HOSTED BY

ELSEVIER

Analysis of a new visual marketing craze: The effect of LINE sticker features and user characteristics on download willingness and product purchase intention

Shu-Fang Liu [a, *], Hsin-Hsien Liu [b], Jung-Hua Chang [c], Han-Ni Chou [d]

[a] Department of International Business, National Kaohsiung University of Science and Technology, 415 Chien-Kung Road, Kaohsiung, 807, Taiwan, ROC
[b] Department of Asia-Pacific Industrial and Business Management, National University of Kaohsiung, 700, Kaohsiung University Rd., Nanzih District, Kaohsiung, 811, Taiwan, ROC
[c] Bachelor Degree Program in Ocean Business Management, National Taiwan Ocean University, Keelung City, 20224, Taiwan, ROC
[d] Department of Applied English, National Beigang Senior High School, Yunlin County, 651, Taiwan, ROC

ARTICLE INFO

ABSTRACT

Rapid advances in mobile technology have given rise to a proliferation of mobile apps. LINE, an instant messaging app popular around the world, combines text-based communications with cute emoji-like images called "e-stickers." This study extended the stimulus-organism-response (S—O—R) model to investigate how sticker features and user characteristics influence branding effect (brand awareness, brand attitude, and brand attachment), download willingness, and product purchase intention.

A 2 (brand image: with vs. without) × 2 (product image percentage: high vs. low) × 2 (usage period: short vs. long) × 2 (sticker-use frequency: high vs. low) between-subjects design was employed. Structural equation modeling (SEM) of data collected from 361 participants in 2016 found that brand image, product image percentage, usage period, and sticker-use frequency had different impacts on branding effect. Moreover, brand attitude significantly influenced download willingness of LINE stickers, and both brand attitude and brand attachment influenced product purchase intentions.

Finally, this study further examined the moderating effect of sticker-use frequency and 24 indirect effects of three mediators to detail how sticker features and user characteristics influence download willingness and product purchase intention. Important managerial implications for online marketing managers are discussed.

© 2018 College of Management, National Cheng Kung University. Production and hosting by Elsevier Taiwan LLC. All rights reserved.

1. Introduction

The ubiquity of mobile messaging applications has made images an important form of information dissemination. Images come in various formats, like the Japan-invented emoji and stickers commonly used in messaging applications, or apps. The Oxford Dictionary even awarded the emoji 😂, or "face with tears of joy," as "Word of the Year" for 2015. According to a 2014 research report by Foreseeing Innovative New Digiservices (FIND) on consumer app usage behavior, mobile messaging apps (MMA) were the most popular, followed by digital multimedia. The top five MMAs were listed as WhatsApp, Facebook Messenger, Viber, LINE, and WeChat.

A market report from 2016 found that LINE users sent an average of 389 million stickers per day and the total number of sticker sets rose from 351 in 2013 to 259,499 in 2016 (Cheung, 2017. Some 6 billion stickers are sent around the world every day on mobile messaging apps, according to Swyft Media, and there was a 609 percent year-over-year growth of branded campaigns using emojis between June 2015 and June 2016 (Dua, 2017a).

Why are people glued to their mobile devices? Very simply, these mobile media offer not only new content (e.g., stickers) that did not exist before, but also what is convenience and manner in which the content is served to users. For example, LINE's success hinges on its user interface and rich visual content that enables users to express their thoughts and emotions more efficiently than simple text messages. These social media offer a new form of interaction in social, cultural, and economic significance (Singh, 2014; Stark & Crawford, 2015). Visual images powerfully and vividly convey meaning, particularly emotional and experiential, that cannot be easily expressed with words (Bruseberg, McDonagh,

* Corresponding author.
E-mail addresses: sfliu@nkust.edu.tw (S.-F. Liu), ta0731@nuk.edu.tw (H.-H. Liu), junghua1006@gmail.com (J.-H. Chang), hanni528@hotmail.com (H.-N. Chou).

& Wormald, 2004, pp. 124–131; Jeong, 2008; Messaris, 1997; Wang, 2016). Furthermore, mobile-media-communication's (MMC) rapid speed enables increased interactions, and it allows marketers to target communications to individuals. These qualities are better at attracting target audiences and improving the effectiveness of advertisements (Bauer, Reichardt, Barnes, & Neumann, 2005).

Previous studies have demonstrated that images have significant, positive impacts on consumer memory and judgments (Schlosser, 2003). Barak, Boniel-Nissim, and Suler (2008) found that photographs are beneficial for building personal social relationships. Virtual stickers act as emotional proxies or avatars for users, and can be posted during chat sessions to express the user's current mood. Brands should capitalize on the emojification of advertising to reach individual consumers more effectively. Emoji, LINE stickers, and similar visual images combine the properties of both pictorial attractiveness and verbal affect; they enable the expression of a wide, complex, and often bemusing array of ideas and positive emotions (Wang, 2016). Singh (2014) considered LINE's inclusion of colorful fonts with the option to use emoji and stickers a good communication tool.

Because of the enormous popularity of mobile stickers, many companies have begun to market their own LINE stickers (also called branded e-stickers). For example, at least 250 brands created their own emoji keyboards in 2015 (Dua, 2017b). The list of well-known companies that have created LINE stickers includes Disney, Starbucks, and Sephora. And many companies are increasing their marketing budgets for creating and disseminating their own branded e-stickers. LINE allows companies to offer promotional stickers that can include product images, brand logos, featured-characters, or mascots. These stickers are often offered to users free of charge. Stickers regularly include cute spokes-characters as product presenters and often include branded audio messages (Singh, 2014). For example, Nissan Motors, a Japanese car company, published LINE stickers designed for its new car, the JUKE. This set of stickers (see Fig. 1) included cute characters and the car's image. Millions of users became fond of the stickers and the brand.

The LINE Store is replete with both free and paid stickers created by sponsored accounts and illustrators, including many individual LINE users. About 70% of Line users never pay for e-stickers, but 74.5% of Line users have used branded e-stickers (Line, 2016). These branded e-stickers are popular not only because they are free but also because users like the creativity and vividness of the design (Line, 2016). The inclusion of both brand image and product image in the visual design of LINE stickers subconsciously brings sponsor imagery to consumers' minds to be processed (Fitzsimons, Chartrand, & Fitzsimons, 2008; Karremans, Stroebe, & Claus, 2006), even though it may be the user's first exposure to the set
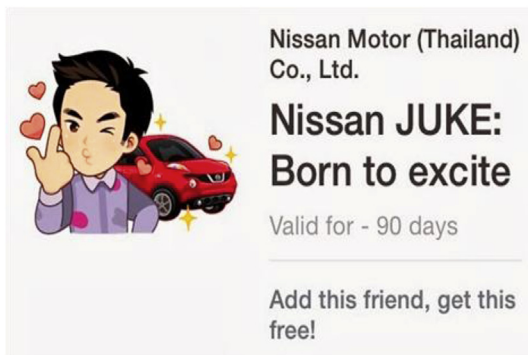
of stickers. Clearly, the interactive and engaging nature of mobile marketing media can have a positive influence on branding effect and consumer behavior. Therefore, in order to maximize the performance of LINE sticker marketing campaigns, understanding how to design useful branded stickers is a crucial issue for marketers.

However, the extant literature regarding LINE stickers is scarce, and relevant existing academic papers have tended to focus on "e-sticker marketing" or "branded e-stickers" (BES; Lee, 2017) and the factors influencing intention to pay for e-stickers (Hsu & Lin, 2015; Lee, 2017; Ruangkanjanases & Wutthisith, 2017), or the influences on affect from a social psychology perspective (Lee, 2017; Wang, 2016). Meanwhile, theoretical discussions have focused on the experience-centric engagement flow of LINE users (Wang, 2016; Weng, Lu, & Wei, 2016). Few studies have explored how firms can strategically use stickers as a promotional tool, and little is known about how sticker features and user characteristics (e.g., frequency of sticker-use) affect consumer cognition, brand attitude, and brand attachment. Therefore, to fill these knowledge gaps and contribute to the existing literature, the objective of the current study was to examine how user characteristics and LINE sticker features impact consumers' intentions to purchase the sponsored products rather than measure consumers' intentions to pay for LINE stickers.

In regard to mobile marketing, usage frequency has been considered an individual-level personality influence affecting mobile device use (Butt & Phillips, 2008; Lepp, Li, Barkley, & Salehi-Esfahani, 2015). Thus, the frequency of LINE sticker usage in this study was considered a user personality influence applicable to mobile social communications. In other words, frequent usage of sponsored LINE stickers helps users determine product value (Hsu & Lin, 2015). And studied have shown that branded apps enhance advertising attitude (Kim, Lin, & Sung, 2013). Therefore, the authors inferred that usage significantly affects the branding effect (e.g., brand awareness, brand attitude, and brand attachment) and product purchase intention.

Previous research has found advertising duration (Dunlop, Cotter, Perez, & Wakefield, 2013) and the expiration dates of coupons (Inman & McAlister, 1994) are important factors that ensure ad effectiveness. According to information available from LINE's official website, all free stickers created by sponsored LINE accounts have time restrictions of either 90 days or 180 days. The current authors inferred that the usage period of LINE stickers can be understood as a signal that increases users' exposure to mobile marketing campaigns and it has a similar impact on users' brand cognition/attitude. Moreover, a longer usage period of free LINE stickers might be related to effort expectancy and performance expectancy, as found in the unified theory of acceptance and use of technology (UTAUT) (Venkatesh, Morris, Davis, & Davis, 2003). Thus, the authors also explored the impact of free LINE stickers' usage period on advertising effects.

In sum, focusing on free sponsored LINE stickers, the authors developed and tested a framework based on the stimulus-organism-response (S–O-R) model (Mehrabian & Russell, 1974), which consisted of three LINE sticker features (stimuli) and user characteristics—branding effect (organism)—that affect users' download willingness and their product purchase intention (response). The results of this study help fill existing knowledge gaps and demonstrate how firms can more effectively design stickers and implement mobile sticker campaigns.

