Promocode: an examination of the outcome expectations in shopping apps

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Abstract: This study examined consumer's expectation on the usefulness of promocode within the shopping apps. Consumers learned about the availability of promocode from searching, media exposure and their collaboration with other consumers. Hence, there is a need to investigate the influence of the social cognitive elements in achieving sales via promocode. This study developed an integrative framework, which combined both theory of planned behaviour and social cognitive theory to examine the underlying factors in the use of promocode. A sample of 266 consumers was surveyed through questionnaire. Their responses were analysed through structural equation modelling. The hypothesised relationships between attitude towards behaviour, subjective norms, and perceived behavioural control mediated the linkages of self-efficacy and outcome expectations to the adoption of the promocode. These results showed that social cognitive outcome expectations and self-efficacy explain consumer's competent use of promocode available in the shopping apps. This study provided an integrative framework in predicting the use of promocode in shopping apps. It also explained the use of promocode from consumer cognitive perspective.

Keywords: promocode; mobile commerce; shopping app; self-efficacy; hedonic outcome expectation; utilitarian outcome expectation; promotional discount.

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1 Introduction

1.1 An overview

The evolution of electronic commerce has seen another phase, i.e., mobile commerce which uses smart phones apps as its main tool. Business firms and customers alike are reaping fruits of the shopping assisted tools and services embedded in the shopping apps to enhance customers' shopping experience (Wang et al., 2015; Kim et al., 2017). These includes product reviews, price comparison, third party information, etc. Among these shopping assisted tools, promotion code (or promocode for short) is becoming popular amongst customers for various reasons, and better price discount topping all of them.

Promocode is getting popular with an exponential growth in number and uses as it enhances the features of shopping apps. Its prime function is to motivate the customers to visit online stores more in return for a price discount (Cameron et al., 2012; Hui et al., 2013). Despite the fact that consumers are using promocode quite frequently, mixed reaction exists in term of the satisfaction level. Many online shoppers have actually abandoned their shopping carts in order to search for more promocode. This hints that promocodes might not be working the way they were designed to (Gao et al., 2015).

Promocode is deemed as a technological improvement as well as an innovation. Unlike many of other shopping assisted tools which have been investigated extensively, promocode was sparsely examined. Therefore, theory of planned behaviour (TPB) was used in this study owing to its strong root in predicting the purchase intention in many online purchase studies (Cheng and Huang, 2013). However, online shoppers need to have the ability and resources to successfully search and use promocodes. They learn about the availability of promocodes from various media as well as their interaction with other consumers (Li, 2018). Hence, there is a need to investigate the influence of the social cognitive elements in the use of promocodes in achieving the final sales deal. Although TPB has been used to investigate the motives that drive consumers to engage in electronic commerce from behavioural and technological usage perspectives, these deterministic perspectives lack considerations about customers' personal cognitions (Sniehotta, 2009). On the contrary, social cognitive theory (SCT) has the ability to explain behaviours from personal cognitions and social dimensions (Yoon and Tourassi, 2014; Lin and Huang, 2008). Therefore, this study applied TPB in conjunction with the SCT to examine the underlying factors that motivate consumers to use promocodes.

Having conceptualised the usefulness of promocodes in assisting mobile shopping, we formulated the following research questions:

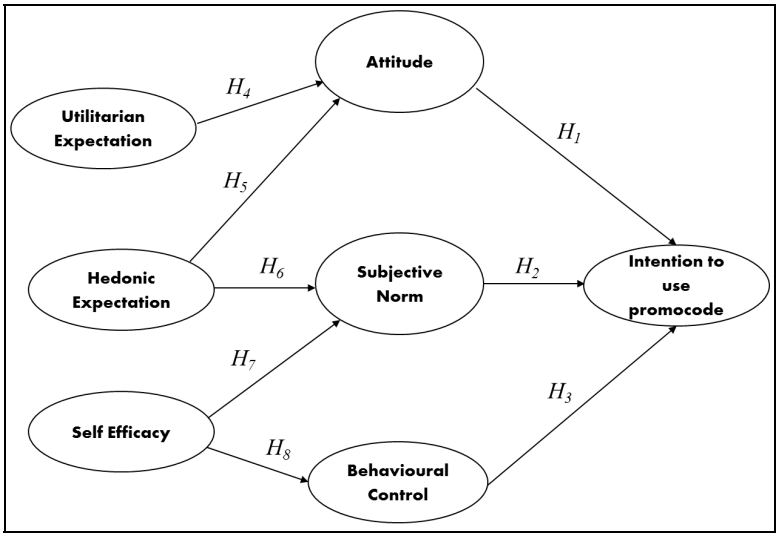
- Does social cognitive dimension of consumers stimulate the intended use of promocode?
- If so, what are the more influential behavioural factors in determining the successful adoption of promocode?

