

The Sharing Millennials: How differences in sharing behaviors affect mobile app usage
among Western and Eastern consumers

Thesis

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INTRODUCTION

Technology enhancements in the retail environment are constantly evolving, and the knowledge and the way consumers engage with retailers using technology channels are appearing to be seamless. Engagement using online channels such as web, tablet or mobile created a new type of 24/7 shopper. There are increasing expectations about the quality and consistency of the consumers' digital shopping experience (Retail Technology Vision 2014). Mobile has become the most used channel, exceeding other channels of engagement.

In the case of the mobile channel, consumer adoption and use of mobile devices during their shopping journey has reached unprecedented levels and continues to grow. Consequentially, it will be imperative for retailers to adopt mobile functionalities to engage with their consumers, via mobile applications and mobile websites. Brands have been engaged in the use of mobile apps to actively interact with their consumers for a few years, but many retailers are still trying to understand suitable ways to make use of these applications based on their consumers' needs and to fulfill their own objectives.

Consumers may use their mobile device in-stores several different ways to enhance their shopping experience. For instance and most commonly, a mobile device may be used to read product reviews, use camera to post on social media or receive opinions from friends or family, compare prices with another retailer, check product availability, or receive coupons. Additionally and more increasingly, mobile apps may allow or currently allow retailers to have the ability to augment reality, geo-target and geo-fence messages or offers to consumers, provide an interactive map, and allow customers to digitally scan products to receive all relevant information about it. While there is an abundance of mobile device activities to engage in while in a retail environment, there is still a challenge of understanding how to further connect retailer's consumers with their brand and products via mobile devices and apps.

Mobile apps are more popular now than ever, and the demand continues to grow. An integration of the in-store experience with mobile apps could drive up to five times as much engagement ultimately increasing loyalty and sales for a retailer (Carter, 2014).

The growing use of retail mobile apps is a worldwide phenomenon. While the growth varies unevenly from country to country, the focus of this study will center on comparing consumers in Eastern and Western countries. The goal is to identify how consumers currently utilize their mobile phone in retail environments across global markets.

The added element of a global comparison will allow for the discovery of how different top mobile-friendly societies and retail environments around the world integrate mobile capabilities as part of their retail experience. Developed countries differ from emerging countries on how they prefer to interact with consumers in regard to retail and shopping using mobile apps. These different interactions may be culturally influenced based on ideals of collectivism or individualism for a country (Bhawuk & Brislin; Geyskens & Steenkamp). Consumer decisions may be influenced by peers or groups in a collectivist nation, whereas in an individualistic nation, decisions are made on an individual basis (Chung, Kim, Muk). Particular emphasis is placed on understanding the sharing motivations and behaviors of Eastern and Western cultures and their consumers with regards to the influencing factors causing this sharing of retail mobile apps.

LITERATURE REVIEW

The technology acceptance model (TAM) is a widely recognized theoretical framework that was developed to predict individual adoption (Davis, Bagozzi, & Warshaw, 1989) and use of new technologies. More recently, TAM is used to predict adoption in the mobile device domain. As interaction with mobile applications require higher involvement and a higher degree of social influence, the traditional TAM model may not be sufficient to describe all aspects of influences that drive consumers' perceptions in usage of retail mobile applications. This study uses the improved TAM3 model to help measure the additional social factors that may be influential reasons in the adoption of retail mobile applications (Venkatesh and Bala, 2008). A more detailed discussion about TAM and TAM 3 is detailed in the following sections. This study connects user demographic information, user perception toward usage of mobile apps,

user perception of sharing mobile apps, and user behavior in regards to usage of retail mobile applications.

Technology Acceptance Model (TAM)

The TAM model is a common theoretical framework used to understand the reasons why users adopt and use new technologies. The traditional TAM model was developed to explain computer usage and behavior. It hypothesizes that individuals' behavioral intention to use a new information technology (IT) is established by two variables: perceived usefulness, defined as the extent to which a person believes that using an IT will enhance his or her job performance and perceived ease of use, defined as the degree to which a person believes that using a new IT will be free of effort (Venkatesh and Bala, 2008).

The model has since been used to explain adoption in different technological contexts such as mobile devices. The TAM model has also been extended to be used outside of the IT world, for example in the retail industry to predict consumer intentions to use online shopping (Ha & Stoel, 2009) and acceptance of mobile payment with added constructs of perceived trust, security, and privacy (Chen, 2008).