2. Literature review and hypotheses development

2.1. Image/branded e-stickers

With the increasing availability of high speed Internet access, people are no longer limited to using text in instant messaging

Fig. 1. LINE sticker < Nissan JUKE: Born to excite> from Nissan Motor (Thailand) Co., Ltd. official sponsor account. Reference: http://www.line-stickers.com/nissan-juke-born-excite/.

apps. Visual images are now a popular tool for self-expression, conveyance of ideas, and the sharing of experiences (Sherman & Greenfield, 2013). The common brand image definition "refers to the set of associations linked to the brand that consumers hold in memory" (Keller, 1993). Numerous studies have confirmed that images have a positive and significant effect on consumer memory and judgment (Lang & Barton, 2015; Messaris, 1997; Schlosser, 2003; Sherman & Greenfield, 2013). Walther (1996) proposed the hyperpersonal model, which addresses the cognitive and behavioral mechanisms of interpersonal communication in computer-mediated communication (CMC) research (Joinson, 2001; Peña, Walther, & Hancock, 2007; Tidwell & Walther, 2002). Researchers have also evaluated how memory can be aligned to images (Brady, Konkle, Alvarez, & Oliva, 2008; Konkle, Brady, Alvarez, & Oliva, 2010). The interpretation of an image is the result of the interaction of vision and recognition after detection, discrimination, and identification (Kao, 2005).

Companies' innovative use of LINE stickers, generically known as "branded e-stickers," enables greater interactions with potential customers. Stickers allow users to transmit humorous and other emotional images in their communications to represent their psychological and emotional states (Lee, 2017). These types of digital images have made communication easier, more flexible, more powerful, and more global, and they have enabled increased intercultural interaction because language differences are much less of an obstacle with images than they are with words (Lee, 2017; Wathne, Biong, & Heide, 2001). Furthermore, the visual richness provided by stickers can lend messages an air of interpretability and enhance communicative fluidity because users can express and articulate their overt feelings better than using text (Lim, 2015). For marketers, embedding product and brand images in LINE stickers allows them to manipulate users' visual attention, which can generate favorable brand attitudes and maintain brand-customer relationships, consequently affecting consumer behavior.

Keller (1993) came up with the concept "customer-based brand equity (CBBE)" based brand equity strictly from a consumer psychology perspective. Moreover, Keller (2003c) illustrated positive brand image could be established by connecting the unique and strong brand association with consumers' memories about the brand through marketing campaigns. In other words, brand association and brand awareness are the basis and sources of brand equity. Summaries extant studies in decades which take non-financial performance as the manifestation of brand equity. Non-financial performance refers to the brand awareness, brand association, brand attitude, and brand loyalty, brand attachment etc. Which base on the brand equity analysis in the perspective of consumers' subjective perception (Aaker, 1991, 1996; Bermeitinger et al., 2009; Berry, 2000; Buil, de Chernatony, & Martinez, 2008; Spears & Singh, 2004; Washburn & Plank, 2002; Wijaya, 2013; Yoo & Donthu, 2001).

From another perspective, a free LINE sticker by sponsored account is kind of commercial sponsorships in various event/sports, corporate sponsor stickers via LINE device for users to use. Sponsorship has the capacity to achieve a range of goals, such as corporate image, brand exposure, and effects such as image building or attitude change. In view of all this, sponsorship would activate brand cognitive, affective, and conative consumers' perceptions (Chavanat, Martinent, & Ferrand, 2009; Meenaghan, 2005). Due to rapid advances in mobile technology have given rise to a proliferation of mobile device. For a brand manager, concerning whether the users aware the brand, having positive brand attitude toward the brand, consequently, glued to their mobile devices (to download the app) should be more critical to influence the performance of mobile campaigns.

Base on previous research and considering the practice, this study proposed a model to test users engage brand experience through LINE stickers which impact three branding effect constructs (brand awareness, brand attitude, and brand attachment), and ultimately influence the both product purchase intention and download willingness (see conceptual framework in Fig. 2).

2.2. LINE sticker-use frequency

Prior research has used psychological theory to explain patterns of mobile phone use (Cassidy, 2006; Butt & Phillips, 2008; Lee, Chang, Lin, & Cheng, 2014; Lepp et al., 2015), and it has demonstrated that mobile device usage might be a function of personality, which has a significant impact on time spent messaging with SMS (Butt & Phillips, 2008). Thus, the sticker-use frequency of LINE stickers in this study was considered as one predictive trait of individual personality on the impact of branding effects.

Online social media is a technology-driven application for frequent interaction. Hoffman and Novak (1996) stated that two types of interaction have positive influences on the quality of CMC: One is accessing the network through hardware and software (i.e., "machine interaction"), and the other is communicating through
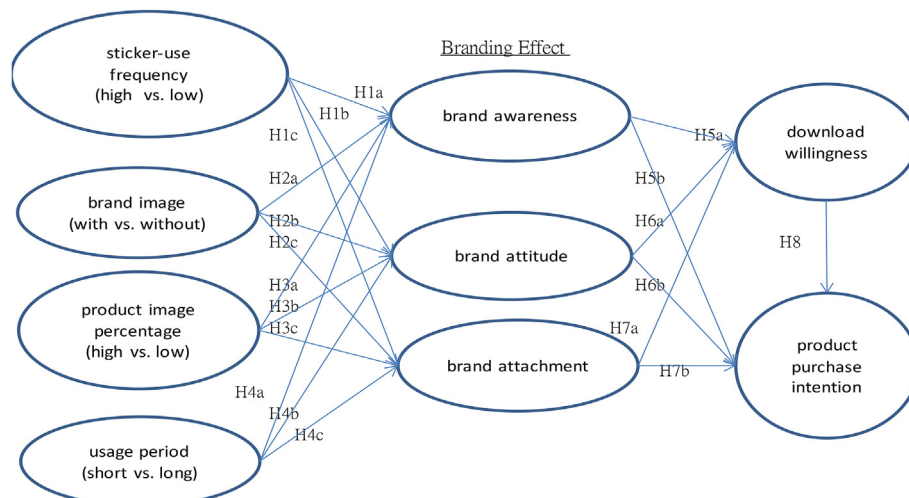
Fig. 2. The conceptual framework.

the medium (i.e., "person interaction"). In the current study, the authors inferred that frequent users of LINE stickers tend to have lower emotional and social skills (Engelberg & Sjöberg, 2004), so they need satisfaction from online friendships more than infrequent users do (Ang, Talib, Tan, Tan, & Yaacob, 2015). This is considered the "person interaction" by Hoffman and Novak (1996). Thus, stickers should be more appealing to frequent users.

Sticker-use frequency in the current study refers to Hoffman and Novak's (1996) "machine interaction." Different usage frequencies cause users to develop different skill levels across various applications, even in different parts of the same application, and this change dynamically as users gain experience with the user interface (Ghazarian & Noorhosseini, 2010). This implies that usage frequency is simultaneously associated with mobile communication competency and other capabilities employed to improve the presentation and relevance of mobile content (Nakamura, 2015). In mobile marketing contexts, high frequency usage means consumers with high engagement flow tend to determine product value via mobile media devices (Hsu & Lin, 2015). In order to better understand individual differences between low and high frequency mobile media users, the current authors classified consumers based on their daily LINE sticker-use frequency to examine whether high frequency usage strengthens the engagement flow (Vivek, Beatty, & Morgan, 2012), which induces positive branding effect (brand awareness, brand attitude and brand attachment).

Brand awareness, in brief, refers to "the ability of a potential buyer to recognize or recall that a brand is a member of a certain product category" (Aaker, 1991), and it is the result of consumer exposure to a brand (Alba & Hutchinson, 1987). Spears and Singh (2004) defined brand attitude as a relatively enduring, unidimensional, summary evaluation of the brand that presumably energizes behavior. Furthermore, brand attachment refers to how strongly a consumer connects to and interacts with the brand (Lehmann, Keller, & Farley, 2008). Combining these previous findings, the authors proposed the following hypothesis:

H1. Frequent LINE sticker users (versus infrequent users) show more positive effects on (a) brand awareness, (b) brand attitude, and (c) brand attachment.

2.3. LINE sticker features

2.3.1. Stickers and brand image

Brands are communicated through various elements, such as logos, slogans, jingles, advertisements, and packaging. These elements are valuable for creating and maintaining a strong identity (Keller, 2003b). They create awareness and the symbolism can convey a positive influence or attitude toward the brand (Keller, 2003a). One of the most important brand elements is the logo. A logo is advantageous for communicating a brand's image and gain consumers' attention. Moreover, logos can evoke positive affect and shorten recognition time (Henderson & Cote, 1998), enabling consumers to connect to and interact with the brand (Chang & Zhu, 2012; Park, 2014; Sääksjärvi, van den Hende, Mugge, & van Peursem, 2015) and provide aesthetic appeal (Park, Eisingerich, Pol, & Park, 2013, 2014). In sum, brand logos can play an extremely important role in providing affective reactions before any promotional activity is carried out; meanwhile, they represent the "voice" of the product or service to inform, persuade, and remind consumers of how and why a brand is used in marketing communications (Keller, 2010).

Even though consumers might not consciously notice their exposure to brand logos, logos can still influence their attitudes and brand attachment (Sääksjärvi et al., 2015). Such effects are called "automatic effects." For example, after watching a football game,

most people cannot recall exactly which brands were displayed alongside the field, yet these brands can still affect consumers' brand attitudes and behavior as a result of automatic processes that require no effort (Fitzsimons et al., 2008; Karremans et al., 2006). Chavanat et al. (2009) addressed consumers' purchase intentions of sponsors' products are influenced by brand attachment variables impacted upon by brand image variables, whatever the nature of the entity involved in sponsorship arrangement.

In other words, automatic effects of brand exposure have been verified by subliminally priming the brand logo. Exposure and subconscious processing of the brand logo image brings the brand to consumers' minds, and assuming that a brand holds a favorable position for the consumer, the reminder should evoke positive brand awareness, brand attitude, and form brand attachment (Bermeitinger et al., 2009; Keller, 2003c; Lehmann et al., 2008; Sääksjärvi et al., 2015).

Based on this prior research, the authors expected that exposure to a brand image via LINE stickers should automatically bring the brand to mind of consumers. Thus, the authors inferred the following hypothesis:

H2. A sticker with a brand image (versus without a brand image) has greater positive effects on (a) brand awareness, (b) brand attitude, and (c) brand attachment.

2.3.2. Stickers and product image

A product image can have a strong influence on consumer perceptions of the product. Grill-Spector and Kanwisher (2005) measured the performance of subjects' visual object recognition and found that when subjects already knew the product category, their reaction time was shorter and more accurate on identification tasks. Several researchers have demonstrated the positive impact of product pictures on the perception of trust and consequently, increased willingness to buy apparel products through websites (Fabre-Thorpe, 2011; Hassanein & Head, 2005; Won Jeong, Fiore, Niehm, & Lorenz, 2009). Gafni, Geri, and Aziz (2014) investigated the impact of including authentic pictures together with product descriptions, and they found a positive impact on consumers' perceived willingness to purchase the product online. In other words, authentic product pictures critically affect consumer behavior in mobile marketing.