Hence, the major assertion of this research is to show that consumer's cognitive aspect would influence the behavioural attitude during the use of promocodes in buying process.

This study contributes to the missing gaps in the extant literature. First, we provided new dimensions in the use of promocode with an integrative theoretical framework. This new integrative model extends TPB with social cognitive dimension. Second, the

empirical findings from our study deduces the need of self-efficacy in the use of promocode which was largely ignored in prior studies. Third, the importance of consumer collaboration in sourcing for promocode was significant. This consideration is critical due to the ever-increasing social impact and influence of social media in current online business.

Table 1 The conceptual framework



2 Theoretical background and hypothesis development

2.1 Shopping apps

Mobile shopping, or more precisely, Smartphone shopping is becoming a popular tool for shopping in contemporary times, owing to the increase in mobile phone usage and advancement in mobile communication technology (Wang et al., 2015; Kim et al., 2017; Wong et al., 2014). In addition, other functionalities offered by smart phones are convenience, anytime-anywhere information accessibility, etc. It offers significant potential for the development of marketing and retailing activities through mobile channels (Holmes et al., 2013), hence the mushroom growth in mobile apps development, bringing promotional information via hand phone right to their palms. Shopping app is gaining momentum whereby consumers are using their phones to shop. Consequently, many and newer functions are provided by the vendors to attract customers to this new platform.

2.2 Promocode

Promotion code, also called coupon code, refers to the code provided by a reseller for consumers to enjoy sales and promotional discount. The main purpose is to attract online customers to make a purchase (Cameron et al., 2012). A promocode is a digital code,

typically made up of random letters and numbers. A reseller would provide the customers with a code (such as ABCD1234). Upon receiving a promocode, customers could key in the given sequence at some designated space in the website or the mobile app to enjoy discount or even an additional discount during the period when the code is valid (called the promotion period) (Hicks, 2003; Hui et al., 2013).

Promocode has the power to motivate consumers to buy (Cameron et al., 2012). These promotion coupons coupled with highly personalised contents yield higher coupon redemption. After all, lower price and hedonic value are major factors in driving more people to buy online (Bonera, 2011; Bei and Chen, 2015). It also encourages customers to visit the store hence increasing unplanned spending (Hui et al., 2013). A study conducted by Atkinson (2013) in the USA sampled 401 mobile shopping consumers on the use of quick response (QR) code in promotional activities. The study found that consumer trust and satisfaction over the retailers was higher during the promotion period.

2.3 Theory of planned behaviour

The shift to mobile phone environment for shopping led to a number of empirical researches aimed to better understand consumer behaviour (Toufaily et al., 2013; Lu, 2014; Rodríguez-Torrico et al., 2017). Several theories, such as technology acceptance model and task-technology fit emerged in the existing literature for mobile commerce (Wu and Wang, 2005; Lee et al., 2007). TPB theorises that a person will behave in a certain way in three situations:

1 when one thinks it is a good action to take

2 when the action is supported by other people

3 when one perceives herself to be in control of the intended behaviour.

This brings forth its three main tenets – attitude towards the behaviour, subjective norms, and perceived behavioural control.

TPB has been extensively used in online business studies because it explicates and contextualises intention to use electronic shopping (Taylor and Todd, 1995; Hansen et al., 2004). It explains what drives the consumers to engage in electronic commerce from the perspectives of behavioural and technological usage. It has also been used extensively as the theoretical lens for mobile consumer behaviour (Khalifa and Shen, 2008; Aboelmaged and Gebba, 2013; Goyal et al., 2013). TPB has also been used to examine discount advantages offered by online group buying (Cheng and Huang, 2013). Therefore, we used it as the underpinning theory for this study.

TPB is a universal model that explains behaviours but is not considered suitable to evaluate specific belief sets related to a particular behaviour (Bhattacherjee, 2000). This notion is supported by Ajzen (2015) as the theory could not fully account for the variance in one's intentions. In the case of promocode, customers have to search and obtain it via the web and interaction with other consumers. Hence, there is a need to evaluate the impact of the social cognitive aspect in the use of promocode. This created a need to incorporate some other theory to operationalise the specific beliefs which would arise in diverse contexts (Davis, 2013). Hence, we incorporated SCT for this purpose.

2.4 Social cognitive theory

SCT is a widely accepted and extensively used theory in online studies (Yoon and Tourassi, 2014). It postulates that an individual learns and remembers by observing others and subsequently performs a behaviour, depending upon the information acquired (Lin and Huang, 2008). Bandura (1982) further conceptualised the performance of an action was influenced by one's personal abilities, behavioural, and environmental conditions. Therefore, SCT has been utilised in explaining why people use online shopping sites (Huang et al., 2017; Filieri et al., 2017). Consumers who utilise the retailers' website are not just seeking information or creating knowledge but influenced by other's online action, which eventually influences them to carry out certain behaviours.