Modified Framework: Technology Acceptance Model 3(TAM3)

While the TAM model is a viable option, this research ultimately utilized the modified TAM3 model to better understand consumers' usage perceptions of a retailer's mobile app. The TAM3 model builds on the original TAM model constructs, but adds in additional constructs of social factors such as behavior and motivation that may be influential in the adoption of consumer usage of retailer mobile apps (Venkatesh and Bala, 2008). The dimensions of TAM3 used in this study were tested previously in a study conducted by Kumar and Mukherjee (2013) measuring consumer perceptions toward mobile shopping. These dimensions are as follows: perceived usefulness, ease of use, trust, security, and privacy. In this study, perceived usefulness, ease of use, and security were carried forward to measure in the survey as they were most applicable to understanding consumers' perceptions of usage of retail mobile apps.

Additionally, the added social constructs in the TAM3 model are used in our study to understand how certain personality traits of individuals in both Eastern and Western cultures influence their perceptions of retail mobile apps. Our study also seeks to identify how different cultures' personality traits influence the social and sharing aspect of mobile applications and furthermore how this impacts their usage of retail mobile apps.

RESEARCH METHODOLOGY

Based on the TAM3 theoretical framework, a conceptual model was developed. Our model proposes the influence of perceived usefulness, perceived ease of use, and perceived security on consumer's redemption behavior, payment behavior, and shopping behavior via mobile apps.

Perceived Usefulness

Perceived usefulness is an individual's belief that using a certain technology will lead to some type of positive return, thus they are more willing to adopt the technology. Retail mobile apps provide many different positive returns which include, but are not limited to, easy access to product and store information, convenience, enhanced in-store experiences, and enhanced product and user interactions (e.g. augmented reality capabilities).

Perceived Ease of Use

Perceived ease of use is the degree to which an individual believes that using a technology will involve little to no learning curve. As with most technology, retail mobile apps need to be easy for consumers to operate and to achieve what they are trying to accomplish with relative effortlessness in order for them to gain wide usage by the market at large.

Perceived Security

Perceived security provides a different outlook on how it may impact an individual's adoption or behavior towards a technology. While usefulness and ease of use

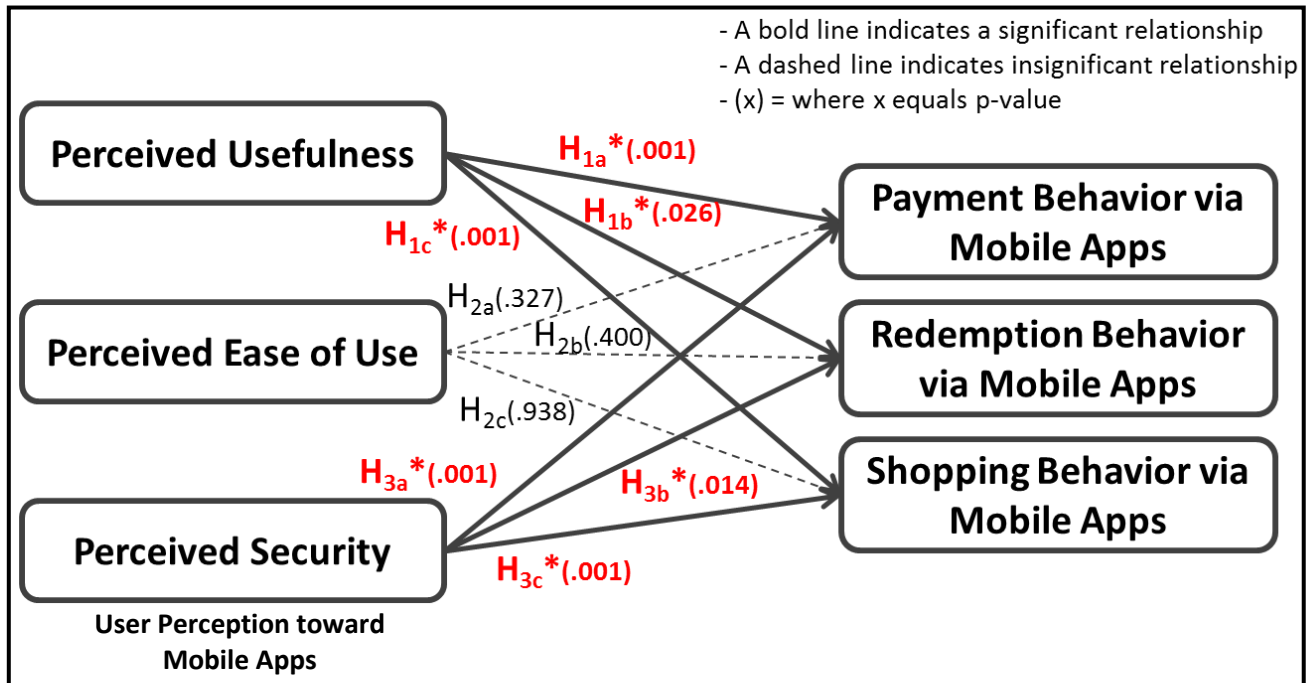
of a technology can be seen as benefits to consumers, security is a major factor that can be seen as a risk to consumers in regards to adoption of a technology. This risk of security translates over to the usage of mobile phones and mobile apps, especially when the capability to purchase items is embedded into its functionality. Consumers may be concerned about the safety of their personal information, as well as the potential to lose their phone and end up in the hands of someone untrustworthy.