Pictures are reflections of reality and, according the stimulus-organism-response (S−O-R) model (Mehrabian & Russell, 1974), the more information that is included in a message the more stimuli is present that can affect consumers' response systems. The authors inferred that a similar relationship as in H2 should also be found in the context of product image. Hence, LINE stickers that include a higher percentage of the product image (e.g., clothing image embedded in a sticker sponsored by UNIQLO) should be positively associated with stimulation of the branding effect and positively influence both download willingness and product purchase intention than stickers with a lower percentage of the product image (e.g., a hat image embedded in a sticker sponsored by UNIQLO). The following hypothesis states this prediction:

H3. A sticker with a high percentage of the product image (versus low percentage of the product image)[1] has greater positive effects on (a) brand awareness, (b) brand attitude, and (c) brand attachment.

---

[1] In the real world, sponsors rarely offer Line stickers without any product image. Therefore, the authors did not compare the difference of the branding effect between stickers with and without product images; rather than we compare the difference of branding effect between stickers with high versus low product image percentage.

2.3.3. Usage period of LINE stickers

Inman and McAlister (1994) indicated that a coupon's expiration date is a significant predictor of consumer's perceptions of the coupon's value. A longer duration increases redemption rates and has more positive advertising effects.

(DelVecchio, Henard, & Freling, 2006; Sigala, 2013). Contrary to prior research, Danaher, Smith, Ranasinghe, and Danaher (2015) demonstrated the impact of "m-coupons" (coupons delivered by mobile phone) and illustrated that m-coupons validity (expiry length) had a significant impact on redemption time. The results suggest that expiration length of m-coupons should be shortened to help signal the urgency to redeem them.

The unified theory of acceptance and use of technology (UTAUT) perspective considered to be a powerful and parsimonious way to represent the antecedents of system usage through beliefs about several factors: the performance expectancy (similar to perceived usefulness) and effort expectancy (similar to perceived ease of use) and facilitating conditions as the antecedents of the user's behavioral intention (Venkatesh et al., 2003). Performance expectancy is the extent to which a person believes that using the technology enhances job performance, and effort expectancy is the extent to which a person believes that using the technology is free of effort. According to information available from LINE's official website, all stickers created by sponsored LINE accounts have time restrictions of either 90 days or 180 days, which is determined by the sponsor. The usage period is counted from the day that the user downloads the stickers, and it can be neither shortened nor extended. After the usage period has ended, the stickers can no longer be used, but they are not deleted from a user's chat history. Thus, longer usage period of LINE stickers should increase the perceived usefulness and perceived ease for users.

The authors infer that the usage period of LINE stickers, both expiration date and expiry length, should have a similar impact and be understood as a signal for the branding effect. More specifically, a longer usage period will increase the perceived usefulness and perceived ease and should enhance the positive branding effect of free LINE stickers when users browse the stickers at first. Thus, the authors formed the following hypothesis:

H4. A sticker with a usage period of 180 days (versus 90 days) has greater positive effects on (a) brand awareness, (b) brand attitude, and (c) brand attachment.

2.4. Download willingness of LINE stickers and product purchase intension

Some previous research results have indicated that consumers' perceived attitude toward mobile apps positively influences intention to pay for mobile apps (Hsu & Lin, 2015; Lee, 2017; Ruangkanjanases & Wutthisith, 2017). In the current study, download willingness meant that an individual has a strong motivation to download a specific set of free LINE stickers after screening the stickers. Whether the stickers are paid for or free, marketers expect that the more positive the branding effect of the LINE stickers generate, the more willing customers are to download the sticker set, which eventually affects product purchase intention.

To gain more detailed insights into the behavior of LINE sticker users, the present research also explored the relationships between three mediators (brand awareness, brand attitude, and brand attachment), download willingness, and product purchase intention. Tsang, Ho, and Liang (2004) indicated a direct relationship between consumers' attitudes toward mobile advertising and their behavior after viewing mobile ads. Daugherty, Eastin, and Bright (2008) also found that a positive attitude toward user-generated online content generally increases a person's consumption of

such content. Lee (2017) found that branded e-stickers indirectly influence purchase intention through both brand attitude and the usage intensity, which is a similar construct to "brand attachment" in this study.

Taking into account these previous findings, the current authors inferred that brand awareness, brand attitude, and brand attachment of LINE stickers mediate download willingness and product purchase intension. The authors formulated the following hypotheses to describe these relationships:

H5. Higher brand awareness has a positive effect on (a) download willingness and (b) product purchase intention.

H6. Higher brand attitude has a positive effect on (a) download willingness and (b) product purchase intention.

H7. Higher brand attachment has a positive effect on (a) download willingness and (b) product purchase intention.

Companies offering own-branded free LINE stickers can promote their products and services and also build and strengthen long-term relationships with customers (Lee, 2017), expanding their market reach and marketing (Chu, 2011; Li & Li, 2014). Therefore, the authors further proposed the following hypothesis.

H8. Higher download willingness has a greater positive influence on product purchase intension.

The entire conceptual model, inclusive of H1–H8, is shown in Fig. 2.

3. Methods

3.1. Development of stimuli and experimental design

To celebrate the fifth anniversary of UNIQLO (a famous Japanese clothing brand) in Taiwan, UNIQLO announced several new sets of related LINE stickers featuring cartoon characters, some of which were chosen and used in this study. These sticker sets were released between December 2015 and February 2016, which matched New Year's 2016 and the Lunar New Year holidays. The authors adopted these UNIQLO LINE stickers because of their appropriateness for both the experimental and conceptual designs of this research, and the launch time was very close to the survey period of April 2016, so few potential participants would have seen these stickers. Any participants who had previously seen or downloaded these stickers were excluded to avoid their existing preferences confounding the results. The authors purposely selected real-world stimuli to fit the purpose of this study, but some issues should be taken into account when interpreting the results. For example, the text, character images, and the meanings of the stickers could not be controlled for across the scenarios. Nevertheless, the greater realism associated with the use of real stickers was deemed beneficial to the experiment.

A 2 (sticker with brand image: with vs. without) × 2 (product image percentage: high vs. low) × 2 (sticker usage period: short vs. long) × 2 (sticker-use frequency: high vs. low) between-subjects factorial design was employed.

In the with brand image condition, participants saw the UNIQLO logo. Participants did not see the logo in the without brand image condition. When we remind UNIQLO, most people would associate it with clothes. So LINE stickers that include clothing image embedded in a sticker sponsored by UNIQLO means with higher percentage of the product image in our study. In the high product image percentage conditions, participants saw an image of clothes in the stickers, in which the percentage of product image was high in the stickers (i.e., Scenarios C, D, G and H that with clothing image

embedded bedded in a sticker sponsored by UNIQLO); In contrast, participants in the low product image percentage conditions did not see clothing instead they saw a hat or neckerchief, in which the percentage of product image was low (i.e., Scenarios A, B, E, and F that without clothing image embedded in a sticker). The stickers adopted for eight scenarios are shown in Fig. 3.

Participants in the long usage period learned that the stickers could be used for 180 days, and stickers in the short usage period could be used for only 90 days. Sticker-use frequency was obtained from participants' self-reports. The data were collected via social media that was accessed on LINE.

3.2. Profile of the respondents

According to previous research, mobile application usage and shopping behavior of college students far exceeds that of other population segments (Seock & Bailey, 2008), As a result, college students are an important target for social media. The limitations of the experimental design also suggested that a collecting a student sample was the most feasible approach. Thus, participants in the formal experiment were recruited on a college campus in southern Taiwan during April of 2016. A total of 437 participants completed the experiment with 341 valid samples obtained (53.4% male; with more than 95% below 30 years of age). The authors excluded 65 participants because they did not complete the questionnaires (maybe a result of no incentives being provided because of budget limitations). A further 16 participants were excluded because they claimed not to use LINE. Finally, an additional 15 participants were excluded because they had previously seen or downloaded the UNIQLO stickers.

Fig. 3. Eight scenarios used in the formal experiment 2. sufreq: sticker-use frequency, brandimg: brand image, prodimg: product image percentage, usageper: usage period, baware: brand awareness, battit: brand attitude, battach: brand attachment, dw: download willingness, ppurint: product purchase intention.

With regard to the number of times participants used LINE stickers, the largest group (53.8%) reported using them 20 to 40 times a day, which means that overall LINE stickers were widely used. Just over half, 51.9%, preferred free stickers over paid stickers. Most participants, 64.4%, owned 10 or fewer sets of free stickers offered by sponsored accounts, with the remainder possessing more than 10 sets of free stickers.

3.3. Experimental procedure

Participants were randomly assigned to one of the eight experimental scenarios and then given instructions on doing the experiment. Participants first responded to several items about their LINE sticker usage, and then they evaluated brand awareness, brand attitude, brand attachment, willingness to download, and product purchase intention after screening the scenario stickers.

3.4. Measures

The questions and items were adapted from existing literature with minor modifications on seven point Likert-scale to fit the study context (see Table 1). Brand awareness was measured through two items modified from Hutter, Hautz, Dennhardt, and Füller (2013), including "I can recognize the sponsored account that offered this set of stickers" and "I can recognize other sets of stickers provided by the sponsored account". Brand attachment was captured with three items measuring how strongly a consumer connects to and interacts with the brand from Lehmann et al. (2008). Brand attitude, was measured using two adapted items from Spears and Singh (2004) and Yang, Asaad, and Dwivedi (2017), a relatively enduring, unidimensional, summary evaluation of the brand which participants actively engage in and are emotionally connected to LINE stickers. One item evaluates the valence toward specific brand (e.g., good/bad, positive/negative), the other item "I notice the news feeds on the board from the sponsored account" to fit the study context. Furthermore, both download willingness and purchase intention were measured from Spears and Singh (2004).

Sticker-use frequency was measured and three sticker features were manipulated. Participants reported their sticker-use frequency in response to the question, "How often do you send LINE stickers in a day?" They reported their answer with one of four options (rarely/infrequently/every two or 3 h/very frequently). Participants who choose "rarely" or "infrequently" were categorized as having low sticker-use frequency; otherwise, they were categorized as having high sticker-use frequency.

