

BRAND EXPERIENCE, FLOW AND BRAND APP LOYALTY: EXAMINING CONSUMER DECISION MAKING WITHIN BRANDED MOBILE APPS

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While technological advancements have rapidly changed the landscape of marketing, researchers and practitioners are beginning to explore the value of branded mobile apps. The current study explores how the dimensions of brand experience influence consumer decision-making within branded mobile apps. Data was collected from 232 respondents via an online survey and structural equation modeling was used to evaluate the relationships between brand experiences, flow and brand app loyalty. Findings indicate that not only should brands increase their efforts to facilitate emotional responses but they should also modify attributes of their branded mobile apps to foster a state of flow for their consumers. Careful consideration of the dimensions of brand experience, coupled with efforts to foster flow could lead to higher levels of brand app loyalty and increased positive word-of-mouth communication. Consumers will benefit from stronger relationships with the brands they support and companies will benefit via increased profitability.

INTRODUCTION

The rapid adoption of cell phones and the ubiquitous nature of technology have allowed corporations to engage consumers in an unprecedented manner (Mort & Dreenan, 2007; Okazaki, Katsukura & Nushiya, 2007; Smutkupt, Krairit & Esichaikul, 2010). Mobile marketing has been defined as “a set of practices that enables organizations to communicate and engage with their audience in an interactive and relevant manner through any mobile device or network” (MMA, 2008). Ene and Ozkaya (2015) characterize mobile marketing as the ways that corporations and brands use mobile services to execute various marketing through the display of advertisements, offering of coupons, announcements of special sales, promotion of contests, rebates and sweepstakes, etc. Smutkupt et al., (2010) state that online environments allow retailers to offer more interactive and personalized marketing strategies. Numerous researchers suggest that corporations are primarily driven to adopt mobile advertising in order to bolster their branding efforts (Bellman, Potter, Treleaven-Hassard, Robinson & Varan, 2011; Okazaki et al., 2007 and Smutkupt et al., 2010).

As of spring 2017, there were 237 million cellular phone users across the U.S. and 4.8 billion users across the world (Statista, 2018). Moreover, smartphone users adopted over 90 billion apps through the iOS App Store and Google Play while spending almost 900 billion hours on these apps (Thompson, 2017). According to a recent study by AppAnnie (Thompson, 2017), smartphone users are spending more time on apps than in years past as they access more than 30 apps per month (Perez, 2017; Thompson, 2017) compared with 26-27 apps per month in 2015. Generally, these 30 apps represent one-third to one-half of the apps installed on users smartphones with users accessing 9 apps daily (on average). Overall, users in the U.S. are spending an average of 2 hours and 15 minutes on various mobile apps each day, which equates to more than one month per year (Perez, 2017; Thompson, 2017). This trend in usage has been named the “30:10 rule” as users interact with 30 apps monthly and 10 daily (Perez, 2017; Thompson, 2017).

As users become increasingly reliant on branded mobile apps, it is more imperative for researchers to investigate the factors that influence mobile app usage and behavior. This study is important in that it is the first to explore the relationship between brand experience, flow (a psychological state) and behavioral intentions, especially in the context of branded mobile apps. While researchers have concluded that flow and brand experience individually influence online

consumer decision-making, researchers have not explored the collective impact of flow and brand experience on behavioral intentions. The ubiquitous nature of technology coupled with consumers' increased reliance upon mobile marketing efforts has produced fertile ground for a range of research opportunities.

LITERATURE REVIEW

Branded Mobile Apps

The intersection of corporate efforts to improve branding strategies and consumer openness to technological advancements has created fertile ground for the development of branded mobile apps. The term "branded mobile apps" describes software that is downloadable to a mobile device that prominently displays a brand identity, often via the name of the app and the appearance of a brand logo or icon (Bellman et al., 2011). Target, Starbucks, Kraft, McDonald's, Best Buy and BMW are amongst numerous corporations that use mobile branded apps to increase consumer engagement (Bellman et al., 2011). Mobile marketing has been viewed as a mechanism by which companies can strengthen their online value chain through increased communication and enhanced customer service (Smutkupt et al., 2010). "In a push strategy, marketers initiate communications by sending information directly to customers without their prior request. And quite the opposite, pull strategies involving delivering messages upon customer request, or placing information on browsed mobile content (pg. 134, Smutkupt et al., 2010)." Branded mobile apps are inherently different from many other forms of traditional marketing in that they represent a "pull" versus a "push" strategy (Barnes & Scornavacca, 2014; Bellman et al., 2011). Utilizing branded mobile apps as a "pull" strategy enables corporations to draw consumers closer to the brand through the display of advertising messages and general content. Consumers then choose to engage with the brand due to their interest in the information provided by the brand. As such, consumers give corporations permission to deliver a range of marketing messages through the use of mobile branded apps (Bellman et al., 2011; Barnes and Scornavacca, 2014) and consumers are more receptive to brand messages when they have

given brands permission to interact with them (Barnes & Scornavacca, 2014; Smutkupt et al., 2010). Moreover, branded mobile apps appeal to a wide range of consumer needs. Zhao and Balague (2015) classified branded mobile apps into five categories including tool-centric apps which provide consumers with utility, game-centric apps which appeal to consumers' hedonic needs, design-centric apps which focus on creativity, m-commerce centric apps which focus on selling products and social-centric apps which focus on socialization (Zhao and Balague, 2015). Some branded mobile apps may facilitate the formation of virtual communities as consumers have the opportunity to engage in peer-to-peer communication. Zhao and Balague (2015) offer that social-centric branded apps may be particularly effective in terms of fostering community amongst users.

