Does digital footprint act as a digital asset? – Enhancing brand experience through remarketing

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ABSTRACT

The purpose of this paper is to examine the utilization of the marketing adaptability of branded mobile applications (apps) in order to understand the relationship between consumers and their attachment to branded apps. We develop a model grounded in the purchaser-brand relationship theory of remarketing in order to develop the consumer-brand relationship through mediator brand experience (BE) and moderator digital footprint. A survey was conducted with 421 participants from different regions in India. AMOS 21.0 and SPSS plugin called "Process Analysis System" proposed by Hayes (2013) were used to analyze the hypotheses. The results corroborate the proposed research model. It approves brand association with brand connection for those brands that are easily identifiable. The result also confirms that the comprehensive consumption values are the major influencing factors in the adoption of branded apps. The study enhances the comprehension of the impact of brand connotation on consumer behavior in terms of the usage of various branded apps and the practical and non-useful esteem attached to them.

1. Introduction

One area where marketing practitioners and researchers have shown significant interest in recent times is consumers' attachment to brands (Chaplin & Roedder John, 2005; Fedorikhin, Park, & Thomson, 2008; Kaufmann, Petrovici, Filho, & Ayres, 2016; Paul, 2018; Park & MacInnis, 2006; Park, Priester, MacInnis, & Wan, 2009; Schouten & McAlexander, 1995; Thomson, 2006). This is primarily because of the fact that the brand attachment as a major construct explains the quality of the bond between consumers and the brand (Kumar & Paul, 2018). This bond eventually affects the behavior of the users of social media applications (Buccafurri, Lax, Nicolazzo, & Nocera, 2016; Rauniar, Rawski, Yang, & Johnson, 2013) and virtual services (Coulter & Roggeveen, 2012; Hulland, Thompson, & Smith, 2015), resulting in building and maintaining emotional and social bond between the customers and the brands (Alalwan, Rana, Dwivedi, & Algharabat, 2017; Marino et al., 2016; Ngai, Tao, & Moon, 2015), brand benefit and clients' lifetime esteem (Thomson, MacInnis, & Park, 2005). Also, the "brand attachment" construct has been found to be a more accurate predictor of the customers' intention to buy the products, which requires considerable resources in terms of time, money, and reputation. Further, it has been identified as a strong predictor of consumer

behavior.

The sensitization to advertising through traditional media channels has given rise to the need for new methods of communication to garner the buyers' attention and for contacting them with messages (Mortimer, 2009; Paul & Bhakar, 2018). Shankar et al. (2016) explained the outcome of shopping based on mobile-marketing in terms of planning and execution, which involved marketing activities that influence consumers' attitude beyond the first purchase (Rosenberger, Lehrer, & Jung, 2017; Shareef, Mukerji, Alryalat, Wright, & Dwivedi, 2018). These can lead to consumers' repurchasing and recommending the product or services to others. Besides, Fransen and Lodder (2010) suggested that functional product benefits are becoming replicable, thus making it challenging for companies to make their products unique. Consumers' brand attachment also means to hold certain intangible assets of the brand, which makes the product unique in the market (Newmeyer, Swaminathan, & Hulland, 2016). Pine and Gilmore (1998) show that the experiences that companies create for the customers will matter more because of the decreasing value of goods and services. Most importantly, customers having excessively self-indulgent standards of living look for consumption patterns that identify their want for original and exhilarating experiences (Fransen & Lodder, 2010). Consumer behavior is also changing in the light of access to an

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assortment of advances with regards to the web and mobile phones (Kannan & Li, 2017; Shiau, Dwivedi, & Lai, 2018). One such technology that has gained popularity in recent times is that of mobile apps. Two of the most popular sources of downloading mobile apps are the Google Play Store and Apple's App Store, with 3.8 million apps available (Gordon, n.d.). Analytics Company, Comscore has highlighted that in the prevailing digital age, people in countries like India spend 89 percent of all their online minutes on their phones (Pillai, 2018).

There has been a rapid change in the business environment owing to the commoditization of the web services (Kannan & Li, 2017). In the past, when consumers needed a product or a service, they would typically go to the web and search for the merchandise or services using various search engines (Liang & Lai, 2000), primarily using a personal computer. However, today, consumers perform this search on their mobile phones. In the recent scenario of a growing market for apps, companies are adopting an apps-developing culture and launching their apps along with the brand name (Banham, 2010). This has helped big brands to communicate with their customers more easily, thereby making the brand more successful by offering their services more conveniently. Peng, Chen, and Wen (2014) called such apps as "branded apps." The philosophy of using the brand name with apps is that customers' consumption behaviors, especially in the context of mobile app shopping, is mostly influenced by their previous engagement and the experiences they have had with the brand. By offering services through mobile apps, brands expand the opportunities for the marketers to have more categorical advertisement (through digital footprint) and add a customer-oriented approach (Muhammad, Dey, & Weerakkody, 2018). The challenge for marketers in current scenario is; customers' interaction with the branded apps which helps the customer to build new bonds with brand so easily and quickly (Peng et al., 2014). And, this problem needs to be studied in depth so that proper strategy should be design to trace the antecedents and consequences of customer engagement with the branded mobile apps which helping the brands to have more customer attachments for their brand. To cope up with this challenge, almost every good brand nowaday launching its mobile app to woo customers. However, the choice of multiple apps has made the lives of customers more complex than ever. So, merely having a mobile app is of little use if the user does not find the experience of using the mobile apps worthwhile. This has shifted the focus of researchers to an important area in marketing theory, i.e. online brand experience (BE). Though there is extant literature available on consumer BE research, online BE is yet to address certain issues. Most of the dimensions identified in the literature conceptually explain the consumer BE (Aladwani & Dwivedi, 2018; Brakus, Schmitt, & Zarantonello, 2009; Chattopadhyay & Laborie, 2005; Kamboj, Sarmah, Gupta, & Dwivedi, 2018). Various empirical studies have also examined an inconsistency in the derived dimensions of consumer's online brand engagement and interaction (Brodie, Hollebeek, Jurić, & Ilić, 2011; Calder, Isaac, & Malthouse, 2013; Gummerus, Liljander, Weman, & Pihlström, 2012; Jaakkola & Alexander, 2014; Shareef, Mukerji, Dwivedi, Rana, & Islam, 2019; Shiau et al., 2018; Sprott, Czellar, & Spangenberg, 2009; Vivek, Beatty, & Morgan, 2012). But in past, research has not been done in depth in the direction of consumers' online brand engagement and interaction which is leading brands to have more customers' attachments via developing brand experience as a moderator. And this is the major gap of this study which has been explained in this study by the authors. The brand attachment behavior of consumers which becomes stronger through their experiencing the brand's services through brand's mobile apps engagement, is an area which has not been researched much.

Moreover, the digital footprint of the customers through branded mobile apps, needs more attention. Accordingly, the objective of this study to undertake empirical research to establish the role of branded mobile apps in understanding the relationship between consumers and their attachment with branded apps, and to shed light on the marketing and development of e-commerce mobile apps. In this context, this paper examines whether brand-relationship with the consumers and their

consumption habits and values can uphold and have a persistent effect on the consumers' choice in mobile apps. The understanding of the consumers' behavior while engaging with the branded mobile applications is largely based on the theory of consumer relationships with brands proposed by Blackston (1995), and Fournier (1998). It is also framed on the basis of the theory of consumption values by Sheth, Newman, and Gross (1991). The present work refers to the consumers' engagement with branded mobile apps.

The present paper has been organized into the following sections: The first section covers the literature review on the key constructs used in the study, i.e. mobile app usage, BE, and brand attachment. The next section discusses how BE mediates the relationship between mobile app usage and brand attachment and how this trilateral relationship is being moderated by customers' digital footprint. It is followed by an explanation of the methodology used and the survey conducted. The paper concludes with a discourse on the ramifications of the findings for organizations, including ways to develop their brand attachment through mobile apps. Also, recommendations are provided regarding areas with scope for future research.

2. Literature review and conceptual framework

Mobile apps may be characterized as end-client programming applications intended for a cell phone working framework and which broaden that gadget's abilities (Purcell, Rainie, Heaps, Chen, & Zickuhr, 2012). Many digital marketing practitioners accept the fact that when a company attaches its brand name to a mobile app, the loyal customers would continue to maintain a strong relationship with the brand and hence would adopt the mobile app. Bellman, Potter, Treleaven-Hassard, Robinson, and Varan (2011) explained the relationship between the use of apps on brand demeanor and the buying aim and identified that popular mobile apps led to an increase in participant enthusiasm for the brand and item categories. Mathew and Thomas (2018) explain participation or involvement with the brand by stating that participation is always in light of the interaction of the product and the buyer through and through. The two main reasons why customers use mobile apps are convenience and for saving time (Peng et al., 2014). Numerous brand apps save customers' time during the need for service by offering online interaction tools (Peng et al., 2014).

2.1. Brand experience

According to Carbone and Haeckel (1994, p. 8), "encounter is a takeaway impression shaped when individuals have experiences with products, various services, and the exchange of goods or services." In other words, an encounter is an observation shaped when people coordinate with tactile data. It is any sensation or learning advancement which occurs because of a person's cooperation in day-to-day exercises at some level of connection with various components of a setting that is created by a specialist organization (Gupta & Vajic, 2000). Experience makes consumption interaction meaningful and real by making customers connect physically, rationally, inwardly, socially, and profoundly (McCann, 2002).

Further, BE is the sum of product, shopping, service, and consumption experiences the consumer has when interacting and collaborating with the brand with specific intentions to consume the products/services (Brakus et al., 2009; Chattopadhyay & Laborie, 2005; Kumar & Paul, 2018). Brakus et al. (2009) described BE as being closely related to many brand constructs (involvement, personality, attachment) but distinct in its relation to the consumers' experience with the brand. The basis of BE rests with the brand itself. Prior literature has recognized that brands are part of a relationship between the consumer and products that are sold under that brand (Levy, 1959; Paul, 2015). Also, the figurative representation of the brand is unique from other representations of the brand, precisely, its functional representation (Bhat & Reddy, 1998). The emblematic idea of a brand is an

indispensable component for the development of an association between the brand and the consumer, which can mature into consumer identification with a brand (Donavan, Janda, & Suh, 2006). Branding is intended to produce definite reactions from consumers, which further leads to the development of a deeper relationship with consumers (Chaudhuri & Holbrook, 2001). Mobile apps also carry brand impressions and provide customers with a chance to explore, search, buy, and engage in many other ways, thus creating an experience. It is, therefore, safe to assume that better mobile apps have the potential to create great customer experiences, which may result in enhanced brand attachment.

2.2. Brand attachment

The Theory of Attachment has gradually progressed over the years and it has absorbed many dimensions. These dimensions relate the person-to-person bond to the bond between corporate houses and brands. Prior research (Bozzo, Merunka, & Moulins, 2003; Belaïd & Lacoeuilhe, 2007; Thomson et al., 2005) have identified consumer attachment with the brand as an "emotional but strong connotation" of the people with a specific brand. Devoted customers patronize each brand. These customers are demonstrative and zealous about the brand and retain emotional connectivity with it. However, the emotional connectivity of the customer varies with the brand. Extant research by Kleine, Kleine, and Kernan (1993) and Schulz (1998) suggest a significant association between the brand and the customers, which further leads to brand attachment.

Some researchers also highlight the role of self-concept, which leads to attachment. Park, MacInnis, and Priester (2006) find that reasoning has a significant part to play in the brand attachment. The amalgamation of reasoning, strength, and the emotive bond together helps in creating an emotional attachment of the individual with the brand. Customers tend to attach with either those brands which replicate their present self or which reflect their aspirations and ideal self in the times to come (Malär, Krohmer, Hoyer, & Nyffenegger, 2011). The Attachment Theory holds that it is possible to predict the nature of contact between two objects by the extent of emotional attachment for a specific object (Bowlby, 1969, 1979). To put it simply, extremely devoted consumers are ready to invest enough time and bear the costs for their individual interest at all times (Bowlby, 1980; Hazan & Shaver, 1994).

Since human behavior is socialized in nature, so customers' relationship with the brand and attitude towards the brand is getting influenced by the members in community developed through social interaction (McAlexander, Schouten, & Koenig, 2002). The formation of social communities relating to the particular brand has many benefits for the brand (Brown, Kozinets, & Sherry, 2003), and help brand to develops a strong attachment with the customers (Algesheimer, Dholakia, & Herrmann, 2005). The social communities (online communities) built on the virtual platforms support customers to actively participate in common virtual platform where they can share their voice and come up with their thoughts and feeling about the brands and enjoy the conversation from both the end i.e. customers end as well as brand's end (Wang et al., 2012).