A number of consumer studies used SCT to investigate their online activities, for example, Plotnikoff et al. (2013) used SCT to explain behaviours related to physical activity in adolescents. Huang et al. (2009) related the use of SCT to e-WOM, while Yoon and Tourassi (2014) used SCT to understand social network information sharing on Twitter. With reference to SCT, Hsu et al. (2007) examined knowledge sharing behaviour from both personal and environmental perspective. Self-efficacy and outcome expectations were significant for personal influences while multi-dimensional trust was relevant for environmental influences. Hence, SCT is more comprehensive as it consists of motivational and self-regulatory mechanism, which then influences the subsequent behaviour. These motivational mechanisms include both utilitarian and hedonic expectations (Hsu et al., 2007; Chang et al., 2014). Hence, the conceptual richness of SCT and the implication that self-efficacy on human performance in organisations can make a value-added contribution to the promocode.

2.5 Behavioural control, attitude, and subjective norm

Behavioural intention is defined as the likelihood of an individual to carry a specific action or task (Ajzen, 1991). TPB believes that the actual behaviour is influenced by one's beliefs about the intended behaviour and the outcome it would produce (Sheppard et al., 1988, Liaw and Huang, 2013). Behavioural intention was used to examine online shopper's actual purchase decision too (Amaro and Duarte, 2015). In general, the attitude and subjective norm lead to perceived behavioural control. Hence, the intention to perform that behaviour becomes stronger. Attitude is determined by the benefits and outcome gained after the behaviour is demonstrated. TPB clearly specifies the nature of relationship between one's attitudes and the intention to act towards the attitude object. Based on TPB, behavioural intention is validated as the main determinant in performing actual behaviour (Lee and Hong, 2016; Baker and White, 2010). Han et al. (2014) found that attitude significantly related to behaviours in conducting online sale transactions. Therefore, we posited that attitude towards the outcomes has an impact on intention to use promocode. In this study, we used attitudes to predict the actual behaviour of using promocode for mobile users.

H_1 Attitude has a direct and positive effect on the intention to use promocode.

An individual's behaviour is based on one's perception of what others think he or she should perform. Subjective norm influences intended behaviours when a person internalises the social influence from the peers (Venkatesh and Davis, 2000). In the

words of Bock et al. (2005), a person would carry out a task for which he or she is convinced that it is a norm in the community. This is often true when it comes to shopping, because customers like to recommend products to friends when they are satisfied with the products and services rendered. For example, shoppers consult their friends/reviewer/market maven when making a purchase. Similarly, Yang (2012) found that mobile commerce customers count on others' feedback when they are in doubt during buying process. Individual's perception regarding peer influence on using mobile devices substantially and positively influences brand interest via mobile devices. Subsequently, it positively led to the intentions to use mobile devices for shopping for apparel. It is necessary to state here that behavioural intention is emphasised over volition, which therefore simulates true life situations (Han et al., 2014). Similarly, extrinsic motivational factors and social influences affect the searching for promocode and consequently in using it for product purchase. Therefore, we developed the following hypothesis:

H_2 Subjective norm has a direct and positive effect on the intention to use promocode.

Perceived behavioural control indicates our underlying belief about our voluntary control in carrying out the behaviour (Madden et al., 1986). A behaviour can be performed voluntarily if one has access to the required resources and opportunities that lead to the performance of the behaviour (Kang et al., 2006). In other words, given a sufficient degree of perceived control over the behaviour, people are expected to execute their intentions whenever the opportunity arises. Control beliefs over the use of new technology are critical for carrying out the behaviours (Venkatesh et al., 2003; Al-Debei et al., 2013). In this regard, customers need to search for promocode offered in multiple platforms. Therefore, we postulate that when customers have control over the technology for utilising the promocode in the mobile apps, they are likely to use it. A high level of perceived behavioural control could intensify consumers' intention to carry out the shopping performance. On the contrary, consumers with low level of perceived behavioural control would be less inclined to engage in shopping process.

H_3 Behavioural control has a direct and positive effect on the intention to use promocode.

2.6 Utilitarian outcome expectations

Shopping has both hedonic and utilitarian features. Kesari and Atulkar (2016) found that both the utilitarian and hedonic values play an important role in the customer's life style while shopping. The utilitarian function is also essential in buying online (Davis et al., 1992). The utilitarian function in the form of perceived usefulness is a major determinant in attracting the use of technologies, which subsequently leads to its adoption (Davis et al., 1992), take e-channel (Choudhury and Karahanna, 2008) and networking sites (Sun et al., 2014) for example. Thus, a promocode complemented the utility function in performing shopping tasks, such as product review, catalogue browsing, check-out, and payment function (Kesari and Atulkar, 2016). In addition, Kim et al. (2015) found that mobile consumers also tend to switch brands and they do not show much loyalty to a specific brand. The shopping assisted tools embedded into shopping app such as online reviews serve as a useful tool in offering the utilitarian outcome for shoppers (Cheng and

Ho, 2015). Therefore, this study takes utilitarian expectations to measure how the use of promocode influences the attitude of the consumers. The hypothesis formed is:

H_4 Utilitarian expectation has a direct and positive effect on the attitude to use promocode.