Bellman et al. (2011) suggest that branded mobile apps are one of the "most powerful forms of advertising yet developed" because of their "usefulness." Hennig-Thurau, Gwinner, Walsh and Gremier (2004) suggest that consumers are motivated to use online communities for a range of purposes including to vent negative feelings, seek advice, obtain social benefits and to achieve economic benefits. Specifically, Ho and Syu (2010) state that branded mobile apps provide consumers entertainment, information, socialization, intellectual stimulation and education.

Zhao and Balague (2015) found that branded apps enhance communication by conveying brand values, relevant information and product details while fostering awareness. Ferris (2007) asserts that brands that use mobile marketing are generally considered to be more "innovative and high-tech." Branded apps are considered to be a more "engaging" form of marketing, surpassing even traditional web sites (Bellman et al., 2011). Generally, the use of branded apps increases the level of positive persuasion, interest in the brand and interest in the product category (Bellman et al., 2011). As such, branded apps are a highly effective form of advertising for many corporations and brands.

Brand Experience

Schmitt (1999) conceptualized brand experience as “subjective, internal consumer responses (sensation, feelings and cognitions) as well as behavioral responses evoked by brand-related stimuli that are part of a brand’s design and identity, packaging communications and environments” (p. 418). Applying Schmitt’s (1999) conceptualization of brand experience to consumer behavior, Brakus, Schmitt and Zarantonello (2009) offer that brand experience is a multidimensional construct consisting of “sensory, affective, cognitive and behavioral dimensions.” The sensory dimension is connected to aspects of the brand that relate to the five senses – touch, smell, taste, sight and sound (Brakus et al., 2009; Santini, Ladeira & Sampaio, 2018; Schmitt, 1999). The affective dimension relates to the consumer’s emotional response or mood facilitated by the brand (Brakus et al., 2009; Santini et al., 2018 & Schmitt, 1999). The intellectual dimension refers to the cognitive or thought related associations fostered by the brand (Brakus et al., 2009). Lastly, the behavioral dimension refers to the physical actions or responses prompted by the brand (Brakus et al., 2009; Santini, F.O., Ladeira, W.J. & Sampaio, C.H., 2018; Schmitt 1999).

Brakus et al. (2009) carefully noted that brand experience is notably different from other brand constructs such as brand attitude, brand involvement, brand attachment and brand personality. Involvement is focused on factors that cause consumers to gravitate towards a brand and attitudes are based on consumer brand evaluations. Conversely, brand experience does not consider a consumer’s source of motivation and is not based on consumers’ judgments of a brand (Brakus et al., 2009). Tsai, Chang and Ho (2015) offer that brand experience could be favorable or unfavorable, it may be fleeting or enduring, and it could ultimately foster “customer satisfaction, customer loyalty and brand association.” In short, brand experience is a multi-dimensional construct.

Bellman et al. (2011) suggest that the effectiveness of branded apps may be due to the heightened levels of user engagement that occurs through “rich experiences.” As

researchers and practitioners examine branding from a holistic perspective, there is now more focus on the experience that consumers have when interacting with the brand (Iglesias, Singh & Batista-Foguet, 2011). In the past, brands have been focused on the functional or utilitarian characteristics of product consumption. However, marketers are now realizing that consumer decision-making is complex and technological advancements have changed the landscape of consumption. Today’s consumers are more interested in the experiential aspects of consumption than ever before (Brakus et al., 2009). As such, marketers are actively pursuing strategies to create greater levels of engagement (Brodie, Ilic, Juric & Hollebeek, 2013; Iglesias et al., 2011). These “rich experiences” may be fostered by the high levels of involvement that can occur within online environments.

Flow Theory

High involvement experiences that occur within online settings have been examined via the lens of flow theory. “Flow refers to the fully immersed state that people experience when they act with total involvement” (pg. 257, Kim and Han, 2014). Csikszentmihalyi (1990) described flow as being facilitated by an order in consciousness that causes individuals to enter a specific experiential state “so desirable that one wishes to relive it as often as possible.” These optimal experiences do not occur until one’s set of skills is matched with the perceived challenges and skills exceed the level of difficulty that is typical for the individual’s day-to-day experiences (Csikszentmihalyi, 1977). Thus to remain in flow, an individual must be continually presented with more difficult tasks in order to ensure that the level of complexity is kept in line with the individual’s level of skills. Flow causes individuals to experience feelings of euphoria, centering of attention, loss of control and heightened pleasure (Csikszentmihalyi, 1977). Flow has been used to explore a range of online activities including gambling, chat rooms, electronic learning systems, specific websites and online stores (Hoffman & Novak, 2009). Most importantly, flow has also been used to explore online shopping behavior (Bridges & Florsheim, 2008; Smith & Sivakumar, 2004).

More recently, flow has been studied in relation to mobile advertising (Kim & Han, 2014). Findings indicate that purchase intentions were positively influenced when users experienced flow while viewing advertisements on their mobile phones. Kim and Han (2014) state that “when customers are intensely absorbed and completely focused on smartphone advertisements, they better understand and enjoy an advertising message” (pg. 264). This intense level of involvement will facilitate purchasing intentions. Just as flow facilitates purchase intentions when consumers view mobile advertisements (Kim & Han, 2014), flow may also influence decision making when consumers are exposed to brand related stimuli through mobile apps. Brand experience relates to the inherent nature of the brand (Santini et al., 2018). Consumers are now more interested in brands that provide rewarding experiences (Schmitt, 1999). Experiencing the range of sensations, feelings and thoughts (Iglesias et al., 2011) associated with the four dimensions of brand experience should provide the context needed for a consumer to successfully enter a state of flow. As such, we propose that the sensory, affective, behavioral and intellectual dimensions of brand experience will positively influence flow.