The increment in customers' brand attachment behaviour is happening because interaction on digital platforms such as branded mobile apps is more responsive, user-friendly, professional and comfortable to be perceived as being a human like (Aggarwal & McGill, 2012; Meuter, Bitner, Ostrom, & Brown, 2005). And as per Ogilvy (1963), consumers prefer any products and/or services more comfortably if they feel associated with the image of that particular brand. Customers are always willing to have a high-quality attachment or relationship with the brand they are associated with (Paul, 2019; Xie, Poon, & Zhang, 2017), which has been explained in prior studies done by Barnes, Mattsson, and Sørensen (2014) and Beckman, Kumar, and Kim (2013), and these two explained the dimensions of brand experience (sensory, affective, intellectual brand experience and behavioural) which actually redefined

the customers' relationship with quality-related dimensions including multi-faceted constructs such as customer self-connective attachment, commitment, trust, satisfaction and emotional intimacy.

Apart from these factors, a brand's friendly and smart-interaction helps consumers to

get connected with the brand, as friend-like way of smart interaction leads to satisfies the customers' desires for relatedness and autonomy (Wu, Chen, & Dou, 2017). The degree to which the customers are closely attached with the brand, the more trust they will be having to express their association with the brand (Dunn & Hoegg, 2014; Escalas & Bettman, 2003, 2005; Pedeliento, Andreini, Bergamaschi, & Salo, 2016). Customer perception about the brand value and its competence are increased by this friendly and real-time conversation with the brand as it enhances a sense of self-esteem and self-actualisation, as customers find an effectual, smart, reliable and skilful friend in the brand (Deci & Ryan, 2000; Proksch, Orth, & Cornwell, 2015).

2.3. Brand experience and its role as a mediator

Successful brands produce close bonds with their consumers, which results in the latter's isolation from other competing brands. The brand encounter is the initial phase in the connection between the brand and the purchaser, finally deciding the consumer-brand interaction (Oliver, 2014). Regular positive BEs aid the consumer in forming identification with the brand both at the individual as well as the social level. The consumers' feeling of belonging and recognition in the community leads them to establish a sense of loyalty or devotion to the specific brand they consume (Muniz & O'Guinn, 2001).

The four dimensions of BE: intellectual, sensory, emotional, and behavioral may be viewed as aspects of attitudes and behaviors which connect the consumer to others through the consumers' sense of self (Escalas & Bettman, 2005). Grisaffe et al., 2011 explained the five major antecedents of brand attachment: prevalent promoting attributes, conventional client result state, interesting client determined advantages, socialization powers, and passionate memory. These are further explained in detail with a number of sub-factors such as accessibility (when/where I need), advantage, innovation, customer-focus, satisfaction with the brand offering, whether the brand meets needs in specific situations, comfort, reflection of one's real self, symbol of growing up, etc., which help to establish the reason why consumers are more attached to a brand when they use mobile apps for shopping. Additionally, using mobile apps may lead customers to have better BE, which is further explained by Danaher, Smith, Ranasinghe, and Danaher (2015) in terms of mobile coupon redemption. Belanche, Flavián, and Pérez-Rueda (2017) also talked about the advantage of online instruments (such as mobile apps) that strengthen the bonds between brands and customers who are using the apps to browse the brand.

2.4. Remarketing using digital footprint–using apps' insights

The digital footprint is the trail, traces, or "footprints" which people leave online, knowingly or unknowingly, after visiting Internet portals or websites, and several media channels (Muhammad et al., 2018). While using a search engine, using the Incognito option in Google Chrome or the In-private option in Firefox/Internet Explorer will not prevent leaving the digital footprint as these options only hide the search from someone else who uses the same machine. Rapidly increasing use of internet services has intensified many researchers' and marketers' personal interest to explore the study on customers' digital footprint (Rauniar et al., 2013; Tuton & Solomon, 2015).

Digital footprint generation has rose extraordinarily with the emergence of Web 2.0, and 44 times more data generation is reckoned by the year 2020 (CSC, 2017). Additionally, the gigantic growth of mobile industry as found by Sharma (2017) along with cloud computing and 4 G networks have enhanced social media's point of

reference. This has resulted in consumer addiction to smart devices, which further leads to a large amount of digital footprint. Baur (2017) concluded that user-generated content on social media will be the major source of information base richness for public administrative bodies and commercial firms.

The usage of social media is split into four parts based on its channels: social community interaction, social commerce, social publishing and social entertainment (Tuton & Solomon, 2015). Studies by Malhotra, Totti, Meira, Kumaraguru, and Almeida (2012), and Rosenberger et al. (2017) have propounded that users create their digital DNA on channels in every zone stated above by sharing comments, photos, videos, blogs, bookmarks, reviews, ratings and social shopping, linking with government applications etc.

Studies (Charlesworth, 2014; Michael, Michael, & Perakslis, 2014) have proved that the digital footprints display the customers' interests, social and cultural identities, and occupational and geographical attachments, which are very much needed by firms. Customer behaviour and their profiling are done by firms on the basis of these footprints (Charlesworth, 2014; DWork & Mulligan, 2013). As a result, of competition, innovative and creative advanced analytics is being employed by firms. It is equally true that the excessive usage of digital footprints has raised privacy and security concerns amongst social media users. This has made many countries to take steps to safeguard individual privacy and security. In the USA, privacy supporters claim that large Internet service providers can intrude into consumers' privacy due to their access to big personal data (Waters & Bond, 2017). Kuchler (2017) found the daily activities related to the internet leading to digital footprints. Much research (Akar & Topçu, 2011; Al-Jabri, Sohail, & Ndubisi, 2015; Charlesworth, 2014; Hajli, 2014; Hau & Kim, 2011; Hsu & Wu, 2011) has been done on consumers' engagement with social media, but there is a dearth of research analysing the factors that affect the customers' intention to produce digital footprints. Research by Hsu and Wu (2011), Lin and Anol (2008), Lu, Zhao, and ScWang (2010), and Venkatesh, Thong, and Xu (2012) have provided theoretical frameworks like: Technology Acceptance Model (TAM), Theory of Reasoned Action (TRA), Theory of Planned Behaviour (TPB), Uses and Gratifications (U&G) and the Unified Theory of Acceptance and Use of Technology (UTAUT1 and UTAUT2). Another set of studies (Al-Gahtani, Hubona, & Wang, 2007; Davis, Bagozzi, & Warshaw, 1989; Davis et al., 1989; Hsu & Wu, 2011; Lin & Anol, 2008; Lu et al., 2010; Venkatesh, Morris, Davis, & Davis, 2003, 2012) has indicated that these frameworks consider the factors that affect the customers' openness and usage of social media.

This digital information is transmitted live to track the consumers' visiting pattern on e-commerce shopping portals. The amount of information available about the consumer's personality, buying behavior pattern, and online activity plan, together with the sheer computing power now available to influence the customer's brand experience, ultimately led the customers to feel attached to the brand.

The combination of customers' beliefs, their attitudes towards the brand developed by engaging them on social platforms (Yang, Asaad, & Dwivedi, 2017) and behavioral intentions to consider the in-app advertisements using smartphones help to predict customers' attitude towards the ads they may click or not, or whether they will pay attention to in-app ads (Sigurdsson, Menon, Hallgrímsson, Larsen, & Fagerstrøm, 2017). When digital advertising is focused on particular products or services to target a specific individual who was online on the company's portal, it is known as remarketing. Remarketing is, in fact, an advanced form of the Google Ad-word marketing algorithm, which designs a structure of ads that follow visitors when they visit the product web-portal. Consequently, a set of cookies (pixel, but not allied to the image display pixel) entailing JavaScript is added to the browser history. This methodology is referred to as pixel-based retargeting of customers. If any customer visits the web-portal and does not buy anything from the portal, a self-generated cookie gets activated and gives instructions to the retargeting software to push ads for the same

product or service the customer browses for on other sites that the customer has browsed within the associated advertising network. There are a number of platforms or networks to reach the targeted customers through display ads, such as YouTube, Gmail, Apps, Display Network, and Remarketing Search Listings Ads.

2.5. Digital footprint as a moderator

The trails left by visitors when they visit a website or search engine helps marketers to collect significant information about their personality, buying behavior, and other dimensions related to consumption (Aswani, Kar, Ilavarasan, & Dwivedi, 2018). Grewal, Bart, Spann, and Zubcsek (2016) explained in their study that it is imperative for organizations to understand the big data analysis concerning customers, especially the customers' digital footprint. This helps firms to generate interesting insights to retarget their potential customers with the appropriate remarketing strategies. Firms can use these inputs to improve the design of their mobile apps so that the BE of consumers is a stimulating one. Therefore, it is assumed that the level of digital footprint of individuals may moderate the relationship between mobile app usage and consumers' BE.

North and Oliver (2014) contend that for a brand to be seen as contemporary and relevant to the customers, it needs to be available on various digital platforms. The objective may range from the digital platform being a hotbed for innovation, to engaging customers or driving cost efficiencies as well as boosting sales and future proofing the business. Fiona McLean, the founder of "The Social Index," a company based in London, United Kingdom, which provides the digital footprint analysis of the job applicants, has mentioned that millennials are the most likely to drop their digital footprint on various digital platforms. She opines that millennials have adopted technology and are more comfortable with the advancement of the given technology.

Nowadays, companies always look at the right prospect fit for their business. It is the absolute goal in any digital searching process to target the prospect that fits well with the brand follower list. This is because such a prospect is most likely to become the company's customer, get on better with most of the loyal customers, and be able to promote the company's brand value, which drives revenues in the long run. The digital footprint is making this process easier in the present times as it helps to augment consumers' big data with respect to consumers' habits, the pattern of shopping, and likes/dislikes as well. Brands may use the online-social identity data to help identify prospects, for nurturing leads, give customized suggestions, as well as to follow up with customers to boost retention and to reward loyalty (Arya, Sethi, & Verma, 2018; Tuten & Solomon, 2016).

3. Conceptual framework and hypothesis formulation

The proposed model is presented in Fig. 1, referred to as the relationship between the triad of consumers' mobiles apps usage, BE and brand attachment. The current study investigates the factors leading to brand attachment in the context of mobile app usage and in-app mobile advertisements. This is conceptually based on the theory of reasoned action (TRA), which supports the combined relationship of customers' attitude towards the brand, intentions to perceive the ads display on social media (Dwivedi, Kapoor, & Chen, 2015) and behavioral approach to perceive the brand (Fishbein & Ajzen, 1975). On examining the value proposition of mobile apps among customers, Mahatanankoon, Wen, and Lim (2005) observed the five varied values provided by mobile apps, namely content delivery value, transaction value, location-based value, emergency assistance value, and entertainment value. Yang (2013), explained this based on the factors influencing consumers' attitude and their objective of using various mobile apps. It emerged that consumers' perceived enjoyment, mobile app utility, easy usage, and standard subjective norms had a substantial positive effect on the attitude towards mobile apps. Consumer attitude, perceived behavior
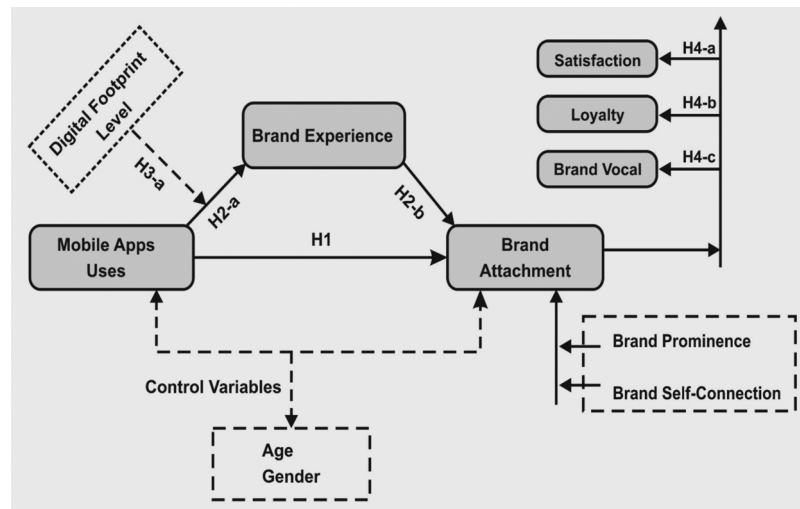
Fig. 1. Conceptual Model.

control, and utility were the three factors that were significant in shaping the intention to use mobile apps for shopping (Yang, 2013). However, most of the studies mentioned in this study focus on the intention of using mobile apps and none discuss the relationships between mobile apps and their role in creating attachment.