4. Results

4.1. Reliability and validity analysis

As we proposed H1~H7 based on the previous literature in both our original manuscript, we proposed a four-factor model. However, before we examined the four-factor model, we had to ensure the discriminant validity by examine whether each construct's square root of AVE is greater than <u>intercorrelations</u> among all constructs. Table 1 shows the factor loading, average variance extracted (AVE), and composite reliability (CR) for the constructs were reflected by the items. The CFA results indicated that the fit of the measurement model was good (CFI = 0.96, TFI = 0.94, SRMR = 0.04, RMSEA = 0.09). Moreover, the factor loadings of each item were higher than 0.5 and were all significant (see Table 1). The AVE of all constructs were higher than 0.5 (from 0.53 to 0.78), indicating that the convergent validity of the measurement model was quite good (Bagozzi & Yi, 1989; Fornell & Larcker, 1981). In addition, CRs of each construct were greater than 0.6, which means that every construct had good internal consistency (Bagozzi & Yi, 1989; Fornell & Larcker, 1981).

Finally, in terms of discriminant validity, as Table 2 shows, only the square root of brand attitude's AVE was less than the correlation with willingness to download; other constructs' square root of AVE were greater than the correlation of constructs, indicating most constructs had discriminant validity (Fornell & Larcker, 1981; Hair, Black, Babin, & Anderson, 2010). However, brand attitude and download willingness needed further examination.

Therefore, a measurement model comparison was conducted. To assure the discrimination of download willingness and brand attitude, these two constructs were combined as one factor (three-factor measurement model) to compare the original measurement model (four-factor model). As Table 3 shows, χ^2 of the 4-factor model was significantly less than that of the 3-factor model, which indicates that the fit of 3-factor model was worse than that of 4-factor model. Therefore, the discriminant validity of brand attitude and download willingness was confirmed (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003; Podsakoff & Organ, 1986).

4.2. Hypothesis testing

The authors used Mplus 7 to perform structural equation modeling (SEM) to test H1-H8. As Fig. 4 shows, high (versus low) use frequency had a positive impact on brand awareness ($\beta = 0.10$, $t = 2.13$, $p < 0.05$), brand attitude ($\beta = 0.21$ t = 3.76, $p < 0.001$), and a

Table 1
Measurement items used in the study.

Construct (sources)	Items	Loading(t-value)	AVE[1]	CR[2]
Sticker-use frequency(Johansson & Götestam, 2004)	How often do you send LINE stickers in a day?			
Product purchase intention(Spears & Singh, 2004)	The likelihood of that I will buy the UNIQLO product.			
Download willingness(Spears & Singh, 2004)	The sticker is adorable. The sticker is good. I am willing to download this sticker.	0.93(−) 0.95 (31.91) 0.81 (21.15)	0.81	0.93
Brand awareness(Hutter et al., 2013)	I can recognize the sponsored account that offered this set of stickers. I can recognize other sets of stickers provided by the sponsored account.	0.59(−) 0.91 (6.49)	0.59	.73
Brand attitude(Spears & Singh, 2004; Yang et al., 2017)	I have a good impression of this firm. I notice the news feeds on the board from the sponsored account.	0.74(−) 0.84 (14.65)	0.63	0.77
Brand attachment (Lehmann et al., 2008)	I will search for related information about the sponsored account. I am willing to receiving mobile advertising messages sent by the sponsored account. I am willing to download other stickers also provided by this sponsored account.	0.90(−) 0.93 (24.54) 0.79 (18.78)	0.76	0.91

1: Average variance extracted.
2: Composite reliability.

Table 2
Correlations of constructs.

	1. B1.Brand awareness	2. Brand attitude	3. Download willingness	4. Brand attachment
1	0.76[1]			
2	0.55	0.79		
3	0.34	0.87	0.90	
4	0.41	0.63	0.44	0.87

1: The square root of AVE is on diagonal.

Table 3
Comparison of measurement models.

Model	χ^2	df	$\Delta\chi^2(\Delta df)$	p-value
4-factor model	116.39	29		
3-factor model (willingness to download + brand attitude)	204.93	32	88.54(3)	<0.001

marginal effect on brand attachment ($\beta = 0.10$, $t = 1.80$, $p < 0.1$), in support of H1a-H1c. Similarly, stickers with (vs. without) a brand image had a positive impact on brand awareness ($\beta = 0.56$, $t = 8.10$, $p < 0.001$) as well as on brand attachment ($\beta = 0.19$, $t = 3.00$, $p < 0.05$), and had a marginally significant effect on brand attitude ($\beta = 0.12$, $t = 1.73$, $p < 0.1$), in support of H2a−H2c. Furthermore, the sticker with high percentage of product image (versus with low percentage of product image) had a positive impact on brand awareness ($\beta = 0.27$, $t = 4.06$, $p < 0.001$) and brand attachment ($\beta = 0.19$, $t = 2.93$, $p < 0.05$), but not on brand attitude ($\beta = 0.06$, $t = 0.91$, $p > 0.1$). Thus, the results support H3a and H3c, but not H3b. Additionally, stickers that had a usage period of 180 days (versus 90 days) had a positive impact on brand attachment ($\beta = 0.12$, $t = 2.26$, $p < 0.05$), but influenced neither brand awareness ($\beta = -0.03$, $t = -0.56$, $p > 0.1$) nor brand attitude ($\beta = 0.04$, $t = 0.73$, $p > 0.1$). Therefore, these results support H4c, but do not support H4a and H4b.

In addition, brand awareness did not impact download willingness ($\beta = -0.06$, $t = -1.49$, $p > 0.1$) and product purchase intention ($\beta = 0.03$, $t = 0.83$, $p > 0.1$). The results are inconsistent with hypotheses H5a and H5b. However, brand attitude had a positive impact on download willingness ($\beta = 0.88$, $t = 30.41$, $p < 0.001$) and product purchase intention ($\beta = 0.35$, $t = 2.58$, $p < 0.05$), in support of H6a and H6b. Furthermore, brand attachment had a positive impact on product purchase intention ($\beta = 0.77$, $t = 24.57$, $p < 0.001$), but not on download willingness ($\beta = 0.02$, $t = 0.44$, $p > 0.1$). Thus, the results support H7b, but not H7a. Finally, download willingness had no impact on purchase intention ($\beta = -0.17$, $t = -1.40$, $p > 0.1$); therefore, the results do not support H8.

4.3. The interaction effects among LINE sticker features and sticker-use frequency on branding effect

An interesting finding was that high usage frequency participants showed better branding effect than low usage frequency participants. This finding also induced the need to further analyze whether consumers' characteristics (i.e., usage frequency) had an interaction effect with sticker features on branding effect. As the literature mentioned, usage frequency is associated with mobile communication competency and other capabilities employed to improve the presentation and relevance of mobile content (Nakamura, 2015). More specifically, in mobile marketing contexts, high frequency usage means consumers with high engagement flow tend to determine product value via mobile media devices (Hsu & Lin, 2015). Overall, these previous studies suggest that high usage frequency consumers should show better branding effect, no

matter if the sticker has a brand image or not, the product image percentage is high or low, and the sticker usage period is short or long. In contrast, low usage frequency consumers are more likely to be influenced by the sticker features. Specifically, low usage frequency consumers should form better branding effect when the sticker has (vs. without) the brand image, when the product image percentage is high (vs. low), and when the sticker usage period is long (vs. short). Therefore, the authors further formulated the following hypotheses:

H9. The effect of brand image (with vs. without) on (a) brand awareness, (b) brand attitude, and (c) brand attachment is less pronounced for high frequency users than for low frequency users.

H10. The effect of product image percentage (high vs. low) on (a) brand awareness, (b) brand attitude, and (c) brand attachment is less pronounced for high frequency users than for low frequency users.

H11. The effect of usage period (short vs. long) on (a) brand awareness, (b) brand attitude, and (c) brand attachment is less pronounced for high frequency users than for low frequency users.

4.4. Results

To test H9-H11, three separate general liner models (GLMs) were conducted (see Table 4). The mean values of the interaction effects are shown in Table 5.

As column 2 of Table 4 shows, brand image, product image, sticker-use frequency*product image percentage, and sticker-use frequency*brand image separately influenced brand awareness. Column 4 of Table 5 shows that the difference in brand awareness between the two brand image conditions was lower when the sticker-use frequency was high (5.50 vs. 3.98, $t = 5.56$, $p < 0.01$) than when the sticker-use frequency was low (5.19 vs. 3.33, $t = 7.32$, $p < 0.01$), in support of H9a. Similarly, the product image percentage condition was lower when the sticker-use frequency was high (5.01 vs. 4.48, $t = 2.30$, $p = 0.02$) than when the sticker-use frequency was low (5.73 vs. 3.79, $t = 5.79$, $p < 0.01$). Therefore, the results support H10a, but do not support H11a.