Hypotheses:

- H₁:** The sensory dimension of brand experience induced by a branded mobile app will positively influence flow.
- H₂:** The affective dimension of brand experience induced by a branded mobile app will positively influence flow.
- H₃:** The behavioral dimension of brand experience induced by a branded mobile app will positively influence flow.
- H₄:** The intellectual dimension of brand experience induced by a branded mobile app will positively influence flow.

Brand App Loyalty

Brand loyalty is a much discussed concept in marketing and the outcomes of brand loyalty impact both academicians and practitioners

(Iglesias et al., 2011). Morgan-Thomas and Veloutsou (2013) offer that prolonged exposure to online brands can foster meaningful relationships between consumers and the brand. The opportunity to bond with consumers and the realization of a brand’s emotional characteristics can overcome the pervasive instability that exists in online environments (Morgan-Thomas & Veloutsou, 2013; Simmons, 2007). Brand loyalty can decrease switching behavior and increase rates of consumer retention (Iglesias et al., 2011). Brand loyalty has also been linked to repeat purchase behavior (Kumar and Advani, 2005). Moreover, consumers may have varied responses to branded mobile apps depending on the manner in which the app is executed (Iglesias et al., 2011). Different app characteristics (for example, information versus experiential) may impact the branded app’s level of effectiveness (Iglesias et al., 2011). Similarly, the varied dimensions of brand experience may influence the consumer’s level of engagement with a brand. Just as the characteristics of mobile apps can impact their overall effectiveness, the dimensions of brand experience may influence the effectiveness of branding efforts, ultimately impacting brand loyalty.

- H₅:** The sensory dimension of brand experience induced by a branded mobile app will positively influence brand app loyalty.
- H₆:** The affective dimension of brand experience induced by a branded mobile app will positively influence brand app loyalty.
- H₇:** The behavioral dimension of brand experience induced by a branded mobile app will positively influence brand app loyalty.
- H₈:** The intellectual dimension of brand experience induced by a branded mobile app will positively influence brand app loyalty.
- H₉:** Flow induced by a branded mobile app will positively influence brand app loyalty.

Willingness to Recommend

“Positive brand experiences generate repeated interactions and as the frequency and duration

of the customer-brand interaction increases, online relationships form” (pg. 24, Morgan-Thomas & Veloutsou, 2013). Relationships with online brands are fostered through trust and loyalty (Veloutsou, 2007). Park, Nah, DeWester, Eschenbrenner and Jeon (2008) explore the relationship between brand value and flow experience. Their findings indicate that flow facilitates a range of positive outcomes including cognitive, task-related and behavioral outcomes. Specifically, Kim and Han (2014) suggest that flow influences positive behavioral intentions. From a marketing strategy perspective, these outcomes may include “purchase consideration, customer confidence, purchase intention, user satisfaction and behavior change” (Bilgihan, 2016). Consumer behavioral changes may also include sharing brand information with others. Specifically, Okazaki (2009) offers that favorable attitudes towards a brand facilitate willingness to make recommendations. Consumers, particularly Gen Z and Gen Y consumers, may be more likely to participate in word-of-mouth activities in order to strengthen and expand their social networks (Okazaki, 2009; Taylor, Voelker & Pentina, 2011). The identification of opinion leaders within virtual communities can be particularly important for brands as these individuals will be more likely to facilitate “buzz” (Okazaki, 2009). Buzz marketing has been defined as “a viral marketing technique that is focused on maximizing the word-of-mouth potential of a particular campaign or product, whether through conversations among family, friends or across social media platforms” (Rouse, 2015). Recommending a branded mobile app not only provides consumers with the opportunity to strengthen their social ties but it also allows consumers to reinforce their commitment to the respective brand (Okazaki, 2009). As such, recommendations provide consumers with the ability to fortify brand relationships both in online and offline settings.

- H₁₀:** Flow induced by a branded mobile app will positively influence consumer willingness to recommend branded mobile app.
- H₁₁:** Brand app loyalty will positively influence consumer willingness to recommend branded mobile app.

METHODOLOGY

Data Collection

Data was collected at a college campus in the western suburbs of Chicago, Illinois. An online survey was developed and posted on Qualtrics. A link to the survey was provided to students by their instructors and participants completed the online survey using designated class time. After opening the survey link, participants read an introduction that provided a definition of branded mobile apps and a description of how they are used (see Survey Introduction below). Students were also provided with specific examples of branded apps. Surveys were completed on laptops, tablets and mobile phones. Participants were those who indicated that they currently had mobile apps on their cellular devices. In total, data was collected from 232 respondents. Participants were asked to respond to questions regarding their two most used branded apps. Thus, 464 valid responses were analyzed to assess reliability, validity and hypotheses testing. 46% of the participants were men, 52% were female and 2% of participants indicated other. 83% of the participants were between the ages of 20 and 22 (see Table 1 for respondent profile data).