The current study proposes that mobile apps' usage may generate brand attachment as it has the potential to engage customers in a more personalized manner. Also, it is posited that mobile app usage creates a unique BE, which further enhances attachment. This proposition is supported by the study carried out by Kang, Manthiou, Sumarjan, and Tang (2016) which states that positive BE delivered to the customers leads them to have a more positive attachment with the brand. In other words, the relationship of mobile app usage and brand attachment may get mediated by BE resulting from the use of a brand's mobile app. It is further proposed that the relationship between mobile app usage and BE is moderated by the level of digital footprint that customers leave when they visit a brand's website. The proposed conceptual model is given in Fig. 1.

3.1. Hypothesis formulation

Daniela, Rita, and de Fátima Salgueiro (2015) find that in comparison to viewing television or reading, people are more predisposed to spend their time on digital platforms. This has resulted in more favorable conditions for brand attachment online, especially through apps, as the millennials' time spent on smartphones and tablets has been increasing rapidly for the last 10 years. The eMarketer (April 2018) report titled *Mobile Ad Spending to Surpass TV in 2018* states that in 2018, driven by display ads, mobiles will account for 69.9 percent of all digital advertising, and mobile will surpass TV as the leading advertising medium in the world's largest ad market by 2022. Mobile app market is growing very rapidly and marketers are expecting mobile apps market growth at the rate of 270 percent from $ 70 billion in 2015 to $ 189 billion in 2020 (App Annie, 2015). This clearly indicates that there is a high possibility that the consumers are likely to invest in those brands with which they have an affirmative engagement on digital platforms (Thomson et al., 2005), even if brands are capable to engage the right users virtually they may lead to have the permanent virtual relationship with the customer (Rathore, llavarasan, & Dwivedi, 2016). Consumer engagement on digital platform through mobile apps is based on diffusion of innovation theory (Rogers, 1983), which explains the consumers' pattern of adopting advanced technology, and also helps to understand their engagement decision process. On the same ground of diffusion of innovation theory, Kang, Mun, and Johnson (2015) explain that time convenience, compatibility, interactivity, and effort

expectancy prompt consumers to use more branded apps. To extend Kang et al.'s (2015) theory in a more précise way, Kim and Baek (2017) conducted a study using informational mobile apps & experiential mobile apps and concluded that the branded mobile apps engagement or uses lead consumers to have attachment with the brand.

A mobile app carries both the brand name and the design aesthetics of the brand, and consumers' attachment is very positive towards those brands which are capable to engage the customers through their mobile apps (Bellman et al., 2011). This relationship between "Consumer engagement on branded mobile apps & online consumer experience" has been discussed by Kilger and Romer (2007), Mollen and Wilson (2010), Wu (2016). This aids the customers to transcend their "love affair" with the brand to the mobile app (Peng et al., 2014). Frequently, the mobile app is built using advanced technology, which ensures that it works at both the functional and entertainment level, thus meeting the emotional needs of customers. The emotional responses to the mobile app help to intensify their holistic value perception related to the brand. Time convenience and information sharing through social networking vehicles are the major outputs of uses of mobile apps (Wu, 2016). Kuo-Fang, Ya, and Kuang-Wei (2014) concluded that mobile apps are helpful to establish the relationship between customers and brands. The consumers perceive mobile app conversation as a most convenient and real time conversation to get the task or specific goals done, and this increased utility value of branded mobile apps makes consumers feel more attached with the brand. Therefore, we propose the first hypothesis:

H1. Customers' use of branded mobile apps leads customers to have an attachment to the brand.

A brand is recognizable by its characteristics, where the consumer develops a bond with the brand while seeking inconsequential, emotional, psychological, and even socio-cultural advantages from the brand and the value they experience with the brand (Aurier & Séré de Lanauze, 2012; Blackston, 1992; Fournier, 1998). Experience marketing has come to be recognized within the domain of marketing theory and is playing an imperative role in consumer marketing today. According to the brand relationship theory, the brand is the idea and perceptions the consumers have in their mind about the product (Blackston, 1992). Fransen and Lodder (2010) also found that functional product advantages are becoming replaceable, thus making it challenging for organizations to distinguish on functional product features. Prior research has indicated that due to the commoditization of goods and services, the customer experiences generated by organizations will be vital (Pine & Gilmore, 1998). As mentioned previously, most importantly, consumers with more self-indulgent lifestyles will look for consumption

patterns that identify their want for original and exhilarating experiences (Fransen & Lodder, 2010).

Experience marketing theory seeks to explain how to generate and gauge BE. This is largely answered by Brakus et al. (2009) who provide a well-defined, empirically-validated BE scale based on the dimensions of sensory, affective, intellectual, and behavioral responses. Kim, Park, and Kim (2014) explored how consumers experience the brand and concluded that their attachment with the brand is a result of mobile app attachment. They also studied the antecedents of such attachment and established that brand attachment, which is regulated by both self-and social-connection with mobile apps, had a significant positive impact on brand supportive behavior.

In the presence of the available evidence, once a consumer is using mobile apps, their initial expectation would be to have a positive experience with the brand. The extension of experience with the brand through mobile apps affects consumer satisfaction, comfort, perceived usefulness, as well as trust and confidence in the brand, which leads to consumers building attachment with the brand (Aladwani & Dwivedi, 2018; Grisaffe et al., 2011; Peng et al., 2014). Based on these, the following three hypotheses are proposed:

H2-a. *Customers' use of branded mobile apps leads customers to have a positive brand experience.*

H2-b. *Customers' brand experience is positively improving brand attachment.*

H2-c. *Brand experience is mediating the relationship between the customers' use of branded mobile apps and their brand attachment behavior.*

It has been proposed that customers always prefer value for the brand they consume; they are rational and cognitive in nature (Kumar & Paul, 2018; Sheth et al., 1991). As also suggested by the theory of consumption (Shiau et al., 2018), customers select a brand based on their perceived values, which are offered by the brand itself (Zeithaml, 1988). The derived perceived value has been recognized as one of the antecedents of brand attachment (Turel, Serenko, & Bontis, 2007). Perceived value also helps in generating BE. So, in a way, it is safe to assume that mobile app usage is likely to create BEs. However, this experience may vary depending on the digital footprint left by customers when they visit a brand's website. Studies have found that the digital footprint enables firms to build better-perceived value as it helps in tracing the buying patterns of customers (Sheth et al., 1991; Turel et al., 2007). Therefore, it is critical for firms today to create digital footprint banks, which are big-data-systems-enabled data servers that capture customer traces online and store that data for generating further customer-related insights.

The following set of hypotheses is further proposed:

H3-a. *Digital footprint moderates the relationship of the customers' use of branded mobile apps and their brand experience.*

H3-b. *The interaction of the digital footprint and brand experience is mediating the relationship of branded mobile app usage and customers' brand attachment behavior.*

The return of customers to the same brand mostly depends on the experience they have with the brand, especially the intellectual experience, which leads customer to increase their loyalty (ability to pay more, positive verbal communication about the brand, repurchase intention, or retention to the same brand) towards the brand (Ong, Lee, & Ramayah, 2018; Paul, 2018). Oliver (1980) reviewed emotional attachment in his disconfirmation-of-expectation model. He concluded that customer loyalty and being brand vocal (willingness to recommend) are functions of customer satisfaction. When a customer's expectations are met by a brand, it will result in satisfaction. The customer will stay loyal to the brand if one's investment is appreciated by others and it is more likely that the brand is recommended. Ismail (2017) discussed the role of social media in promoting client brand

loyalty and contended that social media promotion exercises mostly lead to brand devotion since adherents of any specific brand pages on social media platforms tend to show loyalty and brand commitment (Bagozzi & Dholakia, 2006). Further, brand loyalty is also built when customers participate in the value co-creation process (Ranjan & Read, 2014). In other words, if customers are actively involved in creating a product or service at some stage of the consumption process, it is more likely that they will develop brand loyalty. Attitudinal loyalty is particularly affected by brand satisfaction (Laroche, Habibi, & Richard, 2013), customer participation, and degree of the engagement of customers with the brand (Auh, Bell, McLeod, & Shih, 2007; Flores & Vasquez-Parraga, 2015; Hosseini, 2013; Ranjan & Read, 2014). Nowadays, firms are creating various branded communities on social media platforms (Kamboj et al., 2018) and other online channels to connect with their customers where they encourage their active involvement. The platforms provide customers a chance to share their BEs, good or bad feedback, suggestions, and issues (Chen, Tsou, & Ching, 2011). Customers invest their time and resources to build brand relationships and thus, they expect these brand relationships to reap greater satisfaction (Cermak, File, & Prince, 2011). The last hypothesis is thus given as follows:

H4. *Customers who are attached to the brand while using branded apps have positive satisfaction with the brand (H4-a), loyalty towards the brand (H4-b), and become brand vocal (H4-c).*

4. Methodology

The present study undertakes a quantitative analysis of collected data. With a pilot study of 85 sample respondent, the survey instrument was developed, and the questions were finalized after finding out the unwavering quality and objectivity of the study instrument. The proposed hypothesis was tested through an online questionnaire prepared using the Google survey platform. Data were collected during the first quarter of 2018 from the customers living in different parts of India through social networking sites and email (random sampling) to remove bias in the dataset. Random sampling is used because it is easy to use and has data accuracy due to large sample representation. For this study, Indian customers are chosen purposely because India has become the second fastest growing economy in the world (Paul & Mas, 2016) and the world's fastest-growing market for mobile applications on both the Apple ioS and Google's Android Play Store ahead of United State and China as well (Economics Times, April 2018), and *app Annie-Forecast Intelligence* (June 2016) predicted that mobile app store downloads in India will reach 20.1 billion by 2020 – where this is a growth of 92% from the total growth of market.

To conduct this study, 475 questionnaires were distributed, and 421 (88.6 percent) correctly filled responses were received. The details are listed in Table 1.

For developing the items for various constructs such as the Digital Footprint (moderating construct) which is used for remarketing and Mobile App Uses (MAU), experts' advice in the form of qualitative input was taken from academicians as well as digital marketing managers, who suggested three items to measure the digital footprint and four items to measure MAU. Items of Brakus et al. (2009) were used for measuring experience of branded mobile apps, while Pedeliento et al. (2016) scale and Swaminathan, Stilley, and Ahluwalia (2009) were used for measuring brand attachment and brand self-connection and brand prominence respectively. The study has also used Magi (2003) for measuring satisfaction, Yi and Jeon (2003) scale to evaluate loyalty and Phillips, Noble, and Noble (2011) scale to measure brand vocal.

Finally, to establish the proposed theoretical model and demonstrate model fit, confirmatory factor analysis (CFA) was conducted using AMOS 24.0 version. Additionally, to analyze the proposed hypotheses and the moderated mediation model, the study used SPSS 22.0 and SPSS plugin called the "Process Analysis System," proposed by

Table 1
Demographic profile of the sample.

Variable	Frequency	Percentage (%)	< 25	25–35	35–45	45–55	> 55
Gender							
Female	178	42.3					
Male	243	57.7					
Age			12 %	56 %	24 %	6 %	2 %
Education Level							
Bachelors or less	173	41					
Master	203	48					
Ph.D	19	5					
Others	26	6					

Hayes (2013). AMOS is used to establish the convergent and discriminant validity of the scale, whereas to generate the intensive analysis report for moderated mediation, Process Analysis System is used.

5. Data analysis and results

5.1. Common method Bias

Given the theory driven approach to the scale development, Exploratory Factor Analysis (EFA) was used to assess Common Method Bias (CMB) in this study. To resolve the validity issues, which yield potentially misleading conclusion (Campbell & Fiske, 1959), the examination of variance that is attributable to the measurement method (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003, p. 879) is applied. Testing the biasness is important when data is collected from self-reported questionnaire and both the predictor and criterion variables are obtained from the same person. This is well examined by Harman's single factor test to test the Common Method Bias. In this study, the results revealed that the first factor only explained total variance of 26.87 percent which is below the threshold limit of 50 percent, which confirms that common method bias is not a problem in this study. Further, there is no evidence that the measures are free from common method variance if the variance is less that 50 percent, thus the basis assumption of Harman's single-factor test is unwanted, and this test is an insensitive test (Podsakoff et al., 2003, p. 889).

5.2. Confirmatory factor analysis

The reliability of each construct was tested through Cronbach's α. The value of Cronbach's α for all the constructs is greater than 0.82 (Table 2); therefore, there is no reliability issue within the model designed by the various constructs. The composite reliability (CR) of all constructs is greater than 0.83 (Table 2), which leads us to construe that CR of all the constructs in the measurement model is on an accurate scale.