TAM3 Hypotheses

In this study, these three perceptions are used to understand how they may impact a consumer's behavioral intention to use a retail mobile app. Behavioral intention of a technology is defined as the likelihood that an individual will use a certain technology that is under study (Schierz, Schilke, & Wirtz, 2010). Based on several industry reports, some of the consumer behaviors that are most commonly performed via mobile apps are payment, redemption, and shopping (see Figure 1 in Appendix for breakdown of the variables used to measure each of these behaviors). Thus, we hypothesize the following between perceptions toward retail mobile apps and the three different proposed consumer behaviors via mobile apps. A visual representation of the hypothesized relationships can be seen in Figure A.

- H₁: A high degree of perceived usefulness will lead to a positive behavior in (a) payment behavior, (b) redemption behavior, (c) shopping behavior via mobile apps.
- H₂: A high degree of perceived ease of use will lead to a positive behavior in (a) payment behavior, (b) redemption behavior, (c) shopping behavior via mobile apps.
- H₃: A high degree of perceived security will lead to a positive behavior in (a) payment behavior, (b) redemption behavior, (c) shopping behavior via mobile apps.

Figure A:



This study also sought to understand the additional social factors that might influence the adoption of mobile apps and how personality traits may influence the social and sharing aspect of mobile apps. Based on the theoretical framework TAM3, Figure B was materialized to reflect the influence sharing motivations including the image associated with, personal emotions caused, and the expectations of sharing mobile apps have on the overall sharing behavior of retail mobile apps.

Image Associated with Sharing

The image associated with sharing is based on the concept used in social psychology called personal intentions. Personal intentions (I-intentions) is defined as “a person’s motivation in the sense of his or her conscious plan to exert effort to carry out a behavior” (Eagly and Chaiken 1993) and it is commonly associated with how the image a particular behavior may portray and how that may transpose on to an individual’s own image among their own groups. This idea is used in this study to understand how the image of sharing a retail mobile app may be influential on an individual’s sharing behavior of retail apps in general.

Personal Emotions Caused by Sharing

Personal emotions caused by sharing can be contributed to anticipated emotions. Anticipated emotion is defined as forward-looking affective reactions where members imagine the emotional consequences of contributing and not contributing (Perugini and Bagozzi 2001). This type of emotion translates over to how it may affect an individual to be influenced to share a retail mobile application. Positive emotions are expected when an individual imagines enjoyable aspects of the experience of sharing if they succeed in contributing to the group they associate with and vice versa with negative emotions resulting if they fail to contribute (Tsai and Bagozzi 2014). It can thus be inferred that positive emotions associated with an individual sharing a retail mobile app among their friends will influence that individual to share apps more frequently.

Expectations of Sharing

The expectation an individual has to share was developed based on the differences between individualist and collectivist behaviors. Individuals in collectivist societies tend to be more focused on decisions that benefit the group, whereas individuals in individualistic societies tend to focus their decisions on their own interests. One such dimension that is commonly measured is the expectation an individual has to share material or nonmaterial resources and how this aligns among different collectivist and individualistic societies and characteristics (Bhawuk & Brislin 1992). Based on this notion, the expectations an individual has to share a retail app will influence the overall sharing behavior of retail apps.

