemination than the sender’s emotional state (Pollach, 2008), and richer media can result in a more positive affective state when feelings and emotions are able to be shared during the information exchange process (Pollach, 2008; Daft and Lengel, 1986; Daft et al., 1987; Lengel and Daft, 1989). Consumers using new media-rich mobile technologies can therefore enrich their mobile experience as well as improving pleasure and arousal during usage (Li et al., 2012; Davis, 2010). This leads to the following hypotheses:

* *H5: Media Richness has a positive effect on pleasure during WeChat usage.*
* *H6: Media Richness has a positive effect on arousal during WeChat usage.*
* *H10: Media Richness has a positive effect on involvement during WeChat usage.*

### *3.4 Emotion: Pleasure and Arousal (Organism)*

Emotion is evoked when someone or something is being evaluated and, according to the SOR paradigm, is affected by stimuli in the environment (Kawaf and Tagg, 2012). Russell and Mehrabian (1977) identify the PAD scale of emotion, which includes pleasure, arousal, and dominance. The PAD model has been applied many times in the consumer emotions context (Koo and Ju, 2010; Bjork, 2010; Donovan *et al*., 1994). However, recent research into online retail excludes the dimension of dominance (Li et al., 2012; Koo and Ju, 2010), as pleasure and arousal can adequately capture the appropriate emotional range in consumer decision making (Koo and Ju, 2010).

Pleasure is defined as an individual’s situational feeling – the degree of joyfulness, happiness, or satisfaction in an online shopping environment (Menon and Kahn, 2002; Koo and Ju, 2010), and can range from unhappiness to extreme happiness (Huang, 2003). Arousal can be defined as an individual’s feeling – the degree of motivation, activeness, alertness, or excitement, in an online shopping environment (Koo and Ju, 2010). Recent studies also demonstrate and examine the positive link between emotions and behavioral intentions (Lin and Liang, 2011). Empirical research studies also provide evidence to support the relationship between emotion, stimulated mobile commerce service, and behavioral intention (Li et al., 2012; Liu and Li, 2011). Li et al. (2012) also state that positive emotions can lead to a positive influence on shopping behaviors and outcomes, finding a positive interrelation between emotion (pleasure and arousal) and behavioral intentions (positive word-of-mouth communications). This leads to the following hypotheses:

* *H7: Pleasure has a positive effect on positive WOM.*
* *H8: Arousal has a positive effect on positive WOM.*
* *H13: Arousal has a positive effect on pleasure*

### *3.5 Positive word-of-mouth (WOM)*

Word-of-mouth (WOM) is considered to be the most effective form of promotion, highly valued by marketers (Dye, 2000; Goldsmith, 2006). WOM is also a general term for opinion searching or informal conversation (Goldsmith, 2006). Emotions derived from experiences such as product usage can induce positive or negative WOM (Kozinets, 2010). Jayawardhena and Wright (2009) noted that positive emotions such as pleasure and arousal have positive influences on WOM, which stimulate customers to action and enhance relationships (Gelb and Johnson, 1995; Jayawardhena and Wright, 2009). WOM is a powerful social communication tool that can persuade people to trust each other rather than marketers’ communications, in determining the credence for a message (Goldsmith, 2006). Because WOM information may have high credibility, expertise and attractiveness, frequent personal contacts will have a superior perceived value, and significantly affect consumer behavior (Goldsmith, 2006). WOM is also extended to the internet form as well as to new channels including mobile commerce, which implies a new opportunity to connect with consumers online through communicating about socially beneficial information (Goldsmith, 2006).