For convergent validity, the rule is CR > 0.7, CR > Average variance extracted (AVE), AVE > 0.5. For discriminant validity these two terms should follow—maximum shared variance (MSV) should be less than AVE and AVE should be greater than the average shared variance (ASV).

Table 2
Factor Loading & Cronbach's α.

Constructs	Factor Loading	Cronbach's α	Composite Reliability (CR)
Mobile Apps Uses	.89/.82/.85/.90	.92	.92
Brand Experience	.77/.87/.78/.87/.82/ .76/.73/.82/.71	.93	.94
Brand Attachment	.81/.82/.81/.73/.78	.89	.89
Satisfaction	.78/.80/.78	.82	.83
Loyalty	.83/.77/.82	.84	.84
Brand Vocal	.84/.86/.69	.83	.85

As per the analysis done through confirmatory factor analysis (Fig. 2), the received results are computed in Table 3, and there is no validity issue in the formation of these constructs. In order to achieve adequate fit indices with data, CMIN/DF should be less than 3, which is 2.90 in the Table 4, and the suitable relevant values of Comparative fit index (CFI), goodness of fit index (GFI), Tucker-Lewis coefficient (TLI), and Normed fit index (NFI) should have a value greater than 0.9 and the Root mean square error of approximation (RMSEA) value must be lower than 0.08 (Gefen & Straub, 2004).

The goodness-of-fit indices for the conceptualized measurement model is established with the corresponding GFI, CFI, TLI, and NFI values, which are above the threshold value 0.9, and the RMSEA value is 0.07 (Table 5).

5.3. Mediation and moderation data analysis

Information was dissected utilizing the intercession display that concentrated on the estimation of the roundabout impact of *X* on *Y* through a mediating arbiter variable *M*, causally situated between *X* and *Y* (*XM Y*), where *X* is the information (input) variable, *Y* is the yield (output), and *M* is the intervening variable (Hayes, 2015). The extension of the mediation model (Model number 4 in the Andrew Hayes Process) with the moderation of *W* on the relationship between *M* and *Y* is described as the conditional process model with Model number 7 and is represented in Figs. 3 and 4.

In this model, *X* applies its impact on *Y* by implication through *M,* autonomous of some other variable, yet in addition, specifically, with the greatness of the direct effect being reliant on *W*. Here, the analysis is carried out on whether the uses of mobile apps and branded apps attachment have a significant relationship or not. The ordinary least squares (OLS) regression estimation in Table 5 explains the impact of MAU on *Brand Attachment (BATT,* total effect) and the influence of *BE* on BATT. To examine the indirect effect of MAU on each dependent measure through BE, Model number 4 proposed by Hayes' (2013) Process is employed with 5000 bootstrap samples with 96 percent confidence intervals (CIs). Model 4 is used to get the mediation analysis with the results of sobel test which was not possible with the application of Model 7 alone. For the same reason, Model 4 is used for mediation analysis then model number 7 is used for analysis of mediated moderation. From Table 3, the direct effect of whether branded MAU leads to customers having greater attachment with the brand (H1) is examined, which is significantly proved with c' = 0.16, SE = 0.07, both lower level of confidence interval (LLCI) and upper level of confidence interval (ULCI) on the positive side of the zero value with R = 0.37 and R^2 = 0.12, β = 0.17, t = 3.26, and P-value (.02) is significant, while BE is constant. This dependent and the independent variable relationship is also crosschecked with regression analysis and is found to be significant. Also, Table 5 explains that MAU leads customers to have better BE (H2-a) with c' = 0.29, SE = 0.08, LLCI = 0.18, and ULCI = 0.42, β = .29, t = 4.23, with p = 0.00 significant. As per Table 6, it is significantly proved that having a positive BE leads customers to have more attachment with the brand (H2-b) with c' = 0.32, SE = 0.09, LLCI
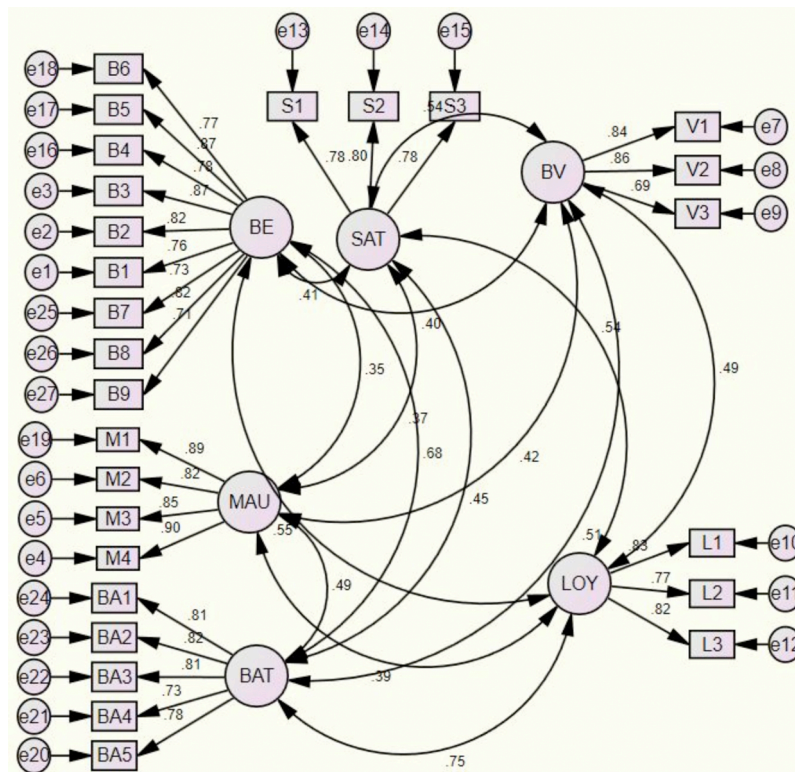
Fig. 2. CFA Model.

Table 3
Construct Validity (CR/AVE/MSV/ASV).

	SAT	BE	MAU	BV	LOY	BAT	CR	AVE	MSV	ASV
SAT	0.786						0.829	0.618	0.287	0.218
BE	0.414	0.795					0.939	0.632	0.468	0.245
MAU	0.370	0.350	0.866				0.923	0.750	0.240	0.166
BV	0.536	0.403	0.425	0.797			0.838	0.635	0.287	0.225
LOY	0.536	0.550	0.390	0.490	0.805		0.847	0.648	0.564	0.309
BAT	0.453	0.684	0.490	0.507	0.751	0.790	0.893	0.625	0.564	0.347

Note: BE, Brand Experience; SAT, Satisfaction; MAU, Mobile Apps Uses; BV, Brand Vocal; LOY, Loyalty; BATT, Brand Attachment, AVE: average variance explained; CR: composite reliability; ASV: average shared variance; MSV: maximum shared variance. Diagonal elements show square roots of AVEs (average variance explained).

Table 4
Model Fit Analysis (CMIN/DF).

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	69	896.945	309	.000	2.903

NPAR: number of distinct parameters; DF: Degree of freedom; P: Significance value; CMIN/DF: minimum discrepancy divided by degree of freedom.

Table 5
Model Fit Analysis (CFI, GFI, NFI, TLI, RMSEA).

Model	CFI	GFI	NFI	TLI	RMSEA
Default model	.969	.901	.915	.892	.072

CFI: comparative fit index; GFI: goodness of fit index; NFI: normed fit index; TLI: Tucker-Lewis coefficient; RMSEA: root mean square error of approximation.

and ULCI on the positive side of the zero, β = .32, t = 3.86, and P value (.001) less than 0.05, thereby supporting Hypothesis H2-b (Tables 7–8). For mediation analysis, both the upper and lower level of CIs with the indirect effect of interest must fall on either of one side of the zero value
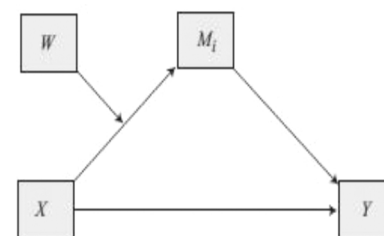

Fig. 3. Indirect effect of X on Y through M and conditional W (Hayes, 2013).

(Hayes, 2013; Zhao, Lynch, & Chen, 2010). The aberrant impact of MAU on BATT through BE is estimated significantly (Table 9); it is found to be c' = 0.16, SE = 0.09, LLCI = 0.04, and ULCI = 0.16, which proved the indirect relationship between MAU and BATT through BE. This is crosschecked by the normal theory test for indirect effect (Table 10), where the z-score is approaching 3.85 with p-value < 0.05, which is significant and hence supports Hypothesis H3-b as well. These findings provide enough support to Hypothesis H2-c.

As suggested by Hayes (2008) for moderated mediation, the results from Model number 7 (Table 11), W has a positive coefficient
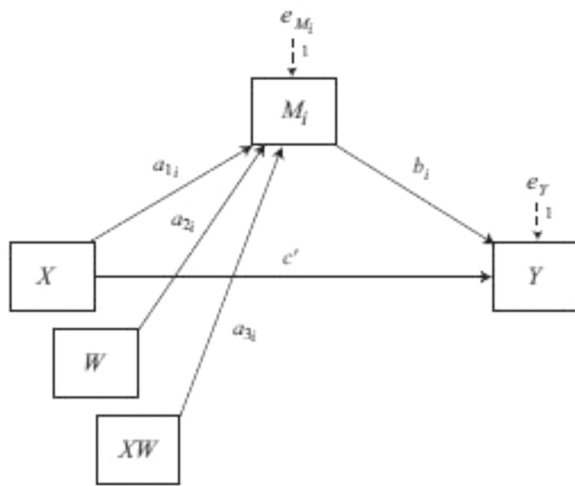
Fig. 4. Indirect effect of X on Y through M and condition W and WX (Hayes, 2013).

Table 6

When MAU is having impact on BE.

Consequent: Brand Experience (BE) Model I						
R	R^2	MSE	F	Df1	Df2	P
0.24	0.08	0.41	19.73	2.00	252.00	0.0000
Variables	Coeff	SE	t	P	LLCI	ULCI
Constant	3.44	.20	19.48	0.00	3.72	3.84
MAU	0.29	0.08	4.23	0.00	0.18	0.42

MSE: Mean Square Error; Df: Degree of Freedom; SE: scalar estimates; P: Significance value.

Table 7

When Brand Experience is acting as a Mediation between MAU → BATT.

Consequent: BATT Model II						
R	R-sq	MSE	F	Df1	Df2	P
0.37	0.12	0.49	18.51	3.00	252.00	0.00
Variables	Coeff	SE	t	P	LLCI	ULCI
Constant	3.74	0.42	8.68	0.00	2.13	4.37
BE	0.32	0.09	3.86	0.00	0.13	0.39
MAU	0.16	0.07	2.26	0.02	0.02	0.40

R: Regression Value; R-sq: Regression Square; MSE: Mean Square Error; Df: Degree of freedom; LLCI: Lower level of confidence interval; ULCI: Upper level of confidence interval; SE: scalar estimates.

Table 8

Total Effect of Mobile App Uses on Brand Attachment.

Consequent: BATT Model III						
R	R-sq	MSE	F	Df1	Df2	P
0.22	0.03	0.49	9.13	2.00	252.00	0.00
Variables	Coeff	SE	t	P	LLCI	ULCI
Constant	3.67	0.22	16.80	0.00	3.24	3.20
MAU	0.33	0.08	3.37	0.00	0.08	0.46

R: Regression Value; R-sq: Square of value of R; MSE: Mean Square Error; Df: Degree of freedom; P: Significance value; LLCI: Lower level of confidence interval; ULCI: Upper level of confidence.

Table 9

Total Effects of MAU on BATT.

Model IV					
Effect	SE	t	P	LLCI	ULCI
0.27	0.08	3.48	0.00	0.08	0.35

SE: scalar estimates; P: Significance value; LLCI: Lower level of confidence interval; ULCI: Upper level of confidence.

Table 10

Direct Effect of MAU on BATT and Indirect Effects through BE.

	Effect	SE	T	P	LLCI	ULCI
	0.17	0.07	3.26	0.02	0.02	0.30
	Effect	Boot SE	LLCI		ULCI	
	Indirect effect of MAU on BATT through BE					
BE	0.08	0.09	0.04		0.16	

SE: scalar estimates; P: Significance value; LLCI: Lower level of confidence interval; ULCI: Upper level of confidence.

Table 11

R-squared Mediation Effect Size (R-sq_med).