Survey Introduction

The questionnaire is designed specifically for individuals who are currently using branded mobile apps. Branded mobile apps refers to software that is downloadable to a mobile device which prominently displays a brand identity. Corporations use branded mobile apps to advertise and sell their products and/or services. Please answer the following questions while considering the specific mobile apps that are on your mobile phone (For example, Starbucks App, Amazon App, Target App, H&M App, Forever 21 App, Uber App, Lyft App, Chase Bank App, etc.). Please DO NOT consider your experiences with social media apps including Twitter, Instagram, Facebook, YouTube, Snapchat or dating sites like Match and Tinder, or apps like The Weather Channel or ESPN. These are not branded apps. Thank you for taking the time to participate in this study.

TABLE 1:
Survey Respondent Profile (n=232)

Measure	Items	Frequency	Percentage (%)
Gender	Male	108	46
	Female	121	52
	Other	3	1
Age	Under 20	85	37
	21-22	106	46
	23-24	24	10
	25-26	6	3
	Older than 26	11	5
Education	High School	25	11
	Undergraduate Student	196	85
	Graduate Student	2	2
	Earned Bachelors Degree	2	2
Number of Apps*	Earned Masters Degree	1	1
	0	0	0
	1-2	64	13
	3-4	140	30
	5-6	80	17
	More than 6	178	38
Frequency of Brand App Use*	Never	28	6
	Once a Day	62	13
	2-3 times a day	51	11
	4-5 times a day	32	7
	5 or more times a day	44	10
	Once a week	53	11
	2-3 times a week	59	13
	4-5 times a week	43	9
	5 or more times a week	90	20
Frequency of Brand App Purchases*	18	4	
	Once a day	12	3
	Several times per day	60	13
	Once a week	47	10
	Several times a week	113	24
	Once a month	62	13
	Several times a month	150	32

* $n = 232$, respondents answered questions regarding their two most used apps resulting in 464 total responses

Measures

Established scales were used to measure all constructs in the current study. The four dimensions of brand experience were measured using eight items adapted from Brakus et al.'s (2009) brand experience scale. Flow was measured using four items from Kim and Han (2014). Brand app loyalty was measured using three items from Kim and Yu (2016), and willingness to recommend was measured with three modified items from Okazaki (2009) (see

Table 2 for a summary of measurement items). Each item was measured on a seven point Likert scale from "strongly disagree to strongly agree." The survey was pre-tested with 28 students. Respondents who participated in the pre-test were asked to provide written feedback and suggestions regarding the survey introduction, wording of the questions and general tone. A pilot test was then conducted with 14 students. The students indicated that the survey was clear and all the questions were understandable and easy to answer.

RESULTS

Control variables

Age, gender, self-identification with decisions made via mobile phone, leadership with technology, branded mobile app involvement and attitude toward branded mobile apps were evaluated as control variables. While this study is the first to examine the connection between brand experience and flow for branded mobile apps, researchers have explored a range of factors that influence consumer response to mobile marketing strategies. Ene and Ozkaya (2015) explore the impact of leadership with technology on mobile purchase decisions while Ozaki (2009) considers the impact of self-identification with the mobile device on consumer willingness to make referrals (recommendations). Collectively, this pre-existing research provided the foundation needed to shape the design of this study. The primary goal of this research was to explore the connection between brand experience, flow and

behavioral intentions. As such, it was important to control factors that may conflate our results. Self-identification with decisions made via mobile phone was measured with four modified items from Okazaki (2009). The items were as follows: “I use many services offered through my cellular phone,” “I use my cellular phone as the main means of communication,” “I am very dependent on my cellular phone” and “My cellular phone is essential in my daily life” ($\alpha = 0.81$). Leadership in technology was measured using three items from Ene & Ozkaya (2015). The items were as follows: “I have deep knowledge of mobile communication,” “When compared to my friends, I am an expert in mobile communication” and “Among my friends, I am generally the first one to learn about the latest phones/technology” ($\alpha = 0.78$). Involvement in branded apps was measured with four items from Zaichkowsky (1985) and Chang and Moon (2012). The items were as follows: “Branded apps are important to me,” “Branded apps mean a lot to me,” “I am interested in branded apps” and “Branded apps

**TABLE 2:
Summary of Measures**

Construct	Items	References
Brand Experience	This brand makes a strong impression on my visual sense or other senses. I find this brand interesting in a sensory way. This brand induces feelings and sentiments. This brand is an emotional brand. I engage in physical actions and behaviors when I use this brand. This brand results in bodily experiences. I engage in a lot of thinking when I encounter this brand. The brand stimulates my curiosity and problem solving.	Brakus, Schmitt & Zarantonello (2009)
Flow	I completely concentrate on branded apps while I look at them. When I am using a branded app, time seems to pass by very quickly. When I am using a branded app, nothing seems to matter. When I view information (or use) a branded app, I feel totally captivated.	Kim & Han (2014)
Brand App Loyalty	I would buy the brand in the branded app at the next opportunity I get. I prefer the brand in this branded app to others in the same product category. I will recommend that others purchase the brand in the branded app.	Kim & Yu (2016)
Willingness to Recommend Branded App	When I get advertising, special offers, product information through this branded app, I want to tell my friends. If someone asks my advice on branded apps that are interesting, I will recommend this app. I will recommend that my friend and family view this branded mobile app.	Okazaki (2009)

are a concern to me” ($\alpha = 0.79$). Mobile App Brand Attitude was measured with three items from Kim, Yoon and Han (2016). The items are as follows: “Overall, I find using branded mobile apps positive,” “Overall, I feel favorable towards mobile apps” and “Overall, I am satisfied with mobile apps available on my smartphone” ($\alpha = 0.89$)

First, we examined whether any confounding effects exist from all the control variables. Multiple regressions were performed, in which all the hypothesized dependent variables were regressed on the independent variables, together with all the control variables. The tests reveal that none of these control variables has a significant effect ($F = 0.42$ to 1.39 , $p = 0.17$ to 0.63), thus we remove all these factors in the subsequent tests.