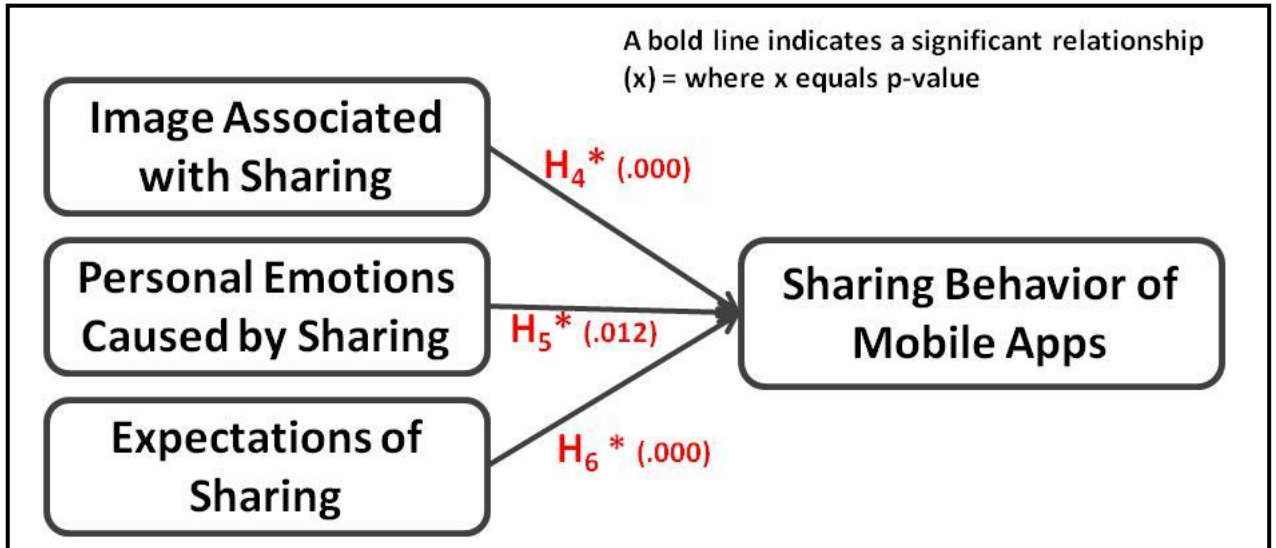
In this study, these three social factors are used to understand how they may impact a consumer's sharing behavior of retail mobile apps. Thus, we hypothesize the following between social influences initiating the sharing of retail mobile apps and the sharing behavior of retail mobile apps.

H₄: A high degree of positive self-image associated with sharing mobile apps will lead to positive sharing behaviors of mobile apps.

H₅: A high degree of positive personal emotions caused by sharing apps will lead to positive sharing behavior of mobile apps.

H₆: A high degree of expectations of sharing mobile apps will lead to a positive behavior in sharing behavior of mobile apps.

Figure B:



Data Collection

This study utilizes a survey to analyze the proposed research hypotheses. In order to test these hypotheses, a questionnaire was created to help measure the influence collectivist behaviors, individualist behaviors, and sharing motives and behaviors have on consumers' perceptions toward usage of retail mobile applications and their motivations to share. The subsequent sections detail the secondary research, sample design, instrument development, and survey procedures.

Secondary Research for Dimensions of Individualistic and Collectivist Scales

The scale items to measure individualistic and collectivist tendencies have been redeveloped over time. The societal norms and beliefs of a country shape its peoples' perceptions, dispositions, and behaviors (Steenkamp et al., 2006), which affects the consumer adoption of innovative products and technology. According to Hofstede (1983) and his study, in individualist societies, ties between people are loose because they are more independent in attitudes and behaviors. Individualists are more motivated by self-interest and achievement of personal goals. Their attitudes are more driven by individual

interest, and their decision-making process is internalized. On the contrary, collectivists' behaviors are regulated by in-group norms that emphasize sharing, cooperation, and group harmony. Their attitudes may be driven more by collective interests and duty to in-groups, and their decision process relies on external cues. Past research shows that individualists' behaviors are more likely affected by attitudes, and collectivists' behaviors are more closely related to social influence (Muk, Jung, and Kim, 2014).