	Effect	Boot SE	Boot LLCI	Boot ULCI
BP	0.07	0.04	0.05	0.16
	Effect	SE	Z	P
	Normal theory tests for indirect effect			
	0.06	0.04	3.85	0.00

Note: Boot SE: Boot scalar estimates, Boot LLCI: Boot lower level of confidence interval, Boot ULCI: Upper level of confidence interval, SE: scalar estimates, Z: Z-score.

($b_2 = 0.80$) with SE = 0.17 and P < 0.05, which support Hypothesis H3-a (Table 12). Also, the interaction of Digital Footprint and BE *(M x W)* has a significantly positive effect on BATT with $b_3 = 0.64$, SE = 0.13 and $P < 0.01$, and significantly supports Hypothesis H3-b with complementary (partial) mediation as *axbxc'* is positive (Nitzl, Roldan, & Cepeda, 2016).

Further, regression analysis has been carried out to formulate the next set of hypotheses significantly, and the result analysis shows that once consumers are positively attached with the brand, they develop a strong bond with the brand, which leads them to have satisfaction with the brand (Coff. = 0.42, SE = 0.17, R^2 = 0.32, R = 0.47, β = .28, t = 3.56, p value = .002), loyalty with the brand (Coff. = 0.48, SE = 0.23, R^2 = 0.34, R = 0.51, β = .42, t = 4.21, p value = .001), and become positively brand vocal for the brand (Coff. = 0.49, SE = 0.14, R^2 = 0.27, R = 0.44, β = .19, t = 2.78, p value = .000) with all P-values significant. Hence, the result analysis supports Hypotheses H4-a, H4-b, H4-c. The hypothesis summery is incorporated in Table 13.

6. Discussion

This study will help researchers to address the customers' purchase behavior and their needs catered by mobile purchase, the need to study the customers' characteristics which plays a major role in versatile mobile shopping context, and customers' brand attachment variables as strategic tools for the digital manager (Agrebi & Jallais, 2015; Groß, 2015; Li, Konuş, Pauwels, & Langerak, 2015; Verhoef, Kannan, & Inman, 2015). The fact that India has emerged as the second fastest growing economy (Paul & Mas, 2016) will also attract the attention of researchers and practitioners to learn the insights. In this study, the

Table 12

Model Coefficients for the Conditional Process Model (Using Digital Footprint W).

Consequent								
	M (Brand Experience)				Y Brand Attachment			
Antecedent		Coeff	SE	P		Coeff.	SE	P
X	A	0.29	0.08	< 0.001	C'	0.16	0.07	< 0.05
M					b_1	0.32	0.09	< 0.01
W					b_2	0.80	0.17	< 0.01
M x W					b_3	0.64	0.13	< 0.01
Constant	i_1	.77	0.18	< 0.001	i_2	3.87	0.21	< 0.01
$R^2 = 0.08$					$R^2 = 0.12$			
$F_{(2,252)} = 19.73$, $p < 0.001$					$F_{(4,252)} = 18.51$, $p < 0.001$			

SE: scalar estimates.

Table 13

Hypothesis results.

Hypothesis Number	Hypothesis Relationship	Hypothesis Status	P-Value
H1	MAU → BATT	Accepted	< 0.05
H2-a	MAU → BE	Accepted	< 0.05
H2-b	BE → BATT	Accepted	< 0.05
H2-c	MAU → BE → BATT	Accepted	< 0.05
H3-a	Digital Footprint → BE	Accepted	< 0.05
H3-b	MAU → Digital Footprint x BE → BATT	Accepted	< 0.05
H4-a	BATT → SAT	Accepted	< 0.05
H4-b	BATT → LOY	Accepted	< 0.05
H4-c	BATT → BV	Accepted	< 0.05

research model is examined based on the derived theory of consumption values and brand relationship theory with reference to the impact of brand relationship and clients' apparent consumption value on their uses of mobile apps (Blackston, 1992; Fournier, 1998; Sheth et al., 1991; Zeithaml, 1988).

The findings of this study show that the mobile apps engagement is the strongest predictor of consumers' brand attachment behavior. Consumers are more engaged with the branded mobile apps when their interactive experience with the brand through mobile apps is strong. Time convenience and real time communication with the brand are the results of ubiquitous benefits of mobile app services (Kim, Baek, Kim, & Yoo, 2016). Indeed, Millennial are highly intimidated using branded mobile apps, as they have developed a bond with digital advancement and engaged personally with the mobile app technology which helps them to save their time from their busy lives (Kleijnen, De Ruyter, & Wetzels, 2007), regardless of mobile apps' ease of use. As suggested by Wu and Wang (2005), perceived ease of use will be overlapped by the engagement of branded mobile apps over time.

The experience of the brand that the customers have increases the probability of the brand getting incorporated in the consumers' lifestyles or becomes an important part of their professional lives, and this helps to develop the brand attitudes customers carry forward (Roswinanto & Strutton, 2014). The findings of the present study related to market connection and brand encounter are balanced with the brand relationship concept, which implies that tracing the customers' digital footprint plays an important role in influencing the customers' decision power. This is because the digital footprint is a salient factor to draw a strategy for remarketing and building the relationship between consumers' uses of branded mobile apps and their BE. The ultimate goals of remarketing operations could be of three types; the first one is to target those visitors who did not take certain action while they visited the company web-portal. Second is to convert those customers who actually visited the page and reached the checkout process but abandoned their carts. The third and last one is to focus on those customers who have not visited the page which the company wanted them to visit.

Moreover, this study provides meaningful insights into what type of value components should be incorporated by online marketers to increase the digital footfall and the consumption value of their e-commerce apps.

6.1. Theoretical contribution

As per the theoretical perspective, this study has significant implications related to the adoption of information technology (IT). Many researchers explored TAM, TAM2, UTAUS, the uses and gratification model, and also worked on diffusion of innovation theory to identify the motivational factors behind the intention of customer adoption of mobile apps (e.g., Alnawas & Aburub, 2016; Kang et al., 2015; Pantano & Priporas, 2016). The results of this study developed the new understanding by amalgamating conceptual perspectives from consumers' apps engagement, their brand experience, brand attachment behavior, also advances the conceptual knowledge on customers' willingness to use the branded mobile apps, where customers themselves live their digital footprint knowingly or unknowingly. In addition to this, this study extracted they major antecedents forming customers' adoption of uses of mobile apps in the prospect of technological factors, socio-techno influence and their personal behavior. The conceptual model analysed in this study is expressing the positive association among factors which give the insights in understanding the customers' behavior towards forming their technology adaption habit and dropping their digital footprint through branded mobile apps or social networking vehicles, which can be use by managers to form various marketing strategies. Furthermore, this study extends Kang et al. (2015) works by exploring the consumers' attachment pattern, and changes in their behavior patter in the context of satisfaction level, brand loyalty and brand vocal ability. Hence this study builds robust conceptual model supporting the dynamic and dichotomous nature of consumers' engagement with branded mobile apps. While, the mobile apps-based interaction with the brand is suggested in the model, the privacy risk is major concern which need to be addressed precisely by introducing more secure technological applications by the smartphones manufacturing companies so that customers' digital footprint will not be miss used. The results of this study helps to document the consumers' brand attachment behavior occurs due to branded mobile apps, whereas previous studies only focused on website interactivity (Lee & Park, 2013) and relationship building (Yoon, Choi, & Sohn, 2008). Our study suggests the importance of consumers' engagement with branded mobile apps.

6.2. Managerial implications

For all intents and purposes, this study has important managerial implications for branded mobile apps marketers. The customers' engagement is sensual in nature which derived from their interest or needs (O'Brien & Toms, 2008). To get the customers engaged with

branded mobile apps and trigger their self-brand attachment, mobile marketers can explore more aesthetic design to prompt their branded mobile apps content that reflects the consumers' lifestyle and their self-concepts. The expressive brand personification (e.g., aesthetic characters or anthropomorphic image) leads mobile marketers to have customers' strong self-brand attachment (Connel, 2013).

The current study provides insight into e-commerce app marketing, deliberated focus on advertising the brand through emerging digital media channels, and the need to develop a communication platform to garner the special attention from their possible customers and target them with their messages (Mortimer, 2009). It also proposes to exploit their established market name and spotlight on designing an advanced algorithm to trace the customers' shopping behavior, the pattern of visits to the apps, and likes/dislikes, thus arousing customers' feelings of self-enhancement and attachment towards the brand through e-commerce apps. Customers' value perceptions, their attitude (Shareef et al., 2018), and usefulness towards the e-commerce apps can be considered by companies to communicate, promote, and indicate their position via mobile app channels. And in spite of offering common e-commerce mobile application facilities, for example, order administration, parcel tracking, replacement facilities, secure payment gateway, etc., a well-established brand may utilize its brand title to offer included client value-added services through its e-commerce mobile apps. These may include location-based services for their online delivery products; advertisement on social media (Shareef et al., 2019), online availability of coupons/special discounts; offering more authentically, new, and innovative product system for users to search the product; taking online customer reviews seriously; building customer relationships through online communities; and expanding virtual store strategy to provide customers touch points for their offered products and help to increase the sources of revenue for the company.

Furthermore, the results of the current study suggest that mobile marketers need to implement more customized in-app content to fulfill customers' requirement as per the current time and relevance. For instance: Starbucks landed with the new features in their apps, where customers can order drinks with their voice commands or by texting a virtual barista (Kahn, 2017) or trace their food order from receiving the order by restaurant to dispatch, and live location of their food-delivery person by Zomato and Swiggy. Even mobile marketers are using artificial intelligence (AI) to personalize the communication according to individual consumers. By sharing the details on social media vehicles, marketers are giving options to refer or recommend the brand to their family/friends.

On the other side, the implications of mobile apps for marketers are increasing because mobile apps have become one of the most desirable and indispensable part of customers' routine life; however, the close engagement with the mobile apps is influencing the customers communication with the brands, which is shifting from unidirectional to bi-directional way of communications. For users of branded mobile apps, privacy of their personal communication and digital space, and risk of loosing personal information, as well as digital footprint, are such issues which need to be address. Identifying the

Identifying the potential risks of social networks could reduce the danger to users, and the factors that influence self-image could enable users to have secure use of social networks and realize their original intention. For enterprises, the core knowledge of Facebook is an issue worthy of attention from managers; in particular, the use strategy, collection, analysis, and application of user information could show user needs and application strategies, which could help provide users with the information they need in an effective and appropriate manner. Moreover, it could improve products, functions, corporate image, and improve organizational performance. For instance, its application in information transmission and personnel management could enhance the competitiveness of enterprises, meaning this issue is practical and essential. Classifying the probable risk of using mobile apps could increase the faith of users to use the mobile apps, and the associated

factors that stimulus the self-image could ignite the mobile apps users to have secure use of mobile apps and comprehend their original purpose of using mobile apps. The fundamental knowledge of mobile apps uses is getting worthy attentions by the marketers; precisely, the strategy for mobile apps uses, content building, users' friendly, and applications which could show actual users' need and usable application strategies, which could deliver that particular information which is required by the users in an effective and appropriate manner. This study could help to improve the mobile apps productivity, their technical functions, market brand value, and helps to improve brand' overall performance.

Moreover, in the current scenario, where digital communication with the brand are no longer considered just for socialization and congregation, but also playing a vital role to encourage marketers to engaged customers for their brand too (Kapoor et al., 2017; Shiau, Dwivedi, & Yang, 2017). Marketers may need to overview clients on their select dispositions and their apparent estimations of uses of mobile apps and actualize the proposed results into apps development and design for versatile demand by customers online. Considering these factors, customers would improve the bond and sense of belonging when developing objectives and habits to practice the branded mobile apps to shop for goods and services (Taylor & Levin, 2014). Companies having e-commerce apps need to consider the consumers' BE behavior and make their apps user-friendly to encourage customer-app interaction in such a way that it merges both customers' need and companies' objectives (Peng et al., 2014; Siwicki, 2015). Thus, companies should ensure that their branded apps are simple to use, which encourages users to be familiar with mobile apps. Delivering extra benefits to the customers by engaging them on apps might strengthen the bond between customers and the brand. Finally, companies should embrace customers' data security and provide a transparent but secured system which helps to develop trust in online transaction scenarios, thereby certifying and augmenting the reliability of branded products/services.

6.3. Limitations and directions for future research

The present paper explores the hitherto poorly explored online purchasing behavior of consumers and explains the uses of mobile apps for shopping and how this leads to consumers having a more positive experience with the brand (Aubrey & Judge, 2012; Groß, 2015; Taylor & Levin, 2014; Yang & Kim, 2012).