Second, we categorize the branded mobile apps in our data into three broad categories: retailing-based apps, service-based apps and social media apps. The retailing-based apps represent retailer/store brands (for example, Target App, Amazon App and Starbucks App). This category corresponds to the m-commerce centric apps proposed by Zhao and Balague (2015) focusing on merchandising and selling products. The service-based apps are developed by service companies (for example, Chase App, Uber App, Lyft App) to offer customer services and information rather than to sell physical products. Service-based apps are similar to the tool-centric apps (Zhao and Balague, 2015), which aim at assisting consumers to meet their personal needs and goals with services. The last category of social media apps fulfills the tasks of facilitating socialization and fostering virtual communities (for example, Facebook, Snapchat, Twitter), which corresponds with the social-centric branded apps by Zhao and Balague (2015). While we instructed the students to avoid listing social media apps for the sake of obtaining a wide variety of branded mobile apps, quite a few of them still listed social media apps when completing the survey. Our data captures very few examples of game-centric apps and design-centric apps (Zhao and Balague, 2015) thus we rule these categories out in our analysis.

The participants listed a large variety of 125 different branded mobile apps. The frequency

analyses show that 44.79% of the apps in our data are service-based apps, with the top three most frequently mentioned apps being Chase App (51 cases), Uber App (47 cases) and Spotify App (10 cases). 40.80 % of the apps are retailing-based apps, with the top three most frequently used apps being Starbucks App (54 cases), Amazon App (42 cases) and Target App (17 cases). About 14.41% of apps belong would be classified as social media apps with the most frequently used apps being Instagram (16 cases) and Snapchat (15 cases).

We converted the three categories into three dummy variables and entered them into the multiple regression together with all the other independent variables examined in the current study. No significant effect showed up from these three dummy variables in the multiple regressions ($-.07 < \beta < .44$; $.22 < p < .82$). Thus, we rule out the possibility that the brand app categories influence the effects found across all of our dependent and independent variables.

Measurement Assessment

Our study utilizes the method of path analysis (e.g., Hayduk, 1987; Kline, 1998) as a structural equation modeling procedure to test all our hypotheses. The assessment of measurement reliability and validity was performed using confirmatory factory analysis (CFA) that contains all the multi-item measures used in the path analysis. The software EQS 6.1 (Bentler, 2005) was used for all the estimations.

The measurement model shows an acceptable to good fit to the data based on various fit indexes (BBNFI = .957, CFI = .94, IFI = .94, RMSEA = .074). The fact that Chi-square ($p < .001$, $df = 114$) indicates a poor fit is of limited value given its sensitivity to sample size (Bagozzi, Youjae & Phillips, 1991). Table 3 demonstrates an acceptable to good internal reliability and consistency of all the constructs. In terms of discriminant validity, we checked the discriminant validity of the constructs based on Fornell and Larcker (1981). Specifically, for each pair of latent variables, the significance of the difference of the Chi-square between the proposed measurement model and a restricted model in which the correlation of the factors is fixed at 1.0 indicates that the unrestricted

models achieve better goodness-of-fit measures than the concurrent models. Second, the AVE for each construct is greater than the squared correlation between the construct and any other construct. Taking these test results together, we conclude that the discriminant validity of measures is satisfied in the current research.

The Path Model

In order to test all the hypotheses, a path model is established that includes all the seven latent variables. Table 4 displays the correlation matrix of all the latent variables used in this study. The structural model indicates a good global fit. Although Chi-square is significant (Chi-square = 20.709, $df = 4$), all goodness-of-

fit measures exceed their corresponding critical values (BBNFI = 0.983, CFI = 0.986, IFI = 0.987, RMSEA = 0.095).

Figure 1 displays the path model we constructed. The solid paths are all statistically significant, while the dotted paths are not statistically significant. H_1 through H_4 hypothesize that the four measures of brand experiences (i.e., sensory, affective, behavioral and intellectual) will each have a positive effect on consumer flow experience. The results confirm H_2 and H_4 in that the affective ($b = .36$, $t = 7.43$) and intellectual ($b = .36$, $t = 7.43$) dimensions of brand experience both have a positive effect on consumers' flow. Sensory