Word-of-mouth communication (WOM) is acknowledged as one of the most powerful tools in delivering trusted product/service information ([Alreck and Settle, 1995](http://www.sciencedirect.com/science/article/pii/S074756321200146X%22%20%5Cl%20%22b0010)). Consumers trust peer consumers more readily than they trust marketers ([Lee and Youn, 2009](http://www.sciencedirect.com/science/article/pii/S074756321200146X#b0185); [Sen and Lerman, 2007](http://www.sciencedirect.com/science/article/pii/S074756321200146X#b0260)). Studies indicate that WOM can positively affect intentions to purchase ([Bone, 1992](http://www.sciencedirect.com/science/article/pii/S074756321200146X#b0035); [Herr *et al*., 1991](http://www.sciencedirect.com/science/article/pii/S074756321200146X#b0130)). The Internet has facilitated the transformation of face-to-face WOM towards computer-mediated WOM (eWOM) communication, sharing experiences and opinions (Lee and Koo, 2012). Consumers can read peer consumers’ product evaluations on different platforms such as retailers’ websites, brand communities, independent websites, consumer blogs, and other platforms ([Herr *et al*., 1991](http://www.sciencedirect.com/science/article/pii/S074756321200146X#b0130) ; [Lee and Youn, 2009](http://www.sciencedirect.com/science/article/pii/S074756321200146X#b0185)). eWOM consists of “*email, instant messaging, and other communication media that is of high addressability in natur*e” (Ho and Dempsey, 2010: p.1000). Marketers aim to spread positive eWOM through sending messages to consumers as personal communication rather than mass communication (Ho and Dempsey, 2010). Lee and Koo (2012) propose that online consumers’ reviews are normally provided in text formats. eWOM can include sharing of a link, and also a written text based review. The eWOM concept therefore encompasses a relatively broad range of activities that are generally considered to include some text based information such as reviews, or sharing links. Notwithstanding the broad range of possible components of eWOM, in this paper we focused on analyzing the MIM context and its powerful effect on influencing purchase intention via eWOM. eWOM is considered as an outcome variable indicating the particularly influential nature of the MIM environment. Whilst it is recognized that further research could delve deeper into specific elements of eWOM, this research investigates the effectiveness of positive eWOM in a new MIM communication channel – WeChat.

Figure 1 illustrates the proposed conceptual framework. Socialness perception and media richness are independent constructs, acting through mediating constructs of involvement, pleasure and arousal to influence word-of-mouth (WOM) in the MIM human to computer interaction context. The more social and media rich a channel is perceived to be the more likely it is that humans feel involved in that channel and consequently feel emotional satisfaction with the interaction. Finally the above antecedents and mediators drive positive WOM.

Figure 1. Conceptual Framework of MIM communications behaviour

H5

H6

H8

H1

H11

H9

H10

H4

H3

H13

H7

H12

H2

In sum, this study explores the inter-relationship of MIM communications and emotional responses linking with positive WOM in the smart retail channel context. The theoretical contributions comprise the extension of current environmental psychology frameworks relevant to the MIM context. The extended framework aims to validate suggested interrelationships between the social constructs of socialness perception, the human- computer constructs of media richness and positive word of mouth as a response. Media richness and socialness perception are expected to generate a significant effect on involvement, and influence positive WOM.