The present study has respondents from India only. If it explores other countries as well, then several defined and undefined limitations may become opportunities for future research. For example, this study has only focused on branded mobile apps. Future research studies could focus on other apps as well, which are emerging in the market and are facing tough competition in the market to establish them. Moreover, while the study considers whether the respondents have purchasing experience with the brand, it has not examined whether app-friendly procedures and extra benefits influence customers to purchase the item (s) from that particular app. Therefore, future researchers may consider this fact while designing the objectives for their studies, and different moderating variables such as prior dissatisfaction with other apps, non-availability of a physical store nearby etc. may be included.

Additionally, more studies are required for the exploration of the marketing attributes of MAU that influence consumers to use the apps easily. Special insights are also needed to examine how each command and option is designed in the apps to make them understandable for visually impaired people as well. Future research could focus on the customers' emotions that play a vital role in customers' mobile app usage, and how their attachment is built with the brand through mobile apps. This would help companies to capitalize on the uses of mobile apps to provide better facilities such as benefit recuperation and up-selling among app clients. Other factors related to branded MAU (such as delivery of imported items, delivery at odd locations, delivery of life-saving services in real time with special membership) should also be

explored. Future studies may also elaborate on the important opportunity of overlapping experiences when customers are using mobile apps while they are inside the physical stores to study the changes in customers' subsequent behavioral outcomes.

7. Conclusion

The present paper integrates the brand relationship theory and the theory of consumers' value and proposes a research model to advance the understanding of the antecedents of consumers' experience of branded apps and brand attachment behavior. Our research focuses on actual uses of mobile apps and branded apps experience and influences a critical outcome (attachment with the brand) during the usage of the app (probably consumers make a purchase with the app). Further, this study shows the effects of the branded app uses on consumers' post-usage behavior, such as consumers' satisfaction with the brand, their loyalty, and brand vocal ability. This study also explains the useful and non-useful value components relating to e-commerce apps' adoption by customers for shopping. This finding majorly contributes a nuanced supplement to the significantly positive effect of the uses of mobile apps explained in the study. Further, we explain how consumers' digital footprint helps to build an experiential relationship with the customers through remarketing with display ads. By identifying customers' shopping patterns and the details related to their social identity while using branded mobile apps, this study contributes to the existing literature surrounding the role that emotion and attachment play when customers are being processed with the information and ads related to their recent search made on shopping apps.

Appendix A. Scale used for the study

Construct	Items	Scale developed by
Digital Footprint	I mostly use smartphone to browse the web I mostly use smartphone to access my emails I mostly access my social media account (Facebook/LinkedIn/Twitter) using smart phone	Scale developed through discussion with experts from academics and industry
Mobile App Uses	I use mobile apps for various commercial activities I use mobile apps to shop for products and services I use mobile apps for entertainment services (listening music/playing games etc) I use mobile apps for searching information	Scale developed through discussion with experts from academics and industry
Brand Experience	The mobile applications I use to buy product/services make a strong impression on my visual sense or other senses I find the branded-mobile applications interesting in a sensory way The available branded-mobile applications induce feelings and sentiments The available branded-mobile applications are emotional branded apps I engage in physical actions and behaviors when I shop any particular brand through mobile applications The brand I shop through branded-mobile applications results in bodily experiences I engage in a lot of thinking when I encounter the branded-mobile applications for shopping The brand I shop through branded-mobile applications stimulates my curiosity The brand I shop through branded-mobile applications stimulates problem solving	Brakus et al., 2009).
Brand Attachment	I feel emotionally connected to branded-mobile applications currently available in my smartphone I have a personal bond with the branded-mobile applications currently available in my smartphone I feel attached to the branded-mobile apps currently available in my smartphone My current branded-mobile applications' image and my self-image are similar in a lot of ways I feel that my current branded-mobile applications' brand is part of me and who I am.	Pedeliento et al. (2016). Swaminathan et al. (2009) Park et al. (2010)
Satisfaction	I am very satisfied with the branded-mobile applications I use for Shopping The branded-mobile applications which I am using currently completely match my expectations The branded-mobile applications I am using currently are very close to the ideal branded-mobile applications	Magi (2003)
Loyalty	I like the branded mobile applications which I am using currently more than any other mobile apps I have a strong preference for buying the products/services through my current branded-mobile apps I give prior consideration to the branded-mobile applications which I am using currently when I have a need to buy something through mobile apps	Yi and Jeon (2003)
Brand Vocal	I try to get my friends and family to patronize the branded-mobile apps I am using currently for shopping I seldom miss an opportunity to tell others good things about the branded-mobile apps I am using for shopping I would defend my current branded-mobile apps to others if I heard someone speaking poorly about these apps.	Phillips et al. (2011)

References

Aggarwal, P., & McGill, A. L. (2012). When brands seem human, do humans act like brands? Automatic behavioral priming effects of brand anthropomorphism. *The Journal of Consumer Research, 39*(2), 307–323.

Agrebi, S., & Jallais, J. (2015). Explain the intention to use smartphones for mobile shopping. *Journal of Retailing and Consumer Services, 22*, 16–23. https://doi.org/10.1016/j.jretconser.2014.09.003.

Akar, E., & Topçu, B. (2011). An examination of the factors influencing consumers' attitudes toward social media marketing. *Journal of Internet Commerce, 10*(1), 35–67.

Aladwani, A. M., & Dwivedi, Y. K. (2018). Towards a theory of SocioCitizenry: Quality anticipation, trust configuration, and approved adaptation of governmental social media. *International Journal of Information Management, 43*, 261–272.

Alalwan, A. A., Rana, N. P., Dwivedi, Y. K., & Algharabat, R. (2017). Social media in marketing: A review and analysis of the existing literature. *Telematics and Informatics, 34*, 1177–1190.

Al-Gahtani, S. S., Hubona, G. S., & Wang, J. (2007). Information technology (IT) in Saudi Arabia: Culture and the acceptance and use of IT. *Information & Management, 44*(8), 681–691.

Alnawas, I., & Aburub, F. (2016). The effect of benefits generated from interacting with branded mobile apps on consumer satisfaction and purchase intentions. *Journal of Retailing and Consumer Services, 31*, 313–322.

App Annie (2015). *Complete app market to uncover opportunities without the guesswork.* Available from . , (Accessed on July 2016) https://www.appannie.com/en/tours/market-dataintelligence/.

Arya, V., Sethi, D., & Verma, H. (2018). Are emojis fascinating brand value more than textual language? Mediating role of brand communication to SNS and brand

attachment. *Corporate Communications: An International Journal, 23*(4), 648–670.

Aswani, R., Kar, A. K., Ilavarasan, P. V., & Dwivedi, Y. K. (2018). Search engine marketing is not all gold: Insights from Twitter and SEOClerks. *International Journal of Information Management, 38*(1), 107–116.

Aubrey, C., & Judge, D. (2012). Re-imagine retail: Why store innovation is key to a brand's growth in the 'new normal', digitally connected and transparent world. *Journal of Brand Strategy, 1*(1), 31–39.

Auh, S., Bell, S. J., McLeod, C. S., & Shih, E. (2007). Co-production and customer loyalty in financial services. *Journal of Retailing, 83*(3), 359–370.

Aurier, P., & Séré de Lanauze, G. (2012). Impacts of perceived brand relationship orientation on attitudinal loyalty: An application to strong brands in the packaged goods sector. *European Journal of Marketing, 46*(11/12), 1602–1627.

Bagozzi, R. P., & Dholakia, U. M. (2006). Antecedents and purchase consequences of customer participation in small group brand communities. *International Journal of Research in Marketing, 23*(1), 45–61.

Banham, M. (2010). *Adidas launches mobile apps to expand brand [Campaign]* (2010, August 11)Available from . (Accessed on April 2012) https://www.campaignlive.co.uk/article/adidas-launches-mobile-apps-expand-brand/1021364?src_site= marketingmagazine.

Barnes, S. J., Mattsson, J., & Sørensen, F. (2014). Destination brand experience and visitor behavior: Testing a scale in the tourism context. *Annals of Tourism Research, 48*, 121–139.

Baur, A. W. (2017). Harnessing the social web to enhance insights into people's opinions in business, government and public administration. *Information Systems Frontiers, 19*(2), 231–251.

Beckman, E., Kumar, A., & Kim, Y. (2013). The impact of brand experience on downtown success. *Journal of Travel Research, 52*(5), 1–13.

Belaïd, S., & Lacoeuilhe, J. (2007). Quelle(s) mesure(s) pour l'attachement a la marque? *Revue Française du Marketing, 21*(3), 7–25.

Belanche, D., Flavián, C., & Pérez-Rueda, A. (2017). Understanding interactive online advertising: Congruence and product involvement in highly and lowly arousing, skippable video ads. *Journal of Interactive Marketing, 37*(February), 75–88. https://doi.org/10.1016/j.intmar.2016.06.004.

Bellman, S., Potter, R. F., Treleaven-Hassard, S., Robinson, J. A., & Varan, D. (2011). The effectiveness of branded mobile phone apps. *Journal of Interactive Marketing, 25*(4), 191–200.

Bhat, S., & Reddy, S. K. (1998). Symbolic and functional positioning of brands. *The Journal of Consumer Marketing, 15*(1), 32–43.

Blackston, M. (1992). Observations: Building brand equity by managing the brand's relationships. *Journal of Advertising Research, 32*(3), 79–83.

Blackston, M. (1995). The qualitative dimension of brand equity. *Journal of Advertising Research, 3*(4), 2–7.

Bowlby, J. (1969). *Attachment and loss: Vol. I.* New York, NY: Basic Books.

Bowlby, J. (1979). *The making and breaking of affectional bonds.* London: Routledge.

Bowlby, J. (1980). *Attachment and loss: Sadness and depression.* New York, NY: Basic Books.

Bozzo, C., Merunka, D., & Moulins, J. L. (2003). Fidelite et comportement d'achat: ne pas se fieraux apparences. *Decisions Marketing, 32*(4), 9–17.

Brakus, J. J., Schmitt, B. H., & Zarantonello, L. (2009). Brand experience: What is it? How is it measured? Does it affect loyalty? *Journal of Marketing, 73*(3), 52–68.

Brodie, R. J., Hollebeek, L. D., Jurić, B., & Ilić, A. (2011). Customer engagement: Conceptual domain, fundamental propositions, and implications for research. *Journal of Service Research, 14*(3), 252–271.

Buccafurri, F., Lax, G., Nicolazzo, S., & Nocera, A. (2016). A model to support design and development of multiple-social-network applications. *Information Sciences, 331*(February), 99–119.

Calder, B. J., Isaac, M. S., & Malthouse, E. C. (2013). *Taking the consumer's point of view: Engagement or satisfaction?* Cambridge, CA: Marketing Science Institute13–102.

Campbell, D. T., & Fiske, D. W. (1959). Convergent and ant validation by the multitrait-multimethod matrix. *Psychological Bulletin, 56*(2).

Carbone, L., & Haeckel, S. (1994). Engineering customer experiences. *Marketing Management, 3*(3), 8–19.

Cermak, D. S., File, K. M., & Prince, R. A. (2011). Customer participation in service specification and delivery. *Journal of Applied Business Research, 10*(2), 90–97.

Chaplin, L., & Roedder John, D. (2005). The development of self-brand connections in children and adolescents. *The Journal of Consumer Research, 32*(1), 119–129.

Charlesworth, A. (2014). *An Introduction to social media marketing.* Oxon: Routledge.

Chattopadhyay, A., & Laborie, J. (2005). Managing brand experience: The market contact audit™. *Journal of Advertising Research, 45*(01), 9.

Chaudhuri, A., & Holbrook, M. B. (2001). The chain of effects from brand trust and brand affect to brand performance: The role of brand loyalty. *Journal of Marketing, 65*(2), 81–93.

Chen, J., Tsou, H., & Ching, R. K. (2011). Co-production and its effects on service innovation. *Industrial Marketing Management, 40*(8), 1331–1346.

Connel, P. M. (2013). The role of baseline physical similarity to humans in consumer responses to anthropomorphic animal images. *Psychology & Marketing, 30*(6), 461–468.

Coulter, K. S., & Roggeveen, A. (2012). "Like it or not" consumer responses to word-of-mouth communication in on-line social networks. *Management Research Review, 35*(9), 878–899.

CSC (2017). *Big data Universe beginning to explode. [Web log comment].* Available from . (Accessed on February 2018) http://www.csc.com/insights/flxwd/78931big_data_universe_beginning_to_explode.