2.7 Hedonic outcome expectations

Shopping is often associated with hedonic outcome and is largely supported in previous studies (Soares and Pinho, 2014; Lu et al., 2009; Rouibah et al., 2016). Davis et al. (1992) viewed perceived enjoyment as one of the outcomes apart from accomplishing tasks. In online shopping, fun elements provided by e-retailers have significant effect on the sales generated. In this regard, many e-commerce studies regarded hedonic-related consequences closely linked to actual purchase (Sun and Zhang, 2006; Soares and Pinho, 2014; Sarkar, 2011). Consumers would opt to purchase due to promotional efforts based on hedonic consideration (Kivetz and Zheng, 2017). This led us to test the following hypothesis.

H_5 Hedonic expectation has a direct and positive effect on the attitude to use promocode.

Kesari and Atulkar (2016) stated that shoppers have fun with the interactive nature of a shopping app. Yang (2012) found that perceived enjoyment was the most important determinant in prompting consumers to purchase with mobile shopping apps. It also explained that interactivity enjoyed from online services boosts the level of hedonic utility in online services (Lin and Bhattacherjee, 2010). Furthermore, San-Martín et al. (2015) showed that entertainment and subjective norm influenced mobile shopping adoption. In a study in India by Tak and Panwar (2017), hedonic outcome was one of the determinants in explaining the adoption of mobile shopping app. In addition, discount and promotions offered further influenced the completion of sales (Kukar-Kinney and Carlson, 2015). Hence, the following hypothesis was developed:

H_6 Hedonic expectation has a direct and positive effect on the subjective norm of using promocode.

2.8 Self-efficacy

Self-efficacy refers to an individual's belief (or confidence) about his or her capabilities to execute a specific task within a given context (Bandura, 1982). The personal confidence, or more accurately self-efficacy, plays a pivotal role in SCT. This increasingly recognised psychological construct deals specifically with the control of human action through people's beliefs in their capabilities to produce desired outcomes by their action. Self-efficacy is critical to online shopping task performance because a consumer with high self-efficacy can complete the buying process without difficulty (Akhter, 2014; Pavlou and Fygenson, 2006). On the other hand, consumers with low self-efficacy are likely to cease their efforts prematurely without completing the shopping process (Lin and Huang, 2008).

Zha et al. (2013) explored the impact of both information self-efficacy and information acquisition with regard to information channels on decision quality and satisfaction level. Dabholkar and Sheng (2012) stressed the importance of self-efficacy's direct effect on online shopper behaviour. According to Hernández et al. (2010), self-efficacy influences the controllability of the purchase process, such as decisions about what behaviour to undertake, the effort necessary for this behaviour, and the individual's performance. In the case of promocode, customers must have the ability to search for the availability of the discount code and able to use it accordingly.

It was also found that the effort needed to use online shopping and the user's belief in own abilities to use online shopping influenced the satisfaction obtained by low-experienced customers. Similarly, effort expectancy and self-efficacy were needed to perform online transactions (Pappas et al., 2014). On the other hand, the direct influence of behavioural intention is actually only mediated by self-efficacy (Stok et al., 2014). In response to the common addition of self-efficacy to TPB model, Lee et al. (2014) found positive influence of self-efficacy on mobile shopping. Similarly, a study in Jordan found internet self-efficacy to affect use of internet channel (Faqih, 2013). Alternatively, consumers take the initiative to learn from their peers via social media for more shopping related information (Li, 2018). Therefore, we aimed to investigate how self-efficacy exerts a direct effect on the perception of the mobile consumers in using the promocode.

H_7 Self efficacy has a direct and positive effect on the subjective norm towards the use promocode.

H_8 Self efficacy has a direct and positive effect on the behavioural control towards the use promocode.

3 Research methodology and data analysis

3.1 Research methodology

In order to investigate the relationship among groups of dependent and independent constructs, two-stage structural equation modelling (SEM) path analysis was conducted in this study. We used partial least squares (PLS) regression analysis, a variance-based SEM, to test the measurement model and structural model. PLS has the ability to predict variations even in small sets of dependent variables, based on their relationships with their corresponding predictors (Henseler et al., 2015; Henseler and Sarstedt, 2013; Henseler et al., 2016). Hence, it was appropriate to use PLS in this study.

The research domain was the use of promocode in the purchase of ride-hailing service apps such as Uber, Lyft and Grabcar. Use of promocode in this type of 'car-pooling' service purchase is popular among current mobile consumers. However, in order to qualify appropriate respondents, a qualification question was asked in the survey to inquire about the experience of using promocode. Any respondent who had used any promocode in the last three months was a potential respondent. This would distinguish experienced and well-verse respondents from others in the purchase process. Hence, the sample frame was appropriate. The sample consisted of post-graduate and undergraduate students enrolled in electronic commerce course from a large private university in Selangor, Malaysia. They were directed to an online questionnaire with the instruction provided by their instructors.