Hofstede's study measuring individualism and collectivism across cultures utilizing a two-dimensional conceptualization has been very successful as a predictor of behavioral patterns. In recent times, researchers have thought the two-dimensional scale may be too simplistic and more attention should be emphasized on certain value distinctions within cultures such as the vertical and horizontal dimensions of individualism and hierarchy (Singelis et al., 1995; Shavitt et al., 2006).

The Singelis et al. (1995) scale was originally developed to examine individual differences in horizontal individualism (HI), vertical individualism (VI), horizontal collectivism (HC), and vertical collectivism (VC). These four dimensions were then measured on individual responses to 32 attitudinal items on an agree-disagree Likert scale. This scale has high theoretical appeal of the horizontal and vertical dimensions, but it has not had a significant impact on marketing and consumer research yet. Previous studies using the Singelis scale have found their findings in general to support the four-dimension perspective, it has not proven to be robust enough (Sivadas, Bruvold, and Nelson, 2008). Based on the Singelis 32 item scale, Sivadas et al. pared down this scale to a 14 item scale and tested its significance on its effectiveness of measuring the four-dimension conceptualization of individualism and collectivism. Through their study, it was determined that the 14 item scale is a more robust scale measuring the four-dimensions and is easier to administer. With these results, our study utilizes the 14 item scale to measure collectivist and individualistic behaviors of our respondents. Table 1 provides the scale items used to measure the four-dimensions.

Table 1: Scale items for collectivism and individualism horizontal and vertical orientations

Orientation	Scale Items
HC1	My happiness depends very much on the happiness of those around me.
HC2	The well-being of my co-workers is important to me.
HC3	If a co-worker gets a prize, I would feel proud.
HC4	I feel good when I cooperate with others.
VC1	I would do what would please my family, even if I detested that activity.
VC2	I usually sacrifice my self-interest for the benefit of my group.
VC3	Children should feel honored if their parents receive a distinguished award.
VC4	I would sacrifice an activity that I enjoy very much if my family did not approve of it.
HI1	I enjoy being unique and different from others in many ways.
HI2	I often “do my own thing”.
HI3	I am a unique individual.
VI1	I enjoy working in situations involving competition with others.
VI2	Competition is the law of nature.
VI3	Without competition it is not possible to have a good society.

Sample

Demographically, college-aged students are increasingly using mobile apps more frequently which includes retailer apps (Nielsen, 2013). Based on this fact, the survey was distributed to undergraduate students at a public university in the Midwestern United States. In order to capture the behaviors of consumers in Western and Eastern cultures, the survey was distributed to domestic students and international students whose citizenship of origin is outside of the United States. There were a total of 284 valid surveys collected that were able to be analyzed, 176 from Western students (vast majority domestic students) and 108 from Eastern students (international students).

The following details some of the demographic and key holistic highlights of the respondents. The average age ranging between 18-24 and the total age range is 18-45. There were a total of 97% respondents in the age range 18-24, which aligns with the typical college-aged demographic. The majority of international respondents have their citizenship of origin in China (nearly 73%). Other valid international surveys included

respondents from Malaysia, Taiwan, South Korea, Vietnam, Jamaica, Kingdom of Jordan, Japan, Egypt and Indonesia.

The scale items to measure the proposed constructs were adopted from the literature and past studies. Most items besides demographic information were measured using a 7-point Likert scale with options to respond ranging from “Very Strongly Disagree” (1) to “Very Strongly Agree” (7). The scale items used to measure individualistic and collectivist behavior were adopted from the work of Sivadas et al. (2008). The scale items used to measure perceived usefulness, ease of use, and security were adopted from the study conducted by Kumar and Mukherjee (2013). Scale items used to measure the social influences of sharing mobile apps via behavior and motivation were adopted from a study conducted by Perugini and Bagozzi (2014). Table 2 provides sample scale items for each construct.

Table 2: Sample scale items for constructs

	Reliability of Scales	Cronbach's Alpha
TAM3 Model	Perceived Usefulness	0.926
	<ul style="list-style-type: none"> • Mobile apps will be useful when shopping. • Using mobile apps will make the shopping process easier. • By shopping through mobile apps my choices as a consumer will be improved (e.g. flexibility, speed). 	
	Perceived Ease of Use	
	<ul style="list-style-type: none"> • I will be able to use a mobile app for shopping with some hints. • I will be able to use a mobile app for shopping if I had used a similar platform before. • It will be easy to become skillful at using a mobile app for shopping. 	
	Perceived Security	0.686
	<ul style="list-style-type: none"> • The risk of an unauthorized third party seeing the payment process will be low when using mobile apps. • The risk of abuse of billing information (i.e. address, names) will be low when using a mobile app for payment. • I will feel secure in making a payment for a purchase through a mobile app. 	