For brand attitude, the brand image, product image percentage, sticker-use frequency, and sticker-use frequency*product image percentage separately had impacts on brand attitude (see column 3 of Table 4). Specifically, column 5 of Table 5 shows that when the sticker-use frequency was high, brand attitude was not significantly different between the two product image percentage conditions (4.45 vs. 4.42, $t = 0.15$, $p > 0.1$). In contrast, when the sticker-use frequency was low, participants showed higher brand attitude in
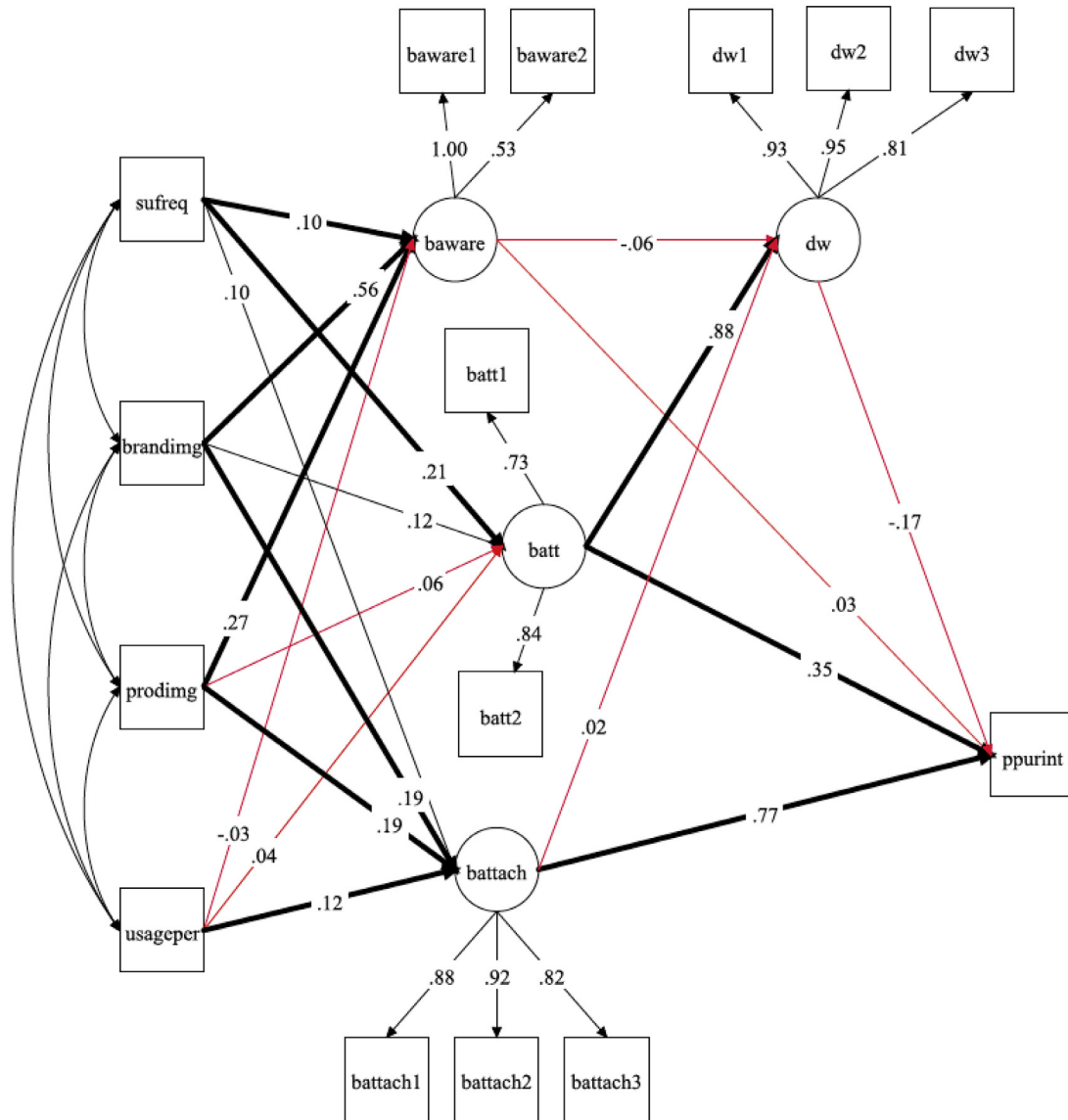
Note: 1. ▬▬ $p < 0.05$, ▬▬ $p < 0.1$, ▬▬ $p > 0.1$

2. sufreq: sticker-use frequency, brandimg: brand image, prodimg: product image percentage, usageper: usage period, baware: brand awareness, battit: brand attitude, battach: brand attachment, dw: download willingness, ppurint: product purchase intention.

Fig. 4. SEM analysis results.

Table 4
Interaction effects.

Independent variables	Dependent variables		
	Brand awareness	Brand attitude	Brand attachment
Brand image	84.31***	5.71**	9.07***
Product image percentage	36.82***	3.67*	11.85***
Usage period	0.50	0.42	4.57**
Sticker-use frequency	0.01	5.72**	1.30
Sticker-use frequency *Product image percentage	12.01***	3.02*	6.10**
Sticker-use frequency*Brand image	7.92***	0.10	0.51
Sticker-use frequency *Usage period	0.03	0.10	<0.01

*$p < 0.1$, **$p < 0.05$, ***$p < 0.01$.

Table 5
Mean of branding effects of sticker features * sticker-use frequency interaction.

Independent variables			Dependent variables		
Sticker features		Sticker-use frequency	Brand awareness	Brand attitude	Brand attachment
Product image percentage	Low	low	3.79	3.63	2.13
		high	4.48	4.42	2.83
	High	low	5.73	4.32	3.27
		high	5.01	4.45	3.02
Brand image	Without	low	3.33	3.68	2.28
		high	3.98	4.21	2.66
	With	low	5.19	4.28	3.12
		high	5.50	4.67	3.19
Usage period	Long	low	4.69	4.01	2.88
		high	4.70	4.51	3.09
	Short	low	4.84	3.95	2.52
		high	4.79	4.36	2.76

the high percentage product image condition than in the low percentage product image condition (4.32 vs. 3.63, $t = 2.21$, $p = 0.02$), in support of H10b. However, these results do not support H9b and H11b.

Brand attachment, the brand image, product image percentage, usage period, and sticker-use frequency*product image percentage separately had impacts (see column 6 of Table 4). Specifically, when the sticker-use frequency was high, brand attachment was not significantly different between the two product image percentage conditions (3.02 vs. 2.83, $t = -0.86$, $p > 0.1$). In contrast, when the sticker-use frequency was low, participants showed higher brand attachment in the high percentage product image condition than in the low percentage product image condition (3.27 vs. 2.13, $t = 3.59$, $p < 0.01$), in support of H10c. However, the results do not support H9c and H11c.

4.5. Additional analysis

To understand the details of the mediated effect of branding effect (brand awareness, brand attitude, and brand attachment), several specific mediated paths were examined using Hayes' PRO-CESS method (2013). All indirect effects (IE) were bootstrapped 10,000 times to calculate 95% bootstrap confidence intervals. Effects are significant if the confidence interval does not include the value zero (Hayes, 2013). Table 6 shows the results of 24 indirect effects. Brand image significantly influenced download willingness through brand awareness (IE: 0.36, [0.21, 0.54]) and brand attitude (IE: 0.28, [0.004, 0.56]). Usage period significantly affected download willingness through brand attachment (IE: 0.15, [0.02, 0.30]). Moreover, the indirect effect of brand attitude on sticker-use frequency and download willingness was also significant (IE: 0.40, [0.13, 0.67]).

Next, with product purchase intention as the dependent variable, as shown in Table 6, brand image significantly increased product purchase intention via brand awareness (IE: 0.40, [0.25, 0.59] and brand attitude (IE: 0.19, [0.003, 0.37]). Brand attachment had a significant indirect effect on sticker usage period and product purchase intention (IE: 0.27, [0.03, 0.53]). Finally, brand attitude significantly mediated the effect from sticker-use frequency to product purchase intention (IE: 0.28, [0.10, 0.47]).

5. Discussion and implications

The authors proposed and tested a conceptual model that explored the impact of sticker features and user characteristic on branding effect. These results help explore how firms can strategically use LINE stickers as a promotional tool to increase product purchase intentions. Most of the results support the proposed

model, highlighting the important roles of brand image, product image percentage, usage period, and sticker-use frequency in determining the branding effect. Finally, this study further examined the moderating effect of sticker-use frequency and 24 indirect effects of three mediators to provide details of how sticker features and user characteristics influence download willingness and product purchase intention.

There were two interesting and unexpected findings from these tests. First, brand awareness had no significant impact on participants' download willingness or on product purchase intention (leading to the rejection of H5). Second, download willingness had no impact on product purchase intention (leading to the rejection of H8). The persuasion knowledge model (PKM) proposes that consumers develop knowledge about persuasion and use this knowledge to cope with persuasion episodes (Campbell & Kirmani, 2000; Friestad & Wright, 1994). Consumers' knowledge about persuasion includes beliefs about persuasion motives, such as acquiring information, an object, or authority to do something, changing someone's opinion, and persuading someone to do something (e.g., buy a product). Consumers might use their persuasion knowledge to infer the extent of the motives underlying a marketer's behavior.

Reactance theory suggests that consumers react against threats of persuasion to further their own goals. When web users face interstitials, they are interrupted and forced to react to unrequested commercial messages (Edwards, Li, & Lee, 2002). Consumers might feel overstimulated when they view a single ad too frequently, so they likely retreat away from the source of irritation, or ad avoidance (Cho & Cheon, 2004; Edwards et al., 2002). In this current study, brand awareness might reflect consumers' awareness about the marketer's persuasion intention. Thus, brand awareness might not have positively influenced participants' download willingness and product purchase intention, especially when participants felt the advertisements were disturbing nor had negative outcomes such as irritation (Kennedy, 1971). Similarly, some studies have indicated the duration of the interruption may affect the perceived level of intrusiveness (Edwards et al., 2002), so participants who were aware of the brand in the stickers might avoid the advertisement and intrusiveness by not downloading the stickers, or download the stickers but not buy the products. This concept is also consistent with reactance theory, which predicts that consumers are likely to seek freedom either passively or by ignoring the interruption (Clancey, 1994).

5.1. Summary of the conceptual results

This study has several significant findings that have important managerial implications. First, the results show that participants

Table 6
Mediation analysis.

Independent variable	Mediator	Dependent variable	Indirect effect	Lower limit	Upper limit
Sticker-use frequency	Brand awareness	Download willingness	0.06	−0.02	0.18
	Brand attitude		0.40*	0.13	0.67
	Brand attachment		0.13	−0.01	0.28
Brand image	Brand awareness		0.36*	0.21	0.54
	Brand attitude		0.28*	0.004	0.56
	Brand attachment		0.13	−0.03	0.30
Product image percentage	Brand awareness		0.01	−0.07	0.11
	Brand attitude		0.003	−0.24	0.24
	Brand attachment		0.09	−0.04	0.24
Usage period	Brand awareness		−0.04	−0.13	0.04
	Brand attitude		0.10	−0.15	0.35
	Brand attachment		0.15*	0.02	0.30
Sticker-use frequency	Brand awareness	Product purchase intention	0.08	−0.03	0.21
	Brand attitude		0.28*	0.10	0.47
	Brand attachment		0.24	−0.03	0.50
Brand image	Brand awareness		0.4*	0.25	0.59
	Brand attitude		0.19*	0.003	0.37
	Brand attachment		0.22	−0.08	0.51
Product image percentage	Brand awareness		0.02	−0.08	0.13
	Brand attitude		0.002	−0.17	0.18
	Brand attachment		0.17	−0.08	0.42
Usage period	Brand awareness		−0.05	−0.16	0.06
	Brand attitude		0.07	−0.10	0.24
	Brand attachment		0.27*	0.03	0.53

*p < 0.05.

who had high (vs. low) sticker usage frequency formed a favor branding effect (brand awareness, brand attitude, and brand attachment) (H1). This finding supports similar research that found frequent sticker users fit both types of interactions—Hoffman and Novak's (1996) "person interaction" and "machine interaction"—that implies better communication competency and other capabilities for mobile marketing media to facilitate user cognition, attitude, and continuous usage intentions (Ghazarian & Noorhosseini, 2010; Hoffman & Novak, 1996; Hsu & Lin, 2015). Both are evidence that frequent sticker usage with embedded advertising enhances positive brand awareness, brand attitude, and brand attachment.