Two hundred twenty six respondents were collected based on the guidelines by Wixom and Watson (2001). The sample size was determined by the choice of the data analysis used in this study. PLS requires data units to be at least ten times the number of indicators for the largest construct involved (Barclay et al., 1995; Gefen et al., 2000; Hair et al., 2013). In this research, purchase intention was the largest construct with 15 indicators and thereby required the total respondents to be at least 150. Furthermore, accepted average sample size for studies that used PLS were within the range of 200 to 250 (Shah and Goldstein, 2006; Hair et al., 2011). Thus, the sample size requirement for PLS analysis was comfortably fulfilled.

3.2 Instrument and data analysis

The questions to get responses were adapted from questionnaire previous predominantly used in SCT and TPB related studies. Prior to utilising the questionnaire on full-scale, a pre-test comprising of 30 respondents was conducted to ensure the face validity of the instrument. The respondents were asked to record their responses on a seven-point Likert scale ranging from 'strongly disagree' to 'strongly agree'. Exploratory factor analysis (EFA) was conducted and few inconsistent items were removed based on the theoretical considerations. Few scale items were eliminated after the correlation matrices transformation. We used both exploratory and confirmatory factor analysis to analyse the data in this study. Table 1 shows the demographics and other characteristics of the respondents.

Table 1 Sample characteristics (N = 266)

		Characteristics	*Frequency*	*%*
Gender		Male	124	46.62
		Female	142	53.38
Age		Between 18–20	158	59.39
		Between 21–30	80	30.08
		More than 30	28	10.53
X1	Shopping apps usage per week (hour)	Less than 1 hour	8	3.01
		$1 < X1 \leq 5$ hours	67	25.14
		$5 < X1 \leq 10$ hours	144	54.14
		More than 10 hours	47	17.67
X2	No. of years – use of mobile commerce	Less than 1 year	12	4.51
		$1 < X2 \leq 2$ years	43	16.17
		$2 < X2 \leq 4$ years	141	53.01
		More than 4 years	70	26.32
X3	Estimated frequency of using promocode in a week	Less than 1 time	80	30.08
		$1 < X3 \leq 2$ times	89	33.46
		$2 < X3 \leq 4$ times	78	29.32
		More than 4 times	19	7.14

Table 1 Sample characteristics (N = 266) (continued)

	Characteristics	*Frequency*	*%*
Importance of promocode in mobile shopping	Strongly agree	168	64.86
	Agree	58	22.39
	Neutral	18	6.95
	Disagree	15	5.79
	Strongly disagree	7	2.70

According to Podsakoff et al. (2003), common method variance (CMV) is the variance due to the measurement method used, rather than due to the constructs examined in a study. Wixom and Watson (2001) comment that due to the use of a single method to collect data, the existence of common method bias was unavoidable. Consequently, the inflated result obtained due to the correlations among the constructs. In order to resolve this problem of CMV, the approach proposed by Podsakoff et al. (2003) was used at both instrument design and data analysis stage. We carefully examined the wordings of the items at the questionnaire design stage. We also inter-mixed the items of different constructs on the questionnaire. Next, Harman's one-factor test and marker-variable technique were applied to examine the potential bias of CMV. The statistical results confirmed that this study was free from CMV. Both these tests concluded that the quality of measurement model was good as it fulfilled the requirements for the validity and reliability tests.

3.3 Result

3.3.1 Measurement model

First, the validity and reliability of the measurement model were established. The internal consistency was achieved after Cronbach's alpha of all the constructs in this study scored more than the threshold value of 0.7 (Nunally and Bernstein, 1978). Fornell and Larcker (1981) method was used to examine the degree of shared variance between the latent variables of the model. Average variance extracted (AVE) and composite reliability (CR) were used to assess the convergent validity of the measurement model. The model attained the acceptable value for convergent validity (Henseler et al., 2014). Table 2 summarises the results.