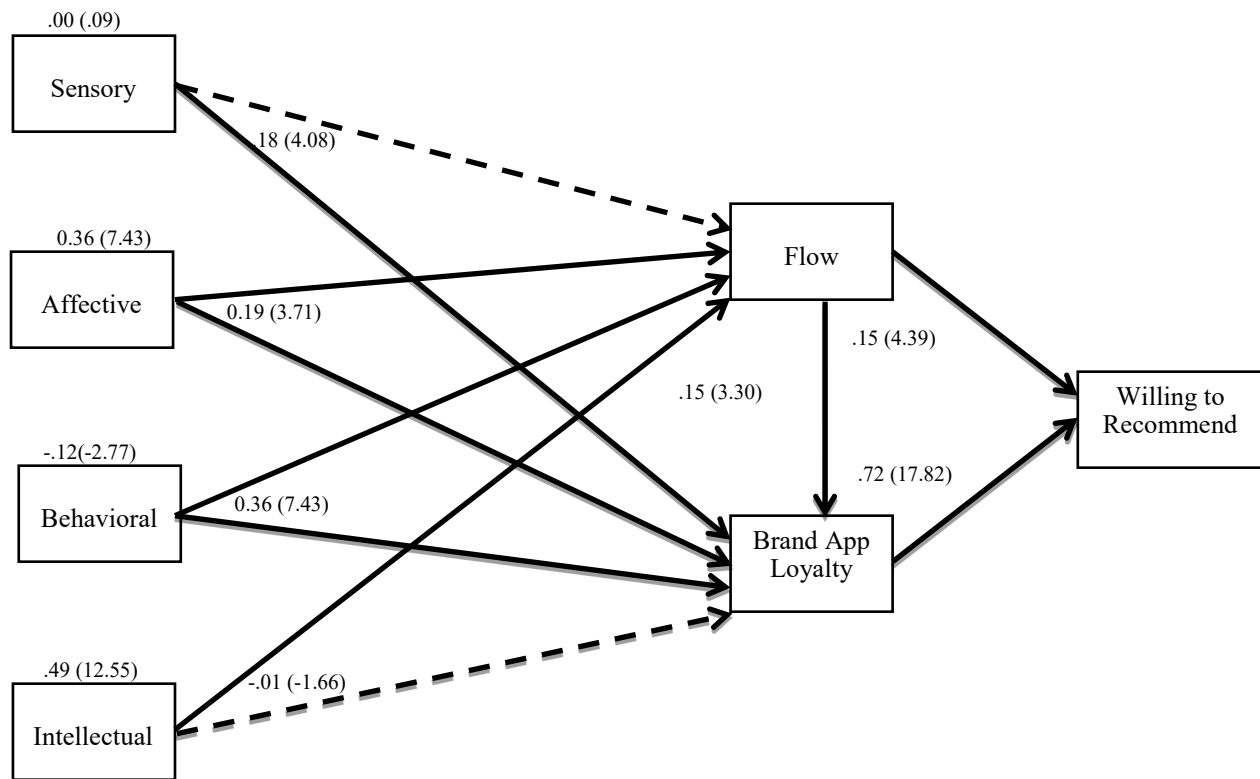
TABLE 3:
Confirmatory Factor Analysis: Measurement of Psychometric Properties

Factor	Item	Convergent validity		Reliability		
		Factor loading	Loading average	Cronbach's α	CR	AVE
Sensory Brand Experience	Item 1	.88*	0.92	0.9	0.84	0.84
	Item 2	.95*				
Affective Brand Experience	Item 1	.83*	0.77	0.74	0.60	0.60
	Item 2	.71*				
Behavioral Brand Experience	Item 1	.68*	0.70	0.65	0.48	0.48
	Item 2	.71*				
Intellectual Brand Experience	Item 1	.73*	0.77	0.74	0.59	0.59
	Item 2	.81*				
Flow	Item 1	.73*	0.80	0.87	0.64	0.64
	Item 2	.81*				
	Item 3	.81*				
	Item 4	.85*				
Brand App Loyalty	Item 1	.69*	0.80	0.83	0.64	0.64
	Item 2	.80*				
	Item 3	.90*				
Brand App Recommendation	Item 1	.74*	0.81	0.85	0.65	0.65
	Item 2	.84*				
	Item 3	.84*				

CR, composite reliability; AVE, average variance extracted

* $p < .001$

FIGURE 1:
A Path Model of Brand Experience and Consumer Responses



brand experience shows no effect on consumers' flow ($b = .04, t = 0.09$). Different from what we hypothesized, the behavioral dimension of brand experience in our data displays a negative effect on flow ($b = -.12, t = -2.7$). This particular finding is intriguing and we discuss it in details below.

H₅ through H₈ state that all the four dimensions of brand experiences (i.e., sensory, affective, behavioral and intellectual) will each have a positive effect on consumers' brand app loyalty. Our results confirm H₅, H₆ and H₇. Specifically, the sensory ($b = .0.18, t = 4.08$), affective ($b = .19, t = 3.71$) and behavioral ($b = .18, t = 4.32$) dimensions of brand experience all positively affect brand app loyalty. However, no significant effect was discovered from the intellectual dimension of brand experience on brand app loyalty ($b = -.01, t = -1.66$).

H₉ states that consumers' flow will positively affect consumers' brand app loyalty. The result confirms this hypothesis ($b = .15, t = 3.30$). H₁₀

and H₁₁ hypothesize that consumers' flow experience and brand app loyalty will both positively influence consumers' willingness to recommend the brand app. Both H₁₀ and H₁₁ are supported. Brand app loyalty ($b = .72, t = 17.82$) exerts a larger positive effect on willingness to recommend than consumers' flow ($b = .15, t = 4.39$) does.