Reliability of Scales	Cronbach's Alpha
Sharing Behavior of Mobile Apps <ul style="list-style-type: none"> • When I find a mobile app I like, I share it with my friends on social networking sites (i.e. Twitter, Facebook, Instagram). • When I find a mobile app I like, I share it with my friends in person. • When a friend shares a mobile app with me I download it. • If an app receives positive reviews, I am more likely to download the app. 	0.709
Sharing Motivations of Mobile Apps <p>Image Associated with Sharing</p> <ul style="list-style-type: none"> • It is cool to be able to show my friends a new app they did not know about. • In my friends' circle, the one with the best new apps is seen as a technology leader. <p>Personal Emotions Caused by Sharing</p> <ul style="list-style-type: none"> • Apps make me feel good about myself. • I feel powerful when I give information about an app to my friends. • I feel powerful when I have several apps on my phone. <p>Expectations of Sharing</p> <ul style="list-style-type: none"> • My apps are my personal property and I don't see why I should share them all with anyone else. • I only share some of the apps I have with my friends. • If I find and download a new app, my friends expect me to share it with them. • Sharing your apps with your friends and family is the right thing to do. • I cannot imagine my friend having an app and not sharing it with me. 	0.907

RESULTS

The first set of hypotheses (H1a, H1b, H1c, H2a, H2b, H2c, H3a, H3b, and H3c) proposed a positive relationship existed between perceived usefulness, perceived ease of use, and perceived security and the three different retail behaviors consumers engage in on mobile apps (payment behavior, redemption behavior, and shopping behavior). After the analysis was performed, the results show that perceived usefulness and perceived security were significant on each of the three behaviors, thus a positive relationship does exist between each of them and that H1 and H3 were significant. However, the results differed for H2 where the relationship between perceived ease of use and the three consumer behaviors were not significant, hence H2 was rejected.

The second set of hypotheses (H4-H6) suggested a positive relationship existed between the three different social factors of sharing motivations of the image associated with sharing, personal emotions caused by sharing, and perceived expectations of sharing

retail mobile apps and the general sharing behavior of retail mobile apps. The results concluded that each of these sharing motivations do have a positive relationship with the overall sharing behavior of consumers with their mobile apps, thus hypotheses H4, H5, and H6 were found to be significant and were accepted.

DISCUSSION AND CONCLUSION

Based on the analysis, there are differences in adoption of technology due to perceived usefulness and perceived security of a retail mobile application. Due to these results the TAM3 model is supported. However, for the group of people under study and who we can categorize as millennials, perceived ease of use is not a factor for them to adopt the use of retail mobile apps. The assumption of perceived use as a non-factor is due to that fact that mobile phones and apps are inherently integrated into the daily life of college-aged (millennial generation) students. These individuals need little to no learning curve in order to understand how to use a mobile app.

It was also found that Eastern and Western cultures and their consumers do differ on their usage of retail mobile apps. Eastern consumers are using retail mobile apps more frequently than their Western consumer counterparts. Additionally, these two cultures differ on their sharing motivations. Eastern consumers are more inclined to share mobile apps with their friends than Western consumers. Eastern consumers' sharing motivations are consistently more influenced by the image associated with sharing, personal emotions caused by sharing, and expectations of sharing mobile apps than Western consumers. Conversely, Western consumers' sharing motivations, although less than Eastern consumers, are most likely to be influenced by the image associated with sharing mobile apps. Personal emotions and expectations of sharing are not a factor for Western consumers. Although, when sharing motivations are used as covariates, the difference between cultures on usage of mobile apps disappears. This suggests that sharing is linked with usage of mobile apps.

The results from this study lead to several recommendations that can be carried forward by retailers in order to effectively connect their mobile apps with their

consumers, as well as how to most effectively advertise their app to their different global consumer segments. When designing apps, retailers should place more focus on their app's usefulness for their target market rather than on how easy it is to use it. In addition, since sharing is linked with usage, retailers would benefit more by promoting sharing behaviors which will ultimately increase consumers' app usage.