## Research Methodology

### *4.1 Data Collection and Sample*

This research focuses on examining social aspects of a leading Chinese pure-play retailer’s WeChat environment. The leading pure-play fashion retailer in China was chosen as a leading innovator in retailer brands and a leading user of full media-rich MIM WeChat communication (Tecent, 2015). Leading pure-play fashion and textiles retailer Vancl, ranked eighth in China’s aggregate mobile shopping market share in 2014 (IMRG, 2014) was selected as the exemplar retail context. Pure-play retailers such as Vancl are lead innovators of smart retail channels, particularly with the use of Wechat (Tecent, 2015). The fashion sector is also a highly tactile product area and additional social media and smart channel use aids adoption and satisfaction (Blazquez, 2014). The sample of young, generation Y, Chinese WeChat female social media users was considered appropriate, given the fashion context and the leading retailers’ use of the WeChat channel ([Gao et al., 2013](http://www.sciencedirect.com/science/article/pii/S0747563216302448#bib13), Blazquez, 2014, Kantar, 2015). A quantitative methodology was adopted in this study with a purposive and snowballing sampling method. Ethical clearance was sought and granted prior to data collection. A convenience (non-probabilistic) sample was used, which is appropriate as this research is exploratory in a relatively under researched area. The sample population consisted of WeChat users and the sample targeted high users of WeChat fashion retail content viewers. The respondents were targeted by initially using the researchers’ WeChat friends list, and then further targeted via a Chinese pure pure-play retailer’s customer list, offering incentives to participate. The retailer had a customer list of 5000 active WeChat users who purchased via WeChat. These customers were asked if they were also Vancl shoppers and if not they were screened out. Although the sample is not necessarily representative of Vancl shoppers as a whole, it is as representative as practicable of committed Vancl shoppers and Vancl WeChat content users. These respondents were well placed to provide exploratory findings on the potential of eWOM intention. The sample comprised of 486 female Chinese consumers aged between 18 and 29. Eighty-three percent of the sample was college educated. Seventy-seven percent of the sample shopped online several times a month. All the respondents had previously shopped with the pure-play retailer, and had also all previously clicked through to a WeChat link sent by the retailer. 50% of the respondents clicked onto the pure play retailers WeChat links several times a month. The sample was primarily 18-30 years old, female, pure-play fashion shoppers being relatively high users of the retailer’s WeChat communication platform. The online survey was promoted through a WeChat link, via an email list of a large Chinese university, permission was sought and granted and ethical clearance was also sought and granted. A controlled mock WeChat account was developed to target fashion WeChat pure-play consumers using the WeChat interface, which included a combination of social mobile stimuli messages (socialness perception, involvement, and media richness). A sample of the previous months’ retailer’s WeChat messages were selected, comprising of a combination of multi-graph-text messages, voice messages, text messages, and photo messages. The sample included 10 messages in total, chosen so as to ensure minimum respondent fatigue. As the retailer had posted 30 messages in the previous month, our selection of a third of that month’s content is judged to be a substantial selection. The selection was based on a percentage split of that month’s content; 30% photo message, 30% multi-media content, 30% text messages, and 10% voice message. This was not intended to be a fully representative sample of all content in all months or years, rather it was as close as practicable to the previous month’s content. Before completing the survey, all respondents were requested by email to follow the mock up WeChat account on their mobile phones. Once they entered the WeChat account, they received a series of WeChat message instructions. The first message asked them to enter the number 1 to receive the first text message. Once they had viewed the first message, they were given subsequent instructions via WeChat messages to access voice messages and visual messages. In total the respondents were exposed to four types of message, text, voice, multi-media and photo message. Once respondents had viewed all the message types in the WeChat mock up account, they were directed to an online survey to record their responses to the WeChat experience including their inclination to provide positive eWOM to the mock up WeChat account. The account consisted of real Vancl WeChat posts from the previous month. The method provided a controlled WeChat environment for all respondents, as illustrated for example in in the screenshot sequence in Figure 2.

Figure 2.Screenshot of Wechat mock up account.



### *4.2. Instrument development*

The conceptual framework illustrated in Figure 1 consists of one outcome variable—positive WOM (WOM), and five antecedents – socialness perception (SP), involvement (I), media richness (M), pleasure (P) and arousal (A). Items to measure these constructs were drawn from pre-validated research and were slightly modified to suit the context of the study. Socialness Perception items were taken from Wang et al., (2007), the Involvement items were taken from Zaichkowsky (1985), the Media Richness items from Daft and Lengel (1986), the Emotion (Pleasure) items were taken from Raghunathan and Irwin (2001), the Emotion (Arousal) items from Mehrabian and Russell, (1974), and the positive eWOM items were adapted from Maxham and Netemeyer (2002a, 2002b, 2003). The eWOM measures included three items: how likely are you to spread positive word-of-mouth about retailer X; I would recommend retailer X services to my friends; and if my friends were looking for a fashion retailer service, I will tell them to try retailer X. The items were measured using 7-point Likert-type and Semantic differential scales.

## Results

Data analysis followed a two-stage approach to evaluate the reliability and validity of the measurement model, followed by fitting the structural model to test the research hypotheses.