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

Daniela, L., Rita, P., & de Fátima Salgueiro, M. (2015). Do social networking sites contribute for building brands? Evaluating the impact of users' participation on brand awareness and brand attitude. *Journal of Marketing Communications, 24*(2), 146–168.

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). BUser acceptance of computer technology: A comparison of two theoretical models. *Management Science, 35*(8), 982–1003.

Deci, E. L., & Ryan, R. M. (2000). The 'what' and 'why' of goal pursuits: Human needs and the self determination of behavior. *Psychological Inquiry, 11*(4), 227–268.

Donavan, D. T., Janda, S., & Suh, J. (2006). Environmental influences in corporate brand identification and outcomes. *Journal of Brand Management, 14*(1-2), 125–136.

Dunn, L., & Hoegg, J. (2014). The impact of fear on emotional brand attachment. *The Journal of Consumer Research, 41*(1), 152–168.

Dwivedi, Y. K., Kapoor, K. K., & Chen, H. (2015). Social media marketing and advertising. *The Marketing Review, 15*(3), 289–309.

DWork, C., & Mulligan, D. K. (2013). *It's not privacy, and it's not fair.* [Online] Available from: http://www.stanfordlawreview.org/online/privacyand-big-data/its-not-privacy-and-itsnot-fair (Accessed 28 June 2014).

Economic Times (2018). *India becomes world's fastest-growing market for apps* (April, 2018) https://economictimes.indiatimes.com/tech/software/india-becomes-worlds-fastest-growing-market-for-apps/articleshow/63740547.cms?utm_source= contentofinterest&utm_medium=text&utm_campaign=cppst (Accessed 20 May 2018).

EMarketer Editors (2018). *eMarketer: Mobile Ad spending to surpass TV in 2018 - eMarketer trends, forecasts & statistics [eMarketer].* (2018, April 19) Available from http://www.emarketer.com/content/mobile-advertising-is-expected-to-surpass-tv-ad-spending (Accessed July 2018).

Escalas, J. E., & Bettman, J. R. (2003). You are what they eat: The influence of reference groups on consumers' connections to brands. *Journal of Consumer Psychology, 13*(3), 339–348.

Escalas, J., & Bettman, J. (2005). Self-construal, refereself-construal, reference groups, and brand meaningnce Groups, and Brand Meaning. *The Journal of Consumer Research, 32*(3), 378–389.

Fedorikhin, A., Park, C. W., & Thomson, M. (2008). Beyond fit and attitude: The effect of emotional attachment on consumer responses to brand extensions. *Journal of Consumer Psychology, 18*(4), 281–291.

Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention and behavior: An introduction to theory and research.* Reading, MA: Addison-Wesley.

Flores, J., & Vasquez-Parraga, A. Z. (2015). The impact of choice on co-produced customer value creation and satisfaction. *The Journal of Consumer Marketing, 32*(1), 15–25.

Fournier, S. (1998). Consumers and their brands: Developing relationship theory in consumer research. *The Journal of Consumer Research, 24*(4), 343–353.

Fransen, M. L., & Lodder, P. (2010). The effects of experience-based marketing communication on brand relation and hedonic brand attitudes: The moderating role of affective orientation. *Advances in Consumer Research, 37*, 801–802.

Gefen, D., & Straub, D. W. (2004). Consumer trust in B2C e-commerce and the importance of social presence: experiments in e-products and e-services. *Omega, 32*(6), 407–424.

Gordon, K. (2018). *Mobile app usage – statistics & facts.* Retrieved May 11, 2018, Available from . (Accessed on July 2018) https://www.statista.com/topics/1002/mobile-app-usage.

Grewal, D., Bart, Y., Spann, M., & Zubcsek, P. P. (2016). Mobile advertising: A framework and research agenda. *Journal of Interactive Marketing, 34*, 3–14.

Grisaffe, D. B., & Nguyen, H. P. (2011). Antecedents of emotional attachment to brands. *Journal of Business Research, 64*(10), 1052–1059.

Groß, M. (2015). Mobile shopping: A classification framework and literature review. *International Journal of Retail & Distribution Management, 43*(3), 221–241.

Gummerus, J., Liljander, V., Weman, E., & Pihlström, M. (2012). Customer engagement in a Facebook brand community. *Management Research Review, 35*(9), 857–877.

Gupta, S., & Vajic, M. (2000). The contextual and dialectical nature of experiences. In J. A. Fitzsimmons & M. J. Fitzsimmons (Eds.). *New service development: Creating memorable experiences* (pp. 25–43). Thousand Oaks, CA: Sage.

Hajli, M. N. (2014). A study of the impact of social media on consumers. *International Journal of Market Research, 56*(3), 388–404.

Hau, Y. S., & Kim, Y. G. (2011). Why would online gamers share their innovation-conducive knowledge in the online game user community? Integrating individual motivations and social capital perspectives. *Computers in Human Behavior, 27*(2), 956–970.

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

Hayes, A. F. (2015). An index and test of linear moderated mediation. *Multivariate Behavioral Research, 50*(1), 1–22.

Hazan, C., & Shaver, P. R. (1994). Attachment as an organizational framework for research on close relationships. *Psychological Inquiry, 5*(1), 1–22.

Hosseini, M. H. (2013). The impact of co-production on customer loyalty in banking services: a case of Saman Bank. *Iranian Journal of Management Studies, 6*(6).

Hsu, C., & Wu, C. (2011). Understanding users' continuance of Facebook: An integrated model with the unified theory of acceptance and use of technology, expectation disconfirmation model, and flow theory. *International Journal of Virtual Communities and Social Networking, 3*(2), 1–16.

Hulland, J., Thompson, A. S., & Smith, M. K. (2015). Exploring uncharted waters: Use of psychological ownership theory in marketing. *The Journal of Marketing Theory and Practice, 23*(2), 140–147.

Ismail, A. R. (2017). The influence of perceived social media marketing activities on brand loyalty. *Asia Pacific Journal of Marketing and Logistics, 29*(1), 129–144.

Jaakkola, E., & Alexander, M. (2014). The role of consumer engagement behaviour in value co-creation: A service system perspective. *Journal of Service Research, 17*(3),

247–261 s.

Kahn, J. (2017). *Starbucks' new virtual barista AI for iPhone lets you order via voice or message.* Available from: . (Accessed on February 2018) https://9to5mac.com/2017/01/30/my-starbucksbarista-ai-order-voice-app-iphone/.

Kamboj, S., Sarmah, B., Gupta, S., & Dwivedi, Y. K. (2018). Examining branding co-creation in brand communities on social media: Applying paradigm of stimulus-organism-response. *International Journal of Information Management, 39*(April), 169–185.

Kang, J.-Y. M., Mun, J. M., & Johnson, K. K. (2015). In-store mobile usage: Downloading and usage intention toward mobile location-based retail apps. *Computer Human Behavior, 46*, 210–217.

Kang, J., Manthiou, A., Sumarjan, N., & Tang, L. (2016). An investigation of brand experience on brand attachment, knowledge, and trust in the lodging industry. *Journal of Hospitality Marketing & Management, 26*(1), 1–22.

Kannan, P. K., & Li, H. (2017). Digital marketing: A framework, review and research agenda. *International Journal of Research in Marketing, 34*(1), 22–45.

Kapoor, K. K., Tamilmani, K., Rana, N. P., Patil, P., Dwivedi, Y. K., & Nerur, S. (2017). Advances in social media research: Past, present and future. *Information Systems Frontiers, 20*(3), 531–558.

Kaufmann, H. R., Petrovici, D. A., Filho, C. G., & Ayres, A. (2016). Identifying moderators of brand attachment for driving customer purchase intention of original vs counterfeits of luxury brands. *Journal of Business Research, 69*(12), 5735–5747.

Kilger, M., & Romer, E. (2007). Do measures of media engagement correlated with product purchase likelihood? *Journal of Advertising Research, 10*(4), 313–325.

Kim, S., & Baek, T. H. (2017). Examining the antecedents and consequences of mobile app engagement. *Telematics and Informatics,* 148–158. https://doi.org/10.1016/j.tele.2017.10.008.

Kim, S., Baek, T. H., Kim, Y.-K., & Yoo, K. (2016). Factors affecting stickiness and word of mouth in mobile applications. *Journal of Research in Interactive Marketing, 10*(3), 177–192.

Kim, K., Park, J., & Kim, J. (2014). Consumer–brand relationship quality: When and how it helps brand extensions. *Journal of Business Research, 67*(4), 591–597.

Kleijnen, M., De Ruyter, K., & Wetzels, M. (2007). An assessment of value creation in mobile service delivery and the moderating role of time consciousness. *Journal of Retailing, 83*(1), 33–46.

Kleine, R. E., Kleine, S. S., & Kernan, J. B. (1993). Mundane consumption and the self: A social-identity perspective. *Journal of Consumer Psychology, 2*(3), 209–235.

Kuchler, H. (2017). *The Internet of things: Home is where the hackers are.* Available from Financial Times. (Accessed on March 2018) https://www.ft.com/content/cb880bc2-057c-11e7-ace0-1ce02ef0def9.

Kumar, A., & Paul, J. (2018). Mass prestige value and competition between American versus Asian laptop brands in an emerging market—Theory and evidence. *International Business Review, 27*(5), 969–981.

Kuo-Fang, Peng, Yan, Chen, & Kuang-Wei, Wen (2014). Brand relationship, consumption values and branded app adoption. *Industrial Management & Data Systems, 114*(8), 1131–1143.

Laroche, M., Habibi, M. R., & Richard, M.-O. (2013). To be or not to be in social media: How brand loyalty is affected by social media? *International Journal of Information Management, 33*(1), 76–82.

Lee, H., & Park, H. (2013). Testing the impact of message interactivity on relationship management and organizational reputation. *Journal of Public Relation Research. 25*(2), 188–206.

Levy, S. J. (1959). Symbols for sale. *Harvard Business Review, 37*, 117–124.

Li, J., Konuş, U., Pauwels, K., & Langerak, F. (2015). The hare and the tortoise: Do earlier adopters of online channels purchase more? *Journal of Retailing, 91*(2), 289–308.

Liang, T., & Lai, H. (2000). Electronic store design and consumer choice: an empirical study. *Proceedings of the 33rd Hawaii International Conference on System Sciences.*

Lin, C. P., & Anol, B. (2008). Learning online social support: An investigation of network information technology based on UTAUT. *CyberPsychology & Behavior, 11*(3), 268–272.

Lu, Y., Zhao, L., & ScWang, B. (2010). From virtual community members to c2c e-commerce buyers: Trust in virtual communities and its effect on consumers' purchase intention. *Electronic Commerce Research and Applications, 9*(4), 346–360.

Magi, A. W. (2003). Share of Wallet in Retailing: The Effects of Customer Satisfaction, Loyalty Cards and Shopper Characteristics. *Journal of Retailing, 79*(2), 97–106.

Mahatanankoon, P., Wen, H. J., & Lim, B. (2005). Consumer-based m-commerce: Exploring consumer perception of mobile applications. *Computer Standards & Interfaces, 27*(4), 347–357.

Malär, L., Krohmer, H., Hoyer, W. D., & Nyffenegger, B. (2011). Emotional brand attachment and brand personality: The relative importance of the actual and the ideal self. *Journal of Marketing, 75*(4), 35–52.

Malhotra, A., Totti, L., Meira, W., Jr, Kumaraguru, P., & Almeida, V. (2012). *Studying user footprints in different online social networks. Proceedings of the 2012 international conference on advances in social networks analysis and mining (ASONAM 2012), IEEE computer society*1065–1070.

Marino, C., Vieno, A., Pastore, M., Albery, I. P., Frings, D., & Spada, M. M. (2016). Modeling the contribution of personality, social identity and social norms to problematic facebook use in adolescents. *Addictive Behaviors, 63*(December), 51–56. https://doi.org/10.1016/j.addbeh.2016.07.001.

Mathew, V., & Thomas, S. (2018). Direct and indirect effect of brand experience on true brand loyalty: Role of involvement. *Asia Pacific Journal of Marketing and Logistics, 30*(3), 725–748.

McCann, E. (2002). *Momentum experiential marketing.* Available from . (Accessed on February, 2018) http://www.mccann.com/aboutus/mem.html.

Meuter, M. L., Bitner, M. J., Ostrom, A. L., & Brown, S. W. (2005). Choosing among alternative service delivery modes: An investigation of customer trial of self-service

technologies. *Journal of Marketing, 69*(2), 61–83.

Michael, M. G., Michael, K., & Perakslis, C. (2014). BUberveillance and the internet of things and people. *Contemporary computing and informatics (IC3I). 2014 international conference,* 1381–1386.