Table 2 Summary results for measurement model

Construct	*Indicators*	*Loadings*	*Average variance extracted*	*Composite reliability*	*Cronbach's alpha*
Attitude (ATT)	ATT1	0.7428	0.5844	0.8753	0.8251
	ATT2	0.8135			
	ATT3	0.7650			
	ATT4	0.7111			
	ATT5	0.7861			

Table 2 Summary results for measurement model (continued)

Construct	*Indicators*	*Loadings*	*Average variance extracted*	*Composite reliability*	*Cronbach's alpha*
Behavioural control (BEH)	BEH1	0.7039	0.5120	0.8397	0.7739
	BEH2	0.7546			
	BEH3	0.7272			
	BEH4	0.6805			
	BEH5	0.7092			
Hedonic outcome (HOE)	HOE1	0.8327	0.6289	0.8943	0.8533
	HOE2	0.8222			
	HOE3	0.7861			
	HOE4	0.7356			
	HOE5	0.7848			
Behavioural intention (INT)	INT1	0.8186	0.5470	0.8573	0.7927
	INT2	0.7113			
	INT3	0.7044			
	INT4	0.7726			
	INT5	0.6824			
Self-efficacy (SEL)	SEL1	0.7055	0.6240	0.8686	0.7970
	SEL2	0.8029			
	SEL3	0.7924			
	SEL4	0.8518			
Subjective norm (SUB)	SUB1	0.7934	0.6051	0.8840	0.8349
	SUB2	0.7197			
	SUB3	0.8410			
	SUB4	0.8292			
	SUB5	0.6951			
Utilitarian outcome (UOE)	UOE2	0.8403	0.5744	0.8410	0.8039
	UOE3	0.7239			
	UOE4	0.8506			
	UOE5	0.5865			

The discriminant validity was tested by comparing the variance of each construct with the shared variance among other constructs. The square root of AVE in each latent variable was measured and recorded in bold along the diagonal as depicted in Table 3. It was then compared with the correlation values recorded for all the variables. Discriminant validity was attained after the diagonal values for all the constructs were found greater than the inter-construct correlation of the constructs (off-diagonal) to their latent variables (Loch et al., 2003).

Table 3 Discriminant validity – Fornell-Lacker criterion analysis

Construct	*Attitude*	*Behavioural control*	*Hedonic outcome*	*Behavioural intention*	*Self-efficacy*	*Subjective norm*	*Utilitarian outcome*
Attitude	*0.7645*						
Behavioural control	0.1139	*0.7155*					
Hedonic Outcome	0.3168	0.3288	*0.7930*				
Behavioural intention	0.2468	0.2602	0.4393	*0.7396*			
Self-efficacy	0.2494	0.3937	0.4322	0.4999	*0.7899*		
Subjective norm	0.2140	0.2150	0.5950	0.6126	0.4900	*0.7788*	
Utilitarian outcome	0.2386	0.1873	0.1898	0.2277	0.3003	0.2559	*0.7579*

In addition, heterotrait-monotrait ratio of correlations (HTMT) results demonstrated upright discriminant validity were obtained as shown in Table 4. The results confirmed the achievement of discriminant validity for all the latent variables.

Table 4 Discriminant validity heterotrait-monotrait ratio of correlations (HTMT)

Construct	*Behavioural intention*	*Attitude*	*Subjective norm*	*Behavioural control*	*Utilitarian outcome*	*Hedonic outcome*
Attitude	0.2820					
Subjective norm	0.7402	0.2592				
Behavioural control	0.2743	0.1189	0.2418			
Utilitarian outcome	0.3571	0.2027	0.3332	0.3424		
Hedonic outcome	0.5158	0.3569	0.6959	0.3475	0.2332	
Self-efficacy	0.6101	0.2928	0.6055	0.4500	0.3928	0.5146

3.3.2 Structural model

In order to test the structural model, we conducted bootstrapping re-sampling method. Goodness of fit, R^2, and predictive relevance Q^2 were achieved with the use of blindfolding method as prescribed by Chin et al. (2003). The R^2 and Q^2 values are shown in Table 5. As shown, both of them were proven to have predictive relevance as their Q^2 values were acceptable.

Table 5 Blindfolding indexes for constructs

Construct	R^2	Q^2
Attitude	0.1338	0.0723
Behavioural control	0.1550	0.0654
Hedonic outcome	N/A	0.6286
Behavioural intention	0.4045	0.2069
Self-efficacy	N/A	0.6235
Subjective norm	0.4207	0.2551
Utilitarian outcome	N/A	0.5744

The R^2 value of behavioural intention, the dependent variable is 0.4045. Furthermore, all the exogenous constructs involved also attained acceptable variances. The variances in attitude, subjective norm, and behavioural control scores were 13.38%, 42.07%, and 15.50% respectively. These values proved that all of these constructs were significant in stimulating the intention to use promocode for mobile purchase.

3.3.3 Hypotheses testing

Further, the path, path coefficients, sample mean, standard error, t-value, and p-value were assessed for hypothesis testing. The test results are shown in Table 6.