### *5.1 Measurement Model*

A confirmatory factor analysis (CFA) was performed using IBM SPSS Amos in order to test the measurement model. Common model-fit measures were used to assess the model’s overall goodness of fit. Chi-Square, Relative Chi-Square, GFI, RMSEA, NFI, CFI, TLI, and PNFI are all in the acceptable range (Figure 3). The CFA thus indicates good model fit. Reliability and convergent validity were assessed by construct reliability (CR) and average variance extracted (AVE) respectively (Table 1). The composite reliability (CR) of the constructs ranges from 0.713 to 0.935, exceeding the threshold value of 0.7. The average variance extracted (AVE) of the constructs ranges from 0.556 to 0.741, exceeding the threshold value of 0.5 (Schumacker and Lomax, 2010; Hair et al, 2014). Discriminant validity was assessed by demonstrating that the AVEs of each construct are larger than the square of the correlations between constructs, indicating satisfactory discriminant validity (Fornell and Larcker, 1981), in Table 1.

Table 1. Squared Correlations Between Constructs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | PositiveWOM | Arousal | SocialnessPerception | Involvement | Pleasure | MediaRichness |
| Positive WOM | **0.816** |  |  |  |  |  |
| Arousal | 0.473 | **0.856** |  |  |  |  |
| Socialness Perception | 0.633 | 0.476 | **0.746** |  |  |  |
| Involvement | 0.476 | 0.709 | 0.476 | **0.803** |  |  |
| Pleasure | 0.521 | 0.785 | 0.499 | 0.757 | **0.861** |  |
| Media\_Richness | 0.712 | 0.475 | 0.734 | 0.511 | 0.495 | **0.746** |

**Note:** AVEs are in the diagonal

### *5.2 Structural Model*

Fit indices for the structural model indicate a good fit (Relative Chi-Square=3.082, GFI=0.904, RMSEA=0.066, NFI=0.924, CFI=0.947, TLI=0.937, PNFI=0.776). Table 2 illustrates the results of the hypotheses with a summary of SEM paths estimates (β), t-values (t), and p-values (p). Ten of the original hypotheses are supported whilst three are rejected.

Table 2. Hypothesis and Results

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Hypotheses | Estimateβ | t-value | p-value | Results |
| H1: Socialness perceptions have a positive effect on pleasure during WeChat usage. (SP>P) | .085 | 2.337 | \* | Supported |
| H2: Socialness perceptions have a positive effect on arousal during WeChat usage. (SP>A) | .174 | 3.697 | \*\*\* | Supported |
| H3: Involvement has a positive effect on pleasure during WeChat usage. (I>P) | .389 | 8.004 | \*\*\* | Supported |
| H4: Involvement has a positive effect on arousal during WeChat usage. (I>A) | .639 | 12.911 | \*\*\* | Supported |
| H5: Media Richness has a positive effect on pleasure during WeChat usage. (MR >P) | - | - | - | Not supported |
| H6: Media Richness has a positive effect on arousal during WeChat usage. (MR>A) | - | - | - | Not supported |
| H7: Pleasure has a positive effect on positive WOM. (P> PWOM) | .206 | 4.134 | \*\*\* | Supported |
| H8: Arousal has a positive effect on positive WOM. (A>PWOM) | - | - | - | Not supported |
| H9: Socialness Perception > Involvement (S>I) | .255 | 4.417 | \*\*\* | Supported |
| H10: Media Richness > Involvement (MR>I) | .403 | 7.400 | \*\*\* | Supported |
| H11:Socialness Perception > Positive WOM (SP>PWOM) | .271 | 4.492 | \*\*\* | Supported |
| H12: Media Richness > Positive WOM (MR>PWOM) | .514 | 8.909 | \*\*\* | Supported |
| H13: Arousal>Pleasure (A>P) | .474 | 9.503 | \*\*\* | Supported |
| **Notes:** \*p<0.05, \*\*p<0.01, \*\*\*p<0.001  Involvement R²=0.23; Arousal R²=0.50; Pleasure R²=0.51; Positive WOM R²= 0.48 |
|  |

## Discussion

This study evaluates the effects of socialness perception, involvement, media richness, pleasure, and arousal on positive WOM, through WeChat usage in the context of the mobile instant messaging (MIM) smart retail channel. Socialness perception and involvement have positive direct effects on both arousal and pleasure. These antecedents also have a significant influence on positive WOM (Figure 3).