DISCUSSION

Brand Experience and Flow

This study confirms that using branded mobile apps has a positive impact on flow and brand app loyalty. While we predicted that all of the dimensions of brand experience including sensory, affective, behavioral and intellectual would positively influence flow, the behavioral dimension of brand experience had a negative effect on flow when all the dimensions of the brand experiences are included in the model. This result is interesting but should be interpreted in context. On the one hand, we found that the simple correlation between the

TABLE 4:
Correlations of Latent Constructs

	Sensory	Affective	Behavioral	Intellectual	Flow	App loyalty	Recommend
Sensory	1.00						
Affective	.500**	1.00					
Behavioral	.420**	.552**	1.00				
Intellectual	.230**	.437**	.378**	1.00			
Flow	.230**	.491**	.252**	.595**	1.00		
App loyalty	.380**	.449**	.401**	.212**	.303**	1.00	
Recommend	.333**	.441**	.407**	.282**	.338**	.663**	1.00

** . Correlation is significant at the 0.01 level (2-tailed)

behavioral dimension of brand experience and flow is positive, which means that flow can be associated with enhanced behavioral experiences by itself. The more consumers are driven to accomplishing a task when using the app, the more likely they will lose track of time and achieve flow. On the other hand, when the remaining dimensions of brand experience (sensory, affective, and intellectual) are considered, it appears that behavioral dimension could negatively contribute to flow. Individuals who enter the state of flow are generally engrossed in a particular activity that is all consuming and they are unable to devote resources to anything else but that particular activity (Csikszentmihalyi, 1990). This may be especially true that when goal-directed or action-oriented individuals have allocated resources on the sensory, affective and intellectual features of app, they will have even less resources available to enter flow state. Novak, Hoffman & Yung (2000) found that flow experiences were more likely to occur during fun or leisurely activities but less likely to occur during task-oriented activities. Flow is all-encompassing and requires total dedication of time and energy. "Online shopping and task-oriented activities do not yet offer the requisite levels of challenge and arousal, nor do they induce the sense of telepresence and time distortion, necessary to facilitate flow" (pg. 32, Novak et al., 2000). As such, individuals who focus on completing such tasks as purchasing,

posting, searching will be less likely to experience flow state.

Additionally, the sensory dimension of brand experience had no effect on consumers' flow state. Similarly, Kim and Yu (2016) found that the sensory dimension of brand experience did not impact consumer attitudes. The sensory dimension of brand experience may be more relevant for experiential or hedonic products versus utilitarian products. The current study explored consumer perceptions across a wide range of product categories. Thus, the impact of the sensory dimension may have been reduced due to the lack of product classification.

Conversely, the affective and intellectual dimensions of brand experience positively influenced respondents' flow state. Kim and Han (2014) offer that cognitive and affective factors enable consumers to enter the flow state. When consumers experience a heightened level of arousal and playfulness, they are more likely to enter a state of flow (Bridges and Florsheim, 2008; Novak et al., 2000). Furthermore, (Cseh, Phillips & Pearson, 2014) offer that flow is connected with positive emotional responses (Cseh et al., 2014). As such, consumers who experience stronger emotional responses when using a branded mobile app may be more likely to enter a state of flow.

Brand Experience and Brand App Loyalty

As predicted, the sensory, affective and behavioral dimensions of brand experience positively influenced brand app loyalty. Tsai et al. (2015) found that the affective, intellectual and behavioral dimensions of brand experience positively influenced brand preference during consumer decision-making for computers. Brakus et al. (2009) found that brand experience influenced brand loyalty through brand personality. Consumers who have a favorable experience with a brand will then demonstrate loyalty to the particular brand (Brakus et al., 2009). Brand loyalty can increase retention of valued customers and it can decrease switching behavior (Iglesias et al., 2011). While our findings indicate that the intellectual dimension did not influence brand app loyalty, the wide range of product categories represented in the current study could have mitigated the impact of the intellectual dimension on brand app loyalty. Future research should give a closer examination on the relationship between the intellectual dimension and brand app loyalty, controlling for product categories (e.g., high-cognitive versus low-cognitive products).

Flow and Brand App Loyalty

Our findings show that flow positively influenced brand app loyalty. Previous findings indicate that the flow experience during online decision-making can cause a site to become “sticky” (Luna, Peracchio & deJuan, 2002). “Sticky” sites capture consumer attention. Not only are consumers more likely to revisit “sticky” sites in the future but they also stay longer on these sites (Luna et al., 2002). The characteristics of flow can create compelling online shopping environments (Hoffman and Novak, 2009; Smith & Sivakumar, 2004). The antecedents of flow, including increased levels of involvement and focused attention, may increase consumer loyalty to a particular site (Koufaris 2002; Luna et al., 2002). Bilgihan (2016) states “positive online experience, flow, is also a significant precursor of e-loyalty” (pg. 111). Ilsever, Cyr and Parent (2007) offer that consumers who have entered flow during online shopping will revisit the particular web site that facilitated the state in order to replicate the experience. As such, consumers will be

motivated to return to the respective site (Bilgihan, 2016) and brand app loyalty will be established.

Flow, Brand Loyalty and Willingness to Recommend

Brand loyalty has a number of positive outcomes including increased market share and increased profits (Chaudhuri & Holbrook, 2001). It has been suggested that brands that are able to differentiate themselves by providing distinctive experiences while managing the utilitarian and hedonic aspects of the product offering can foster brand loyalty and ultimately spur brand evangelism (Deming, 2007; Iglesias et al., 2011). “Brand evangelists communicate the character and features of a brand; that is, brand messages that traditional marketing might communicate as well, but on top of this they offer their families, friends, colleagues and communities a unique personal recommendation” (pg. 5, Smilansky, 2009). Consumers who are loyal to the respective branded app and who have experienced the positive characteristics of flow are more likely to recommend the branded app to others.

Managerial Implications

This study highlights the need for managerial attention in the area of mobile advertising, specifically branded mobile apps. Branded mobile apps are an extremely impactful marketing tool that allows corporations to communicate with consumers in real-time (Bellman et al., 2011). Corporations have the opportunity to provide consumers with information (coupons, product details, etc.) via a pull strategy where the consumers initiate contacts with the brand as opposed to being annoyed by intrusive push messages (Bellman et al., 2011; Barnes & Scornavacca, 2014). The use of branded mobile apps can alter attitudes, influence purchasing behavior and foster positive word-of-mouth communication (Bellman et al., 2011; Zhao & Balague, 2015). In short, branded mobile apps can facilitate brand loyalty in both online and offline shopping environments.