Table 6 Test results for structural model

Path	*Path coefficient*	*Sample mean*	*Standard deviation*	*t-value*	*p-value (2-tailed)*
ATT → INT	0.1122	0.1164	0.0543	2.0662	0.0398
SUB → INT	0.5613	0.5619	0.0468	11.9882	0.0000
BHC → INT	0.1268	0.1333	0.0579	2.1877	0.0295
UOE → ATT	0.1851	0.2040	0.0616	3.0041	0.0029
HOE → ATT	0.2816	0.2816	0.0693	4.0643	0.0000
HOE → SUB	0.4713	0.4723	0.0531	8.8808	0.0000
SEL → BHC	0.3937	0.4061	0.0570	6.9122	0.0000
SEL → SUB	0.2863	0.2853	0.0606	4.7278	0.0000

In summary, the t-value and p-value of all the paths were significant in meeting the threshold values. In the first order constructs, ATT (path coefficient = 0.1122, t = 2.0662, p = 0.0398) exerted influence on INT at $p < 0.05$. BHC (path coefficient = 0.1268, t = 2.1877, p = 0.00) influenced INT more significantly. The predictive relevance of SUB on INT (path coefficient = 0.5613, t = 11.9882, p = 0.00) was also significant. The same could be said for UOE on ATT (path coefficient = 0.1851, t = 3.0041, p = 0.0029), HOE on ATT (path coefficient = 0.2816, t = 4.0643, p = 0.00), HOE on SUB (path coefficient = 0.4713, t = 8.8808, p = 0.00), SEL on BHC (path coefficient = 0.3937, t = 6.9122, p = 0.00), and SEL on SUB (path coefficient = 0.2863, t = 4.7278, p = 0.00).

Table 7 Summary of hypotheses testing

Hypothesis	*Path*	*Significance*
H_1	ATT → INT	Supported
H_2	SUB → INT	Supported
H_3	BHC → INT	Supported
H_4	UOE → ATT	Supported
H_5	HOE → ATT	Supported
H_6	HOE → SUB	Supported
H_7	SEL → SUB	Supported
H_8	SEL → BHC	Supported

Note: Hypotheses were tested, based on p-value (2-sided).

4 Conclusions

4.1 Theoretical contribution

This paper examined the factors that influence the use of promocode in shopping apps by using TPB and SCT as the underpinning theories. It was empirically validated that subjective norm, attitude towards the behaviour, and behavioural control were significant in determining the intended use of promocode in shopping apps. Amongst these, subjective norm was the most significantly influencing factor. These findings are aligned with previous studies (Finlay et al., 1999; Schepers and Wetzels, 2007) which makes sense as well, as because friends' and relatives' suggestions are often highly sought in making purchase decision. This is not only logically acceptable but also empirically supported (Crespo and Del Bosque, 2005; Pedersen, 2005). Furthermore, the contribution of perceived behavioural control was equally important. It recorded high predictive relevance in determining the consumers' ability of handling the entire shopping process effectively.

Using SCT, hedonic and utilitarian outcome expectations accounted the most for variance in consumer behaviour, which are well in line with previous e-commerce related studies (Lin and Bhattacherjee, 2010; Sun et al., 2014). Furthermore, this study also found that self-efficacy of the consumers facilitates the adoption of promocode available within mobile shopping apps. Hence, only pleasure or utility is not enough to use promocodes; this research shows that having the capability to use these promocodes is also important. This holds practical significance since majority of online services are self-directed services and make it imperative for consumers to have the capability of using it with minimum guidance. It also necessitates that they get high level of mobile technology controllability to handle the applications well.

In conclusion, this study integrated TPB with SCT to form a new theoretical model. We investigated the role of two major cognitive factors, i.e., efficacy expectations and outcome expectations in the use of promocode. Therefore, it offers a new perspective of mobile shopping apps development, which has developed enormously in the past decade. With high adoption rate of promocode, this theoretical framework was able to explain the

usefulness of promocode in influencing the use of shopping apps. In particular, self-efficacy is needed to facilitate the use of promocode as found in this study.

4.2 Managerial implications

Those online customers with higher level of self-efficacy and social and cognitive expectation outcomes are more comfortable in using promocode. They are socially connected and are very proficient in the use of mobile technologies. Ironically, many businesses are not as proficient, or at least not very willing as compared to their online consumers. It is, thus, a challenge for the businesses to transform themselves and be more digitally and technological driven to serve customers.

Customers' personal judgment, shopping needs, and expected outcomes are of utmost importance in moulding their purchase intention. Online customers who use promocode are highly self-dependent to learn about product and retailers' information (Wang et al., 2012). They also demonstrate high personal control beliefs in handling online transaction (McCloskey, 2004). Promocode within shopping apps is useful from both the utilitarian and hedonic dimension. It makes the buyers believe that the functions of the promocode are actually giving more needed utilities for shopping. This implies that the managers should provide more reviews, comparisons, and other product-related information to increase the utility of using such apps. This satisfies the utilitarian need of the customers. More and useful information about the promocode would enhance the hedonic values and attract the adoption of the customers. For this reason, the useful information should be easily available. The business should not assume that the tech-savvy customers would wade their way through to the information without being agitated. In this regard, the navigation is also set to incite the hedonistic values in ensuing customer enjoyment throughout the entire shopping process. This holds that the managers should tailor-make the promocode and other features as per the customers' needs in serving the customers better. Therefore, retailers can reach the target consumers directly with the customised links to obtain the promocodes they need.