Figure 3. Results of structural equation model

R²=.23

.08\*

R²=.68

R²=.50

R²=.48

.17\*\*\*

.27\*\*\*

.26\*\*\*

.40\*\*\*

.64\*\*\*

.39\*\*\*

.47\*\*\*

.21\*\*\*

.51\*\*\*

Notes: Chi-Square= 598.0; Df= 194; Relative Chi-Square= 3.082; GFI= .904; RMSEA= .066; NFI= .924; CFI= .947; TLI= .937; PNFI= .776

Three hypotheses were not supported. Two of these concern media richness, which is confirmed as a significant antecedent variable, acting through involvement and also having a direct link to positive WOM, whereas its effects on pleasure and arousal are only indirect, acting through involvement. Similarly, the effect of arousal on WOM was only an indirect relationship, acting through pleasure. The unsupported relationships are all linked to the arousal construct, which reflects other studies that have also found difficulties with arousal responses in the mobile context (e.g. Gao, 2015; and Gan, 2015). These findings may suggest that the mobile context is less immediately arousing than a physical retail environment. Alternatively, the results may be affected by a cultural epistemological difference between Chinese consumers and the US consumers in Wang et al.’s (2007) and Brunelle’s (2009) research. Media richness does influence arousal but the influence is mediated by involvement.

R²=.23

.08\*

R²=.68

R²=.50

R²=.48

.17\*\*\*

.27\*\*\*

.26\*\*\*

.40\*\*\*

.64\*\*\*

.39\*\*\*

.47\*\*\*

.21\*\*\*

.51\*\*\*

### *6.1 Socialness Perception*

The findings indicate support for H1 and H2, in that socialness perception has a significant positive effect on pleasure (β=0.85, t=2.337, p<0.05), and a highly significant positive influence on arousal (β=0.174, t=3.697, p<0.001). These findings extend previous work suggesting the positive influence of WeChat messages in generating positive emotional responses, such as excitement (Huang and Li, 2013). If messages are perceived to be social and helpful, consumers experience pleasure and are more likely to share information. Supporting prior research (e.g. Koo and Ju, 2010), consumers’ aroused states can also lead to feelings of pleasure.

Socialness perception is also found to have a significant effect on positive WOM (β=0.271, t=4.492, p<0.001) directly. Positive WOM can enhance satisfaction for both information-seeking receivers and information-sharing communicators (Cheung and Thadani, 2012). The high social perceived quality of the messages can thus help attract new consumers via positive WOM. WeChat shoppers will share positive WOM if they have positive experiences as a result of receiving helpful messages. Retailers who can create the most social messages for WeChat users are therefore likely to accrue higher levels of recommendations from existing WeChat shoppers.

### *6.2 Involvement*

Consistent with prior research (e.g. Jayawardhena and Wright, 2009; Smith et al., 2013), involvement has a significant positive link with emotions such as pleasure (β=0.389, t=8.004, p<0.001), and arousal (β=0.639, t=12.911, p<0.001). The results strengthen prior research that indicates that involvement can positively affect a consumer’s approach behaviors (Behe, Bae, Huddleston and Sage, 2015; Pan, 2014; Mitchell, 1986). WeChat consumers who feel involved will receive more pleasure from the WeChat shopping experience. The results indicate that consumers feel relatively high levels of involvement and experience more enjoyment and excitement when they join the WeChat shopping environment.

### *6.4 Media richness*

Extending prior findings of Brunelle (2009), media richness including the varied communication channels in WeChat such as active chatting with customer service, information exchange, emotional, or attitudinal communication has a powerful positive effect (β=0.514, t=8.909, p<0.001) on positive WOM. The strength of the direct media richness relationship with WOM is an indication of both the significance of mobile instant messaging as a brand communication tool and the high quality perception of the medium’s messages. This pure-play Chinese retailer communicates effectively with its mobile consumers using a media rich channel. The strongest direct effects in the study relate media richness directly to positive WOM, which indicates the strategic significance of media rich communications in a mobile context. The WeChat channel enables media rich communications, which allows consumers to use a variety of heuristics to communicate with the retailer in a more social and natural manner.