Second, results of this study reinforce the roles of both brand image and product image (H2 and H3) as the "voice" that tells or shows customers the hows and whys of a product (Keller, 2010). The results also suggest that LINE stickers that contain a brand image (versus without a brand image) have a positive impact on brand awareness, brand attitude, and brand attachment (H2a-H2c). Moreover, LINE stickers with a high percentage of the product image (versus a low percentage the product image) have a positive impact on brand awareness and brand attachment (H3a, H3c), but not on brand attitude (H3b). The findings related to H2 and H3 confirm the results of prior research and illustrate that the interpretation of a visual image is an interaction between vision and recognition after processing detection, discrimination, and identification (Burmann, Schaefer, & Maloney, 2008; Kao, 2005), which enhances communicative fluidity (Lim, 2015). Even consumers who are first exposed to the brand image/product image via LINE stickers unconsciously prime the brand/product image in automatic processes (Fitzsimons et al., 2008; Karremans et al., 2006), which can significantly influence cognition and attitude toward the brand (Keller, 2003c; Bermeitinger et al., 2009; Sääksjärvi et al., 2015).

In regard to usage period, the 180 day usage period (versus 90 days) had a positive impact on brand attachment (H4c) but not on

brand awareness and brand attitude (H4a, H4b). The authors speculate that the main effect of the usage period of LINE stickers was partially supported because the experiment only focused on free LINE stickers, which are continuously updated and users do not need to pay for them, therefore users might not care about the usage period. However, LINE stickers with a longer usage period had a significant positive effect on brand attachment to evoke users' intention to search and receive related information about the sponsored account. It also had a positive impact on product purchase intension.

This study also explored the relationships between branding effect, download willingness, and product purchase intention (H5-H7). As mentioned previously, the results demonstrated that brand awareness neither affected download willingness (H5a) nor product purchase intention (H5b). The authors speculate that the insignificant relationship between brand awareness and download willingness was caused by the UNIQLO brand used in this study, which is a famous and popular brand amongst young Taiwanese consumers. Psychological reactance (Edwards et al., 2002) to well-known brands can induce an insignificant effect both on download willingness and product purchase intention. This result confirms Aharony's (2015) results.

Ehrenberg, Barnard, Kennedy, and Bloom (2002) elucidated a contrary opinion to traditional brand advertising, which is that advertising mostly serves to publicize the advertised brand. Advertising seldom seems to persuade. In other words, the dominant aim of most advertising in a competitive market is to maintain the brand's broad salience—keep the brand in the consumer's consideration set. Nevertheless, a significant relationship exists between brand salience and ad exposure frequency (Romaniuk & Sharp, 2003); salience turns on brand awareness. Sometimes publicity also helps to develop salience, but it seldom seems to have a significant effect on persuasion (Ehrenberg et al., 2002). Ehrenberg et al.'s (2002) viewpoint might explain the results of H5b.

The results showed that download willingness was positively influenced by brand attitude (H6a), but there was an insignificant impact on brand attachment (H7a). Product purchase intention was affected positively by both brand attitude and brand attachment (H6b, H7b). This means there is support for H6 but only partial support for H7. The results also indicate that both brand attitude and brand attachment have a positive effect on product purchase intension when consumers execute a branding processing strategy. Conforming to prior studies (e.g., Daugherty et al., 2008; Lee, 2017; Tsang et al., 2004), the results show that brand attitudes are an important antecedent of product purchase intentions. If consumers have favorable attitudes toward a brand, they are more likely to purchase it. Additionally, no support was found for H8 and the results were inconsistent with expectations that download willingness has no significant impact on product purchase intension. This suggests that the utilization and popularity of LINE stickers are not significantly related to sales, which has important implications for firms that wish to use mobile social media as a marketing tool.

5.2. Interaction effects of LINE sticker features and sticker-use frequency on branding effect

This study also identified the interaction of three LINE sticker features and sticker-use frequency on branding effect. The mean values of the interaction effects (see Table 5) are evidence that LINE stickers with a high product image percentage (versus a low product image percentage) enhance branding effect for low frequency users, but not for high frequency users (H10). Similarly, LINE stickers that include a brand image (versus no brand image) enhance brand awareness (H9a) for low frequency sticker users, but not for high frequency users.

The authors speculate that the reason for the non-significant result was that high sticker-use frequency participants were very familiar with the UNIQLO brand; therefore, stickers that included the brand image made no difference to brand attitude and brand attachment. This finding is consistent with Kelly, Kerr, and Drennan's (2010) suggestion that advertising in online social networking environments can be eschewed for young people. On the other hand, users who do not often use LINE stickers are probably not heavy users of mobile social media and are less likely to be followers of current fashion trends. Thus, stickers that include a product image (brand image) can enhance the branding effect (brand awareness) for these users.

Returning to Aharony's (2015) observation of youth consumer behavior, LINE stickers may be instrumental in marketing known or new businesses. Furthermore, the current findings indicate that communication with LINE stickers can compensate for a lack of marketing, which may be helpful for new businesses to enhance brand awareness (H1), which confirms the results from Ehrenberg et al. (2002), or even established businesses that would like to target certain demographic segments and increase their customer base.

5.3. The mediating effects of branding effect on download willingness and product purchase intension

Finally, all 24 indirect effects of the three mediators in the hypothetical model were examined respectively (see Table 6). The results are evidence that brand attitudes and brand attachment are critical mediators on both download willingness and product purchase intentions.

Overall, these results suggest the following relationships. Brand attitude has a significant indirect effect on the relationship of sticker-use frequency and willingness to download. Both brand awareness and brand attitude significantly mediate the relationship between brand images and download willingness. Brand attachment significantly mediates the effect of sticker-usage period on willingness to download. Third, In terms of paths to product purchase intention, brand image positively influences product purchase intention through two mediators: brand awareness and brand attitude. Sticker-usage frequency significantly affects product purchase intention through brand attitude. Finally, brand attachment has a significant indirect effect on the relationship between sticker-usage period and product purchase intention. These specific indirect effects elucidate how LINE sticker features and LINE user characteristics influence download willingness and increase related product purchase intentions.

5.4. Implications for theory

From a theoretical standpoint, this study improves on prior research efforts to understand how visual design and user characteristics affect consumer behavior towards LINE stickers. Specifically, it brings together literature from different fields of study, including the visual design of MMC based on S−O-R theory and persuasion knowledge model (PKM) and psychological reactance theory. This research also deepens understanding of the mediating role of brand awareness, brand attitude, and brand attachment on both download willingness and product purchase intention.

This study contributes to the value literature by explaining the branding effect and consumer behavior from the strategic standpoint of app-related visual design. Previous customer experience studies focused on online experience-centric services (e.g., engagement, experience flow). However, the present study's results show that customer experience is holistic in nature in other kinds of real-world experiential activities. It also supports previous findings that show that providing a good consumption service experience contributes to increased customer perceived value and directly affects behavioral intentions (Ghazarian & Noorhosseini, 2010).

This study also provides a number of theoretical insights related to visual features in mobile marketing campaigns. For instance, based on the S−O-R model, the findings suggest that visual images are reflections of reality (Mehrabian & Russell, 1974). LINE stickers with images of the brand or product affect consumer perception, attitude toward the brand and brand attachment. Another notable implication is that branded messages in mobile social media should be accompanied with a picture of the advertised product. The findings also suggest that the download willingness of LINE stickers has no significant impact on product purchase intension. Knowles & Linn (2004) emphasized that ad resistance is a motivational state; from the viewpoint of brand management, a LINE sticker is used to facilitate brand engagement of consumers; it is also a means to create publicity that is intended to serve as a countermeasure to ad avoidance where consumers become gradually numb in response to marketing messages via personal mobile interaction and LINE branding campaigns.

Furthermore, the current findings confirm that brand attitudes and brand attachment are critical mediators of both download willingness and product purchase intention, but brand awareness neither has a significant impact on download willingness nor product purchase intention. This finding is consistent with previous studies in PKM that the accessibility of an ulterior motive is likely to be affected by how strongly associated that motive is with the marketers. Therefore, the authors suggest that future research in e-sticker marketing should note brand awareness might not always induce a positive impact on consumer behavior. Moreover, scholars who are interested in e-sticker marketing should consider the impact of consumers' PKM to acquire more precise results.

5.5. Implications for practice

Several important insights can be inferred from the results, especially in relation to designing stickers and segmenting markets. Firstly, this study shows that LINE stickers with a high product image percentage, brand image, and longer usage period can engage consumers better and enhance the branding effect. Moreover, the user characteristics of sticker-use frequency is a strong determinant of the branding effect of mobile social media and has significant interaction effects with product image percentage and brand image. The interaction effects show that LINE stickers with a brand image or high product image percentage enhance the branding effect for low frequency users but not for high frequency users. These results stress the important role of visual image interpretation on the formation of users' perceptions and attitudes toward LINE stickers. Marketers who plan to publish LINE stickers should first assess customer perceptions and attitudes toward sticker features before designing their own stickers, bearing in mind perceptions can vary with individual differences (e.g., frequent sticker users versus infrequent sticker users).

Moreover, this study shows the mediating effect of three mediators (brand awareness, brand attitude, and brand attachment), download willingness and product purchase intention. The findings demonstrate that both brand attitude and brand attachment are important mediators of ad effectiveness in mobile campaigns.

Finally, one surprising finding was that download willingness had no significant impact on product purchase intension. This means that download willingness of LINE stickers might be the result of the various cute, crowd-pleasing emoji designs rather than the sponsored product. This finding is consistent with previous studies in MMC. Although consumers can display social media behaviors such as "liking" and sharing brand-related content, this does not necessarily lead to more meaningful behaviors in the future, e.g., purchase behavior (Naylor, Lamberton, & West, 2012; https://www.sciencedirect.com/science/article/pii/S1094996818300136 John, Emrich, Gupta, & Norton, 2017; VanMeter, Syrdal, Powell-Mantel, Grisaffe, & Nesson, 2018). However, as mentioned earlier, the results of the mediating effects show that both brand attitude and brand attachment positively influence product purchase intention. Thus, marketers who wish to "bring the brand to public notice" by throwing a spotlight on the advertised brand to form favorable brand attitudes and provoke consumers to enjoy connecting with brand is an inescapable function of effective brand advertising. Consequently, the authors suggest that firms should conduct a specific strategy to increase sales rather just enhance download willingness. Finding ways to improve product purchase intention is a key point of mobile campaign research going forward.