The findings of the current study indicate that the affective dimension of brand experience impacted flow and brand app loyalty. Brands

that are committed to fostering customer loyalty must improve the affective aspects of their communication strategies in order to forge and sustain emotional bonds with their consumers (Iglesias et al., 2011). Iglesias et al. (2011) offer that “a brand experience perceived as superior by consumers will only lead to true brand loyalty if affective commitment between the brand and its customers has also been developed” (pg. 579). Managers must recognize and embrace the importance of emotions when developing marketing strategies (Bagozzi et al., 1991). Not only should managers focus on facilitating emotional responses but they must also focus on providing cues that facilitate behavioral intentions. As indicated in our results, the behavioral dimension of brand experience positively influenced brand app loyalty. “Marketers need to build and maintain strong brands based on emotional connections with consumers that go beyond the functional benefits of quality, product features or technical performance” (pg. 25, Morgan-Thomas and Veloutsou, 2013). Marketers should explore ways to make their mobile advertisements more enjoyable and entertaining (Kim & Han, 2014; Van der Waldt, Rebello, & Brown, 2009). Moreover, flow positively influenced brand app loyalty. Marketers must explore strategies to strategically cue the various dimensions of brand experience in order to foster flow experiences and brand app loyalty.

Limitations & Future Recommendations

This study is limited due to the fact that a relatively small sample of participants ($n=232$) was selected using non-probability sampling. This limitation makes it difficult to generalize findings of this study to a broader population. Future researchers should use a larger sample population with a wider age range. All data was collected from college students and findings may not apply to other age segments. As such, this study should be replicated using individuals from across multiple age segments with varied socioeconomic backgrounds.

Future research should also consider the impact of product categories. Respondents were prompted to list their two most used branded mobile apps but resulting data was not analyzed according to product category. Previous researchers have examined how variability in

product type and category can impact the effectiveness of mobile marketing communication (Bart, Stephen and Sarvary, 2014). Similarly, product type and category may have an effect on how brand experience influences flow and brand app loyalty. For example, future studies might classify products according to high versus low involvement products and hedonic versus utilitarian goods (Bart et al., 2014). Bart et al. (2014) suggest that marketers have the opportunity to vary the cues emphasized within mobile marketing messages depending on the nature of the product. Just as marketers alter advertising messages depending on the medium, marketers may also be able to vary cues provided on branded mobile apps to suit the particular product category being sold. For example, Bart et al. (2014) offer that “marketers with products that are more hedonic and/or lower involvement could position their products as more utilitarian and higher involvement when advertising through a mobile channel” (pg. 282).

Future studies should also investigate how branded apps facilitate the formation of virtual communities. Previous studies offer that the social value offered through branded apps is equally as important as the product information and special offers provided (Ruiz-del-Olmo and Belmonte-Jimenez, 2014). Gen Z and Gen Y consumers are highly motivated to form virtual communities in which they can share experiences and identify with others who use the same brands (Ruiz-del-Olmo & Belmonte-Jimenez, 2014). As such, developers of branded mobile apps have a unique opportunity to appeal to young consumers through concerted efforts to build community in virtual spaces.

In short, this study advances the body of research that has been done on brand experience. The findings increase our understanding of the relationship between flow and online decision-making. Moreover, this study makes an important connection between flow and online decision-making. While other studies have established that flow has a significant impact on consumer decision-making in virtual environments (Hoffman & Novak, 2009; Kim & Han, 2014; Luna et al., 2002; Luna, Peracchio & de Juan, 2003; Smith & Sivakumar, 2001), this study goes further by linking flow with brand experiences as

measured by Brakus et al.'s (2009) brand experience scale in the context of branded mobile apps. To date, only a limited number of studies have examined brand experience within online environments. To our knowledge, this is the first study that examines the relationship between brand experience, flow theory and behavioral intentions for branded mobile apps. This study also offers further validation of the brand experience scale that was developed by Brakus et al. (2009). The authors would like to note that a single item within each dimension of brand experience (three items which had been reverse coded in the original instrument) showed much lower reliability than the other items for each dimension. We concur with Iglesias et al. (2011) and Holbrook, Krosnick, Carson and Mitchell, (2000) that these items should be deleted or reworded in future applications of the brand experience scale.

CONCLUSION

Consumers and marketers are more interested in branded mobile apps than ever before. Branded mobile apps provide corporations with the opportunity to engage consumers through a multi-faceted platform. Similarly, consumers have unprecedented access to product information, tools, discounts, special offers and brand related content. Moreover, consumers have the opportunity to engage in two-way exchanges with the respective brand. While many companies have adopted branded mobile apps, there is still much to learn about their overall effectiveness. Findings from this study indicate that consumer decision-making for branded mobile apps can be positively influenced through brand experience and flow. However, there are numerous variables that could influence the relationship between brand experience and consumer intentions. Our findings suggest that this area of research has the potential to significantly alter the current conception of online consumer decision-making. Moreover, this topic has significant managerial implications. Ultimately, increases in brand app loyalty and positive word-of-mouth leads to increased purchases, not only online but also in bricks and mortar environments. As such, future exploration of branded mobile apps is warranted.

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