### *6.5 Pleasure, arousal and positive WOM*

Pleasure has a direct positive effect on positive WOM (β=0.206, t=4.134, p<0.001). Prior research indicates that pleasure plays a vital antecedent role in MIM WeChat usage and adoption (Li et al., 2012). Das (2013) finds that there is a direct link between joy and WOM. Emotions derived from experiences including WeChat information sharing, WeChat usage and other WeChat services can induce positive WOM (Kozinets, 2010). Positive emotions such as pleasure derived from the WeChat experience, can significantly affect positive WOM, stimulate potential WeChat consumers to action and enhance the relationship when WeChat consumers interact with other consumers/ e-retailers (supporting Gelb and Johnson, 1995; and Jayawardhena and Wright, 2009). When WeChat shoppers are satisfied with the MIM WeChat shopping experience, they are more likely to provide recommendations to friends to shop through the retailer’s WeChat account. Finally, existing WeChat consumers will influence their WeChat friends to purchase fashion products through the WeChat smart retail channel.

The findings also reveal that arousal has a significant positive influence (β=0.474, t=9.503, p<0.001) on pleasure, but no direct effect on positive WOM in the WeChat communication channel. The results indicate that the degree of motivation, activeness, alertness, or excitement experienced, can lead to the emotional responses of joyfulness, happiness, or satisfaction, in the WeChat environment, consistent with prior research by Menon and Kahn (2002); and Koo and Ju (2010). Arousal plays a critical role in enhancing pleasure and achieving positive WOM. Individuals who experience positive emotions go on to provide positive WOM to other WeChat friends and users.

## Conclusion

This study proposed three research questions, concerning consumers’ perceptions of socialness perception, media richness and emotional involvement in the MIM channel. The findings indicate that the channel has significant socialness perceptions relationships that directly impact WOM and involvement. Media richness provides some of the most significant results in study, indicating that the channel is perceived by users as media rich and this leads to feelings of involvement in the channel. Finally, the research aimed to examine perceptions of emotional engagement. Two arousal relationships were not supported, which is in line with other studies (Gao, 2015). It maybe that computer-human channels link more effectively with involvement first and then to pleasure and WOM. Arousal is perhaps best evoked in a physical setting; in contrast feelings of involvement and pleasure can be evoked via a mobile computer-human channel.

The findings demonstrate the empirical implications of the social MIM brand-consumer communications and integrate emotional factors into an environmental psychology framework in a MIM context. On a mobile smart retail channel such as WeChat, media richness has powerful direct links with positive word of mouth, which has substantial implications for Chinese mobile strategies. Research indicates that building relationships with consumers is more difficult when the relationships are consumer-computer compared to consumer-person relationships (Poon et al., 2012; Pantano and Migliarese, 2014). The findings of this study suggest that these negative effects can be alleviated by the use of MIM, which is associated with consumer involvement, emotional connections and positive word of mouth.

### *7.1 Contributions to theory and managerial implications*

This study makes several important contributions. First, to the authors’ knowledge, this work is original in integrating socialness perception, media richness and WOM into the SOR framework. The study thus establishes and confirms a new conceptual framework of MIM communications for pure-play mobile consumers. Second, this study draws attention to the strong direct effects between media richness and positive WOM and also direct effects between socialness perception and positive WOM. Third, it is one of the first to validate the effects of socialness perceptions of the MIM communication channel with Chinese consumers. The study has indicated that the channel is perceived as both social and media rich and that this has direct effects on positive WOM for pure-play retailers.