5.6. Limitations and further research

The authors used actual LINE stickers rather than designs used only in the experiment. This created a more realistic tests situation for the participants. However, there are certain limitations that should be considered when attempting to generalize the findings. First, the authors used only one set of LINE stickers from a well-known international clothing retailer (UNIQLO) to examine the impact of sticker features. Although the questions were generic and mostly applicable to other businesses and LINE stickers, there might have been other factors that influenced the results, such as company reputation, the participants pre-existing impressions of the target product and brand, and the sense of virtual community. These factors should be examined in future research. Also, the authors did not consider the subjects' involvement with clothing products, which may limit the applicability of the inferences.

A related limitation arising from the use of actual stickers from real companies is that the experimental groups could not be perfectly controlled. For example, the text, character images, and the meaning and use timing of the stickers were slightly different between the groups. Therefore, future research should manipulate the stickers in experimental situations to increase the robustness of the findings.

In this current study, the authors also found one exposure was enough to induce the effect of sticker characteristics. The finding is important because many consumers form their decision to download when they encounter the stickers for the first time. However, are the effects of LINE stickers more pronounced after a period of use time? This is an interesting issue for future research.

The study of stickers and associated marketing strategy mechanisms is a relatively new and under-researched topic, so there are ample opportunities for future research. One valuable future research topic is to verify the blocking function of LINE stickers (users can block messages to stop advertising from sponsored accounts) and state the different impact of sticker features on advertising effects. For example, does the usage period of stickers still have a significant impact on the branding effect after users activate the blocking function? This function might be a moderator that hinders and reduces the advertising effects of LINE stickers.

Finally, although this research focused on free LINE stickers, an interesting future avenue of study is to test the framework in a paid e-sticker context. Just as in the current model, many paid e-stickers also incorporate brand and product images in their designs. The authors suggest that the future studies should examine this issue.

References

Aaker, D. A. (1991). *Managing brand equity*. New York, NY: The Free Press.

Aaker, D. A. (1996). *Building strong brands*. New York, NY: Free Press.

Aharony, N. (2015). Why do students use what's app? An exploratory study. *Aslib Journal of Information Management, 67*(2), 136–158.

Alba, J. W., & Hutchinson, J. W. (1987). Dimensions of consumer expertise. *Journal of Consumer Research, 13*(4), 411–454.

Ang, C. S., Talib, M. A., Tan, K. A., Tan, J. P., & Yaacob, S. N. (2015). Understanding computer-mediated communication attributes and life satisfaction from the perspectives of uses and gratifications and self-determination. *Computers in Human Behavior, 49*, 20–29.

Bagozzi, R. P., & Yi, Y. (1989). On the use of structural equation models in experimental designs. *Journal of Marketing Research, 26*(3), 271–284. https://doi.org/10.2307/3172900.

Barak, A., Boniel-Nissim, M., & Suler, J. (2008). Fostering empowerment in online support groups. *Computers in Human Behavior, 24*(5), 1867–1883.

Bauer, H. H., Reichardt, T., Barnes, S. J., & Neumann, M. M. (2005). Driving consumer acceptance of mobile marketing: A theoretical framework and empirical study. *Journal of Electronic Commerce Research, 6*(3), 181.

Bermeitinger, C., Goelz, R., Johr, N., Neumann, M., Ecker, U. K. H., & Doerr, R. (2009). The hidden persuaders break into the tired brain. *Journal of Experimental Social Psychology, 45*(2), 320–326.

Berry, L. (2000). Cultivating service brand equity. *Journal of the Academy of Marketing Science, 28*(1), 128–137.

Brady, T. F., Konkle, T., Alvarez, G. A., & Oliva, A. (2008). Visual long-term memory has a massive storage capacity for object details. *Proceedings of the National Academy of Sciences, 105*(38), 14325–14329.

Bruseberg, A., McDonagh, D., & Wormald, P. (2004). The use of images to elicit user needs for the design of playground equipment. In *Design and emotion* (pp. 124–131). CRC Press.

Buil, I., de Chernatony, L., & Martinez, E. (2008). A Cross-national validation of the consumer-based brand equity scale. *The Journal of Product and Brand Management, 17*(6), 384–392.

Burmann, C., Schaefer, K., & Maloney, P. (2008). Industry image: Its impact on the brand image of potential employees. *Journal of Brand Management, 15*(3), 157–176.

Butt, S., & Phillips, J. G. (2008). Personality and self-reported mobile phone use. *Computers in Human Behavior, 24*(2), 346–360.

Campbell, M. C., & Kirmani, A. (2000). Consumers' use of persuasion knowledge: The effects of accessibility and cognitive capacity on perceptions of an influence agent. *Journal of Consumer Research, 27*(1), 69–83.

Cassidy, S. (2006). Using social identity to explore the link between a decline in adolescent smoking and an increase in mobile phone use. *Health Education, 106*(3), 238–250.

Chang, Y. P., & Zhu, D. H. (2012). The role of perceived social capital and flow

experience in building users' continuance intention to social networking sites in China. *Computers in Human Behavior, 28*(3), 995–1001.

Chavanat, N., Martinent, G., & Ferrand, A. (2009). Sponsor and sponsees interactions: Effects on consumers' perceptions of brand image, brand attachment, and purchasing intention. *Journal of Sport Management, 23*(5), 644–670.

Cheung, R. (2017). How emojis became the modern world's status symbols — and how they've crossed from messaging apps to real life. *South China Morning Post.* Retrieved from http://www.scmp.com/lifestyle/article/2083504/how-emojis-became-modern-worlds-status-symbols-and-how-theyve-crossed.

Cho, C.-H., & Cheon, H. J. (2004). Why do people avoid advertising on the internet? *Journal of Advertising, 33*(4), 89–97.

Chu, S. C. (2011). Viral advertising in social media: Participation in Facebook groups and responses among college-aged users. *Journal of Interactive Advertising, 12*(1), 30–43.

Clancey, M. (1994). The television audience examined. *Journal of Advertising Research, 34*(4). S1-S1.

Danaher, P. J., Smith, M. S., Ranasinghe, K., & Danaher, T. S. (2015). Where, when, and how long: Factors that influence the redemption of mobile phone coupons. *Journal of Marketing Research, 52*(5), 710–725.

Daugherty, T., Eastin, M. S., & Bright, L. F. (2008). Exploring consumers motivations for creating user generated content. *Journal of Interactive Advertising, 8*(2). http://jiad.org/article101.

DelVecchio, D., Henard, D. H., & Freling, T. H. (2006). The effect of sales promotion on post-promotion brand preference: A meta-analysis. *Journal of Retailing, 82*(3), 203–213.

Dua, T. (2017a). Third-party measurement comes to branded emojis and stickers. *Digiday.* Retrieved from https://digiday.com/marketing/third-party-measurement-comes-branded-emojis-stickers/.

Dua, T. (2017b). Branded stickers are the new branded emoji keyboards. *Digiday.* Retrieved from https://digiday.com/marketing/branded-stickers-new-branded-emoji-keyboards/.

Dunlop, S., Cotter, T., Perez, D., & Wakefield, M. (2013). Televised antismoking advertising: Effects of level and duration of exposure. *American Journal of Public Health, 103*(8), 66–73.

Edwards, S. M., Li, H., & Lee, J. H. (2002). Forced exposure and psychological reactance: Antecedents and consequences of the perceived intrusiveness of pop-up ads. *Journal of Advertising, 31*(3), 83–95.

Ehrenberg, A., Barnard, N., Kennedy, R., & Bloom, H. (2002). Brand advertising as creative publicity. *Journal of Advertising Research, 42*(4), 7–18.

Engelberg, E., & Sjöberg, L. (2004). Internet use, social skills, and adjustment. *CyberPsychology and Behavior, 7*(1), 41–47.

Fabre-Thorpe, M. (2011). The characteristics and limits of rapid visual categorization. *Frontiers in Psychology, 2*, 243.

Fitzsimons, G. M., Chartrand, T. L., & Fitzsimons, G. J. (2008). Automatic effects of brand exposure on motivated behavior: How Apple makes you think different. *Journal of Consumer Research, 35*(1), 21–35.

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research, 18*(1), 39–50. https://doi.org/10.2307/3151312.

Friestad, M., & Wright, P. (1994). The persuasion knowledge model: How people cope with persuasion attempts. *Journal of Consumer Research, 21*(1), 1–31.

Gafni, R., Geri, N., & Aziz, Y. (2014). Daily deals websites: Mostly but not all about location. *Journal of Computer Information Systems, 54*(4), 80–87.

Ghazarian, A., & Noorhosseini, S. M. (2010). Automatic detection of users' skill levels using high-frequency user interface events. *User Modeling and User-adapted Interaction, 20*(2), 109–146.

Grill-Spector, K., & Kanwisher, N. (2005). Visual recognition as soon as you know it is there, you know what it is. *Psychological Science, 16*(2), 152–160.

Hair, J., Black, W., Babin, B., & Anderson, R. (2010). *Multivariate data analysis* (7th ed.). Upper Saddle River, NJ, USA: Prentice-Hall, Inc.

Hassanein, K., & Head, M. (2005). The impact of infusing social presence in the web interface: An investigation across product types. *International Journal of Electronic Commerce, 10*(2), 31–55.

Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach.* New York, NY: Guilford Press.

Henderson, P. W., & Cote, J. A. (1998). Guidelines for selecting or modifying logos. *Journal of Marketing*, 14–30.

Hoffman, D. L., & Novak, T. P. (1996). Marketing in hypermedia computer-mediated environments: Conceptual foundations. *Journal of Marketing*, 50–68.

Hsu, C. L., & Lin, J. C. C. (2015). What drives purchase intention for paid mobile apps? An expectation confirmation model with perceived value. *Electronic Commerce Research and Applications, 14*(1), 46–57.

Hutter, K., Hautz, J., Dennhardt, S., & Füller, J. (2013). The impact of user interactions in social media on brand awareness and purchase intention: The case of MINI on Facebook. *The Journal of Product and Brand Management, 22*(5/6), 342–351.

Inman, J. J., & McAlister, L. (1994). Do coupon expiration dates affect consumer behavior? *Journal of Marketing Research*, 423–428.