Mollen, A., & Wilson, H. (2010). Engagement, telepresence, and interactivity in online consumer experience: Reconciling scholastic and managerial perspectives. *Journal of Business Research, 63*, 919–925.

Mortimer, R. (2009). *Getting the right attention. Brand strategy.* December55.

Muhammad, S. S., Dey, B. L., & Weerakkody, V. (2018). Analysis of factors that influence customers' willingness to leave big data digital footprints on social media: A systematic review of literature. *Information Systems Frontiers*(October) 2017.

Muniz, A. M., & O'Guinn, T. C. (2001). Brand community. *The Journal of Consumer Research, 27*(4), 412–432.

Newmeyer, C. E., Swaminathan, V., & Hulland, J. (2016). When products and brands trade hands: A framework for acquisition success. *The Journal of Marketing Theory and Practice, 24*(2), 129–146.

Ngai, E. W. T., Tao, S. S. C., & Moon, K. K. L. (2015). Social media research: Theories, constructs, and conceptual frameworks. *International Journal of Information Management, 35*(1), 33–44.

Nitzl, C., Roldan, J. L., & Cepeda, G. (2016). Mediation analysis in partial least squares path modeling: Helping researchers discuss more sophisticated models. *Industrial Management & Data Systems, 116*(9), 1849–1864.

North, S., & Oliver, J. (2014). A strategic look at how to extend your digital footprint. *Strategic Direction, 30*(7), 1–3.

O'Brien, H. L., & Toms, E. G. (2008). What is user engagement? A conceptual framework for defining user engagement with technology. *Journal of the Association for Information Science and Technology, 59*(6), 938–955.

Ogilvy, D. (1963). *Confessions of an advertising man.* New York: Ateneum.

Oliver, R. L. (2014). *Satisfaction: A behavioral perspective on the consumer.* Florence: Taylor and Francis.

Oliver, R. L. (1980). A cognitive model of the antecedents and consequences of satisfaction decisions. *Journal of Marketing Research, 17*(4), 460.

Ong, C. H., Lee, H. W., & Ramayah, T. (2018). Impact of brand experience on loyalty. *Journal of Hospitality Marketing & Management, 27*(7), 755–774.

Pantano, E., & Priporas, C. V. (2016). The effect of mobile retailing on consumers' purchasing experiences: A dynamic perspective. *Computers in Human Behavior, 61*, 548–555.

Park, C., & MacInnis, D. (2006). What's in and what's out: Questions on the boundaries of the attitude construct. *The Journal of Consumer Research, 33*(1), 16–18.

Park, C. W., Priester, J. R., MacInnis, D. J., & Wan, Z. (2009). *The connection-prominence attachment model (CPAM): A conceptual and methodological exploration of brand attachment. Handbook of brand relationships.* Armonk, NY: M.E. Sharpe327–341.

Park, C. W., MacInnis, D. J., & Priester, J. (2006). Beyond attitudes: Attachment and consumer behavior. *Seoul Journal of Business, 12*(2), 3–35.

Paul, J. (2018). Toward a masstige theory and strategy for marketing. *European Journal of International Management, 12*(5–6), 722–745.

Paul, J. (2019). Masstige model and measure for brand management. *European Management Journal.* https://doi.org/10.1016/j.emj.2018.07.003.

Paul, J. (2015). Masstige marketing redefined and mapped. *Marketing Intelligence & Planning, 33*(5), 691–706.

Paul, J., & Bhakar, S. (2018). Does celebrity image congruence influences brand attitude and purchase intention? *Journal of Promotion Management, 24*(2), 153–177.

Paul, J., & Mas, E. (2016). The emergence of China and India in the global market. *Journal of East-West Business, 22*(1), 28–50.

Pedeliento, G., Andreini, D., Bergamaschi, M., & Salo, J. (2016). Brand and product attachment in an industrial context: The effects on brand loyalty. *Industrial Marketing Management, 53*, 194–206.

Peng, K., Chen, Y., & Wen, K. (2014). Brand relationship, consumption values and branded app adoption. *Industrial Management & Data Systems, 114*(8), 1131–1143.

Phillips, J., Noble, S. M., & Noble, C. H. (2011). Managing Rewards to Enhance Relational Worth. *Journal of the Academy of Marketing Science, 39*(3), 341–362.

Pillai, S. (2018). *Whatsapp: We use 90% of online time on phone* (2018, April 20) Available from The Times of India. (Accessed on May 2018) https://timesofindia.indiatimes.com/india/we-use-90-of-online-time-on-phone/articleshow/63837903.cms.

Pine, B. J., & Gilmore, J. H. (1998). Welcome to the experience economy. July/August *Harvard Business Review,* 97–105.

Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *The Journal of Applied Psychology, 88*, 879–903.

Proksch, M., Orth, U. R., & Cornwell, T. B. (2015). Competence enhancement and anticipated emotion as motivational drivers of brand attachment. *Psychology & Marketing, 32*(9), 934–949.

Purcell, K., Rainie, H., Heaps, A., Chen, C., & Zickuhr, K. (2012). *How teens do research in the digital world: A survey of Advanced Placement and National Writing Project teachers finds that teens' research habits are changing in the digital age.* Washington, DC: Pew Research Center's Internet & American Life Project.

Ranjan, K. R., & Read, S. (2014). Value co-creation: Concept and measurement. *Journal of the Academy of Marketing Science, 44*(3), 290–315.

Rathore, A. K. P., llavarasan, P. V., & Dwivedi, Y. K. (2016). Social media content and product co-creation: an emerging paradigm. *Journal of Enterprise Information Management, 29*(1), 7–18.

Rauniar, R., Rawski, G., Yang, J., & Johnson, B. (2013). Technology acceptance model (TAM) and social media usage: An empirical study on Facebook. *Journal of Enterprise Information Management, 27*(1), 6–30.

Rogers, E. M. (1983). *Diffusion of innovations.* New York: Free Press.

Rosenberger, M., Lehrer, C., & Jung, R. (2017). Integrating data from user activities of

social networks into public administrations. *Information Systems Frontiers, 19*(2), 253–266.

Roswinanto, W., & Strutton, D. (2014). Investigating the advertising antecedents to and consequences of brand experience. *Journal of Promotion Management, 20*(5), 607–627.

Schouten, J. W., & McAlexander, J. H. (1995). Subcultures of consumption: An ethnography of the new bikers. *The Journal of Consumer Research, 22*(1), 43.

Schulz, D. E. (1998). Are we too loyal to our concept of loyalty? *Marketing News, 32*(13), 11–13.

Shankar, V., Kleijnen, M., Ramanathan, S., Rizley, R., Holland, S., & Morrissey, S. (2016). Mobile shopper marketing: Key issues, current insights, and future research avenues. *Journal of Interactive Marketing, 34*, 37–38.

Shareef, M. A., Mukerji, B., Dwivedi, Y. K., Rana, N. P., & Islam, R. (2019). Social media marketing: Comparative effect of advertisement sources. *Journal of Retailing and Consumer Services, 46*, 58–69.

Shareef, M. A., Mukerji, B., Alryalat, M. A. A., Wright, A., & Dwivedi, Y. K. (2018). Advertisements on Facebook: Identifying the persuasive elements in the development of positive attitudes in consumers. *Journal of Retailing and Consumer Services, 43*(July), 258–268.

Sharma, S. K. (2017). Integrating cognitive antecedents into TAM to explain mobile banking behavioral intention: A SEM-neural network modeling. *Information Systems Frontiers,* (June), 1–13. https://doi.org/10.1007/s10796-017-9775-x.

Sheth, J. N., Newman, B. I., & Gross, B. L. (1991). Why we buy what we buy: A theory of consumption values. *Journal of Business Research, 22*(2), 159–170.

Shiau, W.-L., Dwivedi, Y. K., & Lai, H.-H. (2018). Examining the core knowledge on Facebook. *International Journal of Information Management, 43*(December), 52–63.

Shiau, W.-L., Dwivedi, Y. K., & Yang, H.-S. (2017). Co-citation and cluster analyses of extant literature on social networks. *International Journal of Information Management, 37*(5), 390–399.

Sigurdsson, V., Menon, R. G., Hallgrímsson, A. G., Larsen, N. M., & Fagerstrøm, A. (2017). Factors affecting attitudes and behavioral intentions toward in-app mobile advertisements. *Journal of Promotion Management, 24*(5), 694–714.

Siwicki, B. (2015). *Smartphones now account for a majority of mobile transactions [Internet Retailer]* (2015, April 1) Available from . (Accessed on March 2018) https://www.digitalcommerce360.com/2015/04/01/smartphones-now-account-majority-mobile-transactions/.

Sprott, D., Czellar, S., & Spangenberg, E. (2009). The importance of a general measure of brand engagement on market behavior: Development and validation of a scale. *Journal of Marketing Research, 46*(1), 92–104.

Swaminathan, V., Stilley, K. M., & Ahluwalia, R. (2009). When Brand Personality Matters: The Moderating Role Of Attachment Styles. *Journal of Consumer Research, 35*(6), 985–1002.

Taylor, G. D., & Levin, M. (2014). Predicting mobile app usage for purchasing and information-sharing. *International Journal of Retail & Distribution Management, 42*(8), 759–774.

Thomson, M. (2006). Human brands: Investigating antecedents to consumers' strong attachments to celebrities. *Journal of Marketing, 70*(3), 104–119.

Thomson, M., MacInnis, D. J., & Park, C. W. (2005). The ties that bind: Measuring the strength of consumers' emotional attachments to brands. *Journal of Consumer Psychology, 15*(1), 77–91.

Turel, O., Serenko, A., & Bontis, N. (2007). User acceptance of wireless short messaging services: Deconstructing perceived value. *Information & Management, 44*(1), 63–73.

Tuten, T. L., & Solomon, M. R. (2016). *Social media marketing* (2nd ed.). Thousand Oaks: Sage.

Tuten, T. L., & Solomon, M. R. (2015). *Social media marketing* (2nd edition). London: Sage Publication Ltd.

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

Venkatesh, V., Thong, J. Y., & Xu, X. (2012). *Consumer acceptance and use of information technology: Extending the unified theory of acceptance and use of technology*.

Verhoef, P. C., Kannan, P., & Inman, J. J. (2015). From multi-channel retailing to Omni-channel retailing: Introduction to the special issue on multi-channel retailing. *Journal of Retailing, 91*(2), 174–181.

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

Wang, C., Harris, J., & Patterson, G. P. (2012). Customer choice of self–service technology: the roles of situational influences and past experience. *Journal of Service Management, 23*(1), 54–78.

Waters, R., & Bond, S. (2017). *US moves step closer to overturning broadband privacy regulations.* Available from Financial Times. (Accessed on March 2018) https://www.ft.com/content/fbb144fa-1411-11e7-80f4-13e067d5072c.

Wu, L. (2016). Understanding the impact of media engagement on the perceived value and acceptance of advertising within mobile social networks. *Journal of Interactive Advertising, 16*(1), 59–73.

Wu, J.-H., & Wang, S.-C. (2005). What drives mobile commerce? An empirical evaluation of the revised technology acceptance model. *Information & Management, 42*, 719–729.

Wu, J., Chen, J., & Dou, W. (2017). The internet of things and interaction style: The effect of smart interaction on brand attachment. *Journal of Marketing Management, 33*(1–2), 61–75.

Xie, L., Poon, P., & Zhang, W. (2017). Brand experience and customer citizenship behavior: The role of brand relationship quality. *The Journal of Consumer Marketing, 34*(3), 268–280.

Yang, H. (2013). Bon Appétit for apps: Young american consumers' acceptance of mobile applications. *Journal of Computer Information Systems, 53*(3), 85–96.

Yang, K., & Kim, H. (2012). Mobile shopping motivation: An application of multiple discriminant analysis. *International Journal of Retail & Distribution Management, 40*(10), 778–789.

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.

Yi, Y., & Jeon, H. (2003). Effects of loyalty programs on value perception, program loyalty, and brand loyalty. *Journal of the Academy of Marketing Science, 31*(3), 229–240.

Yoon, D., Choi, S. M., & Sohn, D. (2008). Building customer relationships in an electronic age: The role of interactivity of e-commerce web sites. *Psychology & Marketing. 25*(7), 602–618.

Zeithaml, V. A. (1988). Consumer perceptions of price, quality, and value: A means-end model and synthesis of evidence. *Journal of Marketing, 52*(3), 2.

Zhao, X., Lynch, J. G., & Chen, Q. (2010). Reconsidering Baron and Kenny: Myths and truths about mediation analysis. *The Journal of Consumer Research, 37*(2), 197–206.