The findings extend the literature on mobile marketing ([Blazquez, 2014](http://www.sciencedirect.com/science/article/pii/S0747563216302448#bib3), [Dennis et al., 2016](http://www.sciencedirect.com/science/article/pii/S0747563216302448#bib12), [Gao et al., 2013](http://www.sciencedirect.com/science/article/pii/S0747563216302448#bib13)) by exploring consumers socialness perceptions of the MIM experience. Prior studies explore consumer acceptance of mobile retailing ([Gao et al., 2013](http://www.sciencedirect.com/science/article/pii/S0747563216302448#bib13)) and consumer experience in mobile shopping (e.g. [Blazquez, 2014](http://www.sciencedirect.com/science/article/pii/S0747563216302448#bib3), [Dennis et al., 2016](http://www.sciencedirect.com/science/article/pii/S0747563216302448#bib12)). This research goes further in explaining how the negative effects of the computer-consumer relationship can be alleviated by the use of MIM, which is associated with socialness perception, media richness, consumer involvement, emotional connections and positive WOM. The findings illustrate the extent to which consumers are willing to provide WOM in the MIM channel, and that this new consumption experience is perceived by consumers as emotional and involving. The results extend previous research in the mobile and online retail environment ([Gao et al., 2013](http://www.sciencedirect.com/science/article/pii/S0747563216302448#bib13), Koo and Ju, 2010; Li et al., 2015). To the authors’ knowledge, this research is original in integrating socialness perception, media richness and WOM into the SOR framework and is the first study exploring these constructs in the MIM context, deepening understanding of consumers’ relationships with computers and adding insights to previous studies (e.g. Kang at al., 2015; Kim at al., 2016).

There are a number of managerial insights. First, retailers need to be aware of the significant level of consumer engagement with positive WOM in MIM applications. The need to communicate daily with consumers via MIM channels in China is a high strategic priority. Second, these channels are perceived as being social and media rich and the MIM channel is also one that engenders feelings of involvement with a retailer in a mobile setting. This is important given the growing numbers of young mobile consumers in China and globally. Given that this channel is a vehicle for positive WOM via mobiles, and mobile consumer numbers are growing faster than any other retail channel, the results imply that retailers’ need to be aware of the extent to which consumers are willing to engage with MIM applications and to nurture these consumer-computer relationships accordingly. Retailers should aim to provide a more social and media rich mobile experience, developing mobile competences and capabilities to deal with the emerging mobile social channel, integrating social and media rich functionalities in their mobile offering.

In order to more effectively meet Chinese consumers’ demands MIM service providers could consider the following:

1. Further research and development into the provision and effectiveness of MIM content, in particular the effectiveness of voice rather than photo/ text content.
2. Retailers should consider developing a specialist MIM PR and Marketing function with specific responsibility for MIM content development and research.
3. MIM communications should be optimized to increase levels of social interaction and perceptions.

## *7.2 Limitations and future research*

There are a number of limitations associated with this research. First, the sample is not fully representative of the WeChat population, or indeed of online fashion retail WeChat users and therefore these results and conclusions must be considered as exploratory findings rather than fully explanatory. In addition, the sample is composed solely of Chinese female respondents, which limits the generalizability. Differences in the epistemology of Chinese consumers could also have affected the outcomes, which could be further explored in mixed method research. Respondents were between 18 and 30 years-old, which may not reflect younger or older customers’ preferences. A controlled mock-up WeChat account was created with selected messages from a pure play fashion retailer’s WeChat account. Future research might utilize retailers’ live MIM accounts and also control for credibility of varying sources that can influence WOM communication (Ho and Dempsey, 2010). Notwithstanding these limitations, to the authors’ knowledge, this study is original in integrating socialness perception, media richness and WOM into the SOR framework. Future research could apply and replicate this model with larger samples, with male respondents and with samples from different sectors. Future research could also add a qualitative dimension, or indeed a mixed method approach that would further elaborate the findings. In particular specific analysis of different elements of eWOM could be explored. For example text, visual and sharing behaviors are likely to produce different effects, which could be isolated and analyzed separately. Another limitation is that this research focusses on Chinese respondents and as such is likely to be affected by Chinese cultural norms which are not fully replicated in all conditions. Also these norms may well affect aspects of the responses which we did not explore in the data. To overcome these limitations further research with other cultures is proposed.

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