Jeong, S. H. (2008). Visual metaphor in advertising: Is the persuasive effect attributable to visual argumentation or metaphorical rhetoric? *Journal of Marketing Communications, 14*(1), 59–73.

Johansson, A., & Götestam, K. G. (2004). Internet addiction: Characteristics of a questionnaire and prevalence in Norwegian youth (12–18 years). *Scandinavian Journal of Psychology, 45*(3), 223–229.

John, L. K., Emrich, O., Gupta, S., & Norton, M. I. (2017). Does "liking" lead to loving? The impact of joining a brand's social network on marketing outcomes. *Journal of Marketing Research, 54*(1), 144–155.

Joinson, A. N. (2001). Self-disclosure in computer-mediated communication: The role of self-awareness and visual anonymity. *European Journal of Social Psychology, 31*(2), 177–192.

Kao, C. J. (2005). Visual effect difference between classified images and generalized maps. *Journal of Cartography, 15*, 11–19.

Karremans, J. C., Stroebe, W., & Claus, J. (2006). Beyond Vicary's fantasies: The impact of subliminal priming and brand choice. *Journal of Experimental Social Psychology, 42*(6), 792–798.

Keller, K. L. (1993). Conceptualizing, measuring, and managing customer-based brand equity. *Journal of Marketing, 57*, 1–22.

Keller, K. L. (2003a). Brands and brand management. In W. Craven (Ed.), *Building, measuring, and managing brand equity* (pp. 1–57). Upper Saddle River, NJ: Prentice Hall.

Keller, K. L. (2003b). Choosing brand elements to build brand equity. In W. Craven (Ed.), *Building, measuring, and managing brand equity* (pp. 174–227). Upper Saddle River, NJ: Prentice Hall.

Keller, K. L. (2003c). Customer-based brand equity. In W. Craven (Ed.), *Building, measuring, and managing brand equity* (pp. 58–117). Upper Saddle River, NJ: Prentice Hall.

Keller, K. L. (2010). Brand equity management in a multichannel, multimedia retail environment. *Journal of Interactive Marketing, 24*(2), 58–70.

Kelly, L., Kerr, G., & Drennan, J. (2010). Avoidance of advertising in social networking sites: The teenage perspective. *Journal of Interactive Advertising, 10*(2), 16–27.

Kennedy, J. R. (1971). How program environment affects TV commercials. *Journal of Advertising Research, 11*(1), 33–38.

Kim, E., Lin, J. S., & Sung, Y. (2013). To app or not to app: Engaging consumers via branded mobile apps. *Journal of Interactive Advertising, 13*(1), 53–65.

Knowles, E. S., & Linn, J. A. (Eds.). (2004). *Resistance and persuasion.* Psychology Press.

Konkle, T., Brady, T. F., Alvarez, G. A., & Oliva, A. (2010). Scene memory is more detailed than you think the role of categories in visual long-term memory. *Psychological Science, 21*(11), 1551–1556.

Lang, C., & Barton, H. (2015). Just untag it: Exploring the management of undesirable Facebook photos. *Computers in Human Behavior, 43*, 147–155.

Lee, Y. C. (2017). Effects of branded e-stickers on purchase intentions: The perspective of social capital theory. *Telematics and Informatics, 34*(1), 397–411.

Lee, Y. K., Chang, C. T., Lin, Y., & Cheng, Z. H. (2014). The dark side of smartphone usage: Psychological traits, compulsive behavior and technostress. *Computers in Human Behavior, 31*, 373–383.

Lehmann, D. R., Keller, K. L., & Farley, J. U. (2008). The structure of survey-based brand metrics. *Journal of International Marketing, 16*(4), 29–56.

Lepp, A., Li, J., Barkley, J. E., & Salehi-Esfahani, S. (2015). Exploring the relationships between college students' cell phone use, personality and leisure. *Computers in Human Behavior, 43*, 210–219.

Li, Z., & Li, C. (2014). Twitter as a social actor: How consumers evaluate brands differently on Twitter based on relationship norms. *Computers in Human Behavior, 39*, 187–196.

Lim, S. S. (2015). On stickers and communicative fluidity in social media. *Social Media + Society, 1*(1), 1–3, 1.

Line. (2016). *Line homepage (2016).* http://line.me/en/.

Meenaghan, T. (2005). Sport sponsorship in a global age. In J. Amis, & T. B. Cornwell (Eds.), *Global sport sponsorship* (pp. 243–264). Oxford, UK: Berg Publishers.

Mehrabian, A., & Russell, J. A. (1974). *An approach to environmental psychology, MA.* Cambridge, MA: MIT Press.

Messaris, P. (1997). *Visual persuasion: The role of images in advertising.* Thousand Oaks, CA: Sage.

Nakamura, T. (2015). The action of looking at a mobile phone display as nonverbal behavior/communication: A theoretical perspective. *Computers in Human Behavior, 43*, 68–75.

Naylor, R. W., Lamberton, C. P., & West, P. M. (2012). Beyond the "like" button: The impact of mere virtual presence on brand evaluations and purchase intentions in social media settings. *Journal of Marketing, 76*(6), 105–120.

Park, J. H. (2014). The effects of personalization on user continuance in social networking sites. *Information Processing & Management, 50*(3), 462–475.

Park, C. W., Eisingerich, A. B., Pol, G., & Park, J. W. (2013). The role of brand logos in firm performance. *Journal of Business Research, 66*(2), 180–187.

Park, C. W., Eisingerich, A. B., Pol, G., & Park, J. W. (2014). The power of a good logo. *MIT Sloan Management Review, 55*(2), 10–12.

Peña, J., Walther, J. B., & Hancock, J. T. (2007). Effects of geographic distribution on dominance perceptions in computer-mediated groups. *Communication Research, 34*(3), 313–331.

Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioural research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology, 88*(5), 879.

Podsakoff, P. M., & Organ, D. W. (1986). Self-reports in organizational research: Problems and prospects. *Journal of Management, 12*(4), 531–544.

Romaniuk, J., & Sharp, B. (2003). Measuring brand perceptions: Testing quantity and quality. *Journal of Targeting, Measurement And Analysis for Marketing, 11*(3), 218–229.

Ruangkanjanases, A., & Wutthisith, M. (2017). Factors influencing intention to purchase stickers in a messaging application: A comparative study between male and female customers in Thailand. *Advanced Science Letters, 23*(1), 634–639.

Sääksjärvi, M., van den Hende, E., Mugge, R., & van Peursem, N. (2015). How

exposure to logos and logo varieties fosters brand prominence and freshness. *The Journal of Product and Brand Management, 24*(7), 736–744.

Schlosser, A. E. (2003). Experiencing products in the virtual world: The role of goal and imagery in influencing attitudes versus purchase intentions. *Journal of Consumer Research, 30*(2), 184–198.

Seock, Y., & Bailey, L. R. (2008). The influence of college students' shopping orientations and gender differences on online information searches and purchase behaviors. *International Journal of Consumer Studies, 32*(2), 113–121.

Sherman, L. E., & Greenfield, P. M. (2013). Forging friendship, soliciting support: A mixed-method examination of message boards for pregnant teens and teen mothers. *Computers in Human Behavior, 29*(1), 75–85.

Sigala, M. (2013). A framework for designing and implementing effective online coupons in tourism and hospitality. *Journal of Vacation Marketing, 19*(2), 165–180.

Singh, J. (2014). Mobile messaging through android phones: An empirical study to unveil the reasons behind the most preferred mobile messaging application used by college going students. *International Journal of Medical and Clinical Research, 2*, 367–372.

Spears, N., & Singh, S. N. (2004). Measuring attitude toward the brand and purchase intentions. *Journal of Current Issues and Research in Advertising, 26*(2), 53–66.

Stark, L., & Crawford, K. (2015). The conservatism of emoji: Work, affect, and communication. *Social Media+ Society, 1*(2), 1–11.

Tidwell, L. C., & Walther, J. B. (2002). Computer-mediated communication effects on disclosure, impressions, and interpersonal evaluations: Getting to know one another a bit at a time. *Human Communication Research, 28*(3), 317–348.

Tsang, M. M., Ho, S. C., & Liang, T. P. (2004). Consumer attitudes toward mobile advertising: An empirical study. *International Journal of Electronic Commerce, 8*(3), 65–78.

VanMeter, R., Syrdal, H. A., Powell-Mantel, S., Grisaffe, D. B., & Nesson, E. T. (2018). Don't just "Like" me, promote me: How attachment and attitude influence brand related behaviors on social media. *Journal of Interactive Marketing, 43*, 83–97.

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly, 27*(3), 425–478.

Vivek, S. D., Beatty, S. E., & Morgan, R. M. (2012). Customer engagement: Exploring customer relationships beyond purchase. *Journal of Marketing Theory and Practice, 20*(2), 122–146.

Walther, J. B. (1996). Computer-mediated communication: Impersonal, interpersonal, and hyper personal interaction. *Communication Research, 23*(1), 3–43.

Wang, S. S. (2016). More than words? The effect of line character sticker use on intimacy in the mobile communication environments. *Social Science Computer Review, 34*(4), 456–478.

Washburn, J. H., & Plank, R. E. (2002). Measuring brand equity: An evaluation of a consumer-based brand equity scale. *Journal of Marketing Theory and Practice, 10*(1), 46–61.

Wathne, K. H., Biong, H., & Heide, J. B. (2001). Choice of supplier in embedded markets: Relationship and marketing program effects. *Journal of Marketing, 65*(2), 54–66.

Weng, C. I., Lu, H. P., & Wei, P. S. (2016). Did you LINE today? Strategies for creating LINE online to offline customer experiences. In *System sciences (HICSS), 2016 49th Hawaii international conference* (pp. 2136–2145). IEEE.

Wijaya, B. S. (2013). Dimensions of brand image: A conceptual review from the perspective of brand communication. *European Journal of Business and Management, 5*(31), 55–65.

Won Jeong, S., Fiore, A. M., Niehm, L. S., & Lorenz, F. O. (2009). The role of experiential value in online shopping: The impacts of product presentation on consumer responses towards an apparel web site. *Internet Research, 19*(1), 105–124.

Yang, Y., Asaad, Y., & Dwivedi, Y. (2017). Examining the impact of gamification on intention of engagement and brand attitude in the marketing context. *Computers in Human Behavior, 73*, 459–469.

Yoo, B., & Donthu, N. (2001). Developing and validating a multidimensional consumer-based brand equity scale. *Journal of Business Research, 52*(1), 1–14.