Due to the findings that sharing behaviors are linked with the three types of motivations measured in the study (image, personal emotions, and perceived expectations from others), sharing behaviors can be enhanced by affecting each of these three motivations. In order to affect the motivation caused by image, retailers should focus their advertisements on showing sharing of their mobile app as being the cool or innovative thing to do amongst an individual's peers. As for personal emotions, the advertisement should reflect how an individual may feel positive personal emotions when they share a retailer's mobile app. To affect perceived expectations, advertisements should develop a way to depict that sharing is expected among friends and thus an individual should follow suit in order to gain the approval and support amongst their group of friends.

A final recommendation is centered on promoting a retailer's app based on cultural tendencies. If a retailer is planning to target Eastern consumers, the focus of their retail app message should be on a combination of the image sharing an app gives consumers, how the app may make them personally feel, and that there is an expectation of them to share their apps with others. If a retailer is planning to target Western consumers, the focus of their retail app message should emphasize the particular image (e.g. cool, innovative, etc.) using their retail app may transpose on to the consumer's own image among their group of friends or peers.

Contribution

The aim of this study is to contribute to the academic field in the area of marketing and retail mobile apps. This study deepens the understanding of the different drivers that impact the adoption of retail mobile apps. It also modifies the current TAM3 model to include additional social factors of sharing behaviors and sharing motivations

that help predict consumers' overall behaviors when using a retail app. Additionally, the results from this study propose helpful information and potential tactics to industry retailers on how to best design and market their own mobile app depending on which segment they are trying to reach either demographically or culturally.

Limitations

Limitations do exist in this study. One limitation includes the demographics of the respondents used to collect data. The majority of the respondents were college students between the ages of 18-24. This limits the ability of the findings to be generalized onto the whole of different populations in Eastern and Western countries. As our study reveals, this age group is very comfortable with adopting mobile phones and apps because they grew up with access to this technology. This may explain the insignificant relationship that was found to exist between perceived ease of use of a mobile app and the impact it has on payment, redemption, and shopping behaviors via a retail mobile app.

Future Research

There are many potential opportunities to further the research in this study and particular topic. One way to expand on this topic is to measure how the impact the sharing motivations and perceived functionalities may differ across all age groups of consumers. Another area to explore is to further understand the sharing behaviors of each culture. For example, if cultural expectations are responsible for diminished sharing behaviors among Western consumers, would external inducements or rewards promote greater sharing?

Conclusion

Mobile phones and apps have become an imperative channel for retailers to target in order to constantly engage with their consumers. Adoption of this channel is gaining attention, but consumers are still not engaging as frequently with it despite the beneficial functionalities it provides consumers. This study lays the groundwork to help retailers understand how to best develop mobile apps for their target consumers and to encourage

their current app users to share their app to increase their reach. Mobile apps have the potential to evolve the retail landscape and the more educated retailers and marketers are on how to effectively design and promote their apps, the better they will be able to capitalize in this technological domain changing the retail game.

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APPENDIX

Figure 1: Variables used to devise measures of these payment, redemption, and shopping behaviors

Q11 How often do you engage in these activities on your mobile phone while in a physical retail store?

	Not Aware of this Option (1)	Do Not Use (2)	1-2 Times a Month (3)	3-4 Times a Month (4)	1-2 Times a Week (5)	3+ Times a Week (6)
Read reviews on a product (1)						
Use social media to share a product (2)						
Take notes on details of a product (3)						
Share photo/video of product with friends/family (4)						
Ask friends/family for their opinions on a product (5)						
Compare prices with another retailer (6)						
Redeem a coupon (7)						
Check product availability at another retailer (8)						
Purchase product						

<p>online from mobile device (9)</p>						
<p>Scan barcode to find more information on a product (10)</p>						
<p>Scan QR code to find more information on a product (11)</p>						
<p>Access product information by touching phone against a sensor (12)</p>						
<p>Scan barcode to pay for a product (13)</p>						
<p>Scan QR code to pay for a product (14)</p>						
<p>Pay for a product by touching phone against a sensor (15)</p>						
<p>Receive a deal while interacting with an ad (16)</p>						
<p>Receive coupons from places of interest near you (17)</p>						