4.3 Limitation and future research direction

This paper only focused on young consumers, who are familiar with the use of mobile technology. Their familiarity would naturally reduce the generalisabiliy of the findings. Sample population should also include consumers from other age groups for future studies. The results could be different when including other age groups.

Consumers' perceived benefits increase due to the increased exposure to product information and experience, assisted with more shopping functions. This is supported by the finding that frequent use of promocode affects consumers' purchase attitude which subsequently leads to customer loyalty (Hsu and Lin, 2015; Xu et al., 2015). Further studies should investigate the relationship between promocode and customer loyalty to examine how these two constructs correlate with each other.

In addition, there are different types of promocode in existence and should be classified and dealt with separately in order to gauge the effectiveness of each of them. Future research could investigate the effectiveness of different types of promocode in different market settings. Furthermore, promocode is available in different platforms such as desktop and social media. However, we focused on mobile shopping apps only in this

study. There is a need to expand study to other platforms, especially social commerce where promocode recommended by other social media users (Kim, 2013).

References

Aboelmaged, M. and Gebba, T.R. (2013) 'Mobile banking adoption: an examination of technology acceptance model and theory of planned behavior', *International Journal of Business Research and Development*, Vol. 2, No. 1, pp.35–50.

Ajzen, I. (1991) 'The theory of planned behavior', *Organizational Behavior and Human Decision Processes*, Vol. 50, No. 2, pp.179–211.

Ajzen, I. (2015) 'The theory of planned behaviour is alive and well, and not ready to retire: a commentary on Sniehotta, Presseau, and Araújo-Soares', *Health Psychology Review*, Vol. 9, No. 2, pp.131–137.

Akhter, S.H. (2014) 'Privacy concern and online transactions: the impact of internet self-efficacy and internet involvement', *Journal of Consumer Marketing*, Vol. 31, No. 2, pp.118–125.

Al-Debei, M.M., Al-Lozi, E. and Papazafeiropoulou, A. (2013) 'Why people keep coming back to Facebook: explaining and predicting continuance participation from an extended theory of planned behaviour perspective', *Decision Support Systems*, Vol. 55, No. 1, pp.43–54.

Amaro, S. and Duarte, P. (2015) 'An integrative model of consumers' intentions to purchase travel online', *Tourism Management*, Vol. 46, No. 1, pp.64–79.

Atkinson, L. (2013) Smart shoppers? Using QR codes and 'green' smartphone apps to mobilize sustainable consumption in the retail environment', *International Journal of Consumer Studies*, Vol. 37, No. 4, pp.387–393.

Baker, R.K. and White, K.M. (2010) 'Predicting adolescents' use of social networking sites from an extended theory of planned behaviour perspective', *Computers in Human Behavior*, Vol. 26, No. 6, pp.1591–1597.

Bandura, A. (1982) 'Self-efficacy mechanism in human agency', *American Psychologist*, Vol. 37, No. 2, pp.122–147.

Barclay, D., Higgins, C. and Thompson, R. (1995) 'The partial least squares (PLS) approach to casual modeling: personal computer adoption ANS use as an illustration', *Technology Studies*, Vol. 2, No. 1, pp.285–309.

Bei, L-T. and Chen, M-Y. (2015) 'The effects of hedonic and utilitarian bidding values on e-auction behavior', *Electronic Commerce Research*, Vol. 15, No. 4, pp.483–507.

Bhattacherjee, A. (2000) 'Acceptance of e-commerce services: the case of electronic brokerages', *IEEE Transactions on Systems, Man, and Cybernetics – Part A: Systems and Humans*, Vol. 30, No. 4, pp.411–420.

Bock, G-W., Zmud, R.W., Kim, Y-G. and Lee, J-N. (2005) 'Behavioral intention formation in knowledge sharing: examining the roles of extrinsic motivators, social-psychological forces, and organizational climate', *MIS Quarterly*, Vol. 29, No. 1, pp.87–111.

Bonera, M. (2011) 'The propensity of e-commerce usage: the influencing variables', *Management Research Review*, Vol. 34, No. 7, pp.821–837.

Cameron, D., Gregory, C. and Battaglia, D. (2012) 'Nielsen personalizes the mobile shopping app', *Journal of Advertising Research*, Vol. 52, No. 3, pp.333–338.

Chang, I-C., Liu, C-C. and Chen, K. (2014) 'The effects of hedonic/utilitarian expectations and social influence on continuance intention to play online games', *Internet Research*, Vol. 24, No. 1, pp.21–45.

Cheng, H-H. and Huang, S-W. (2013) 'Exploring antecedents and consequence of online group-buying intention: an extended perspective on theory of planned behavior', *International Journal of Information Management*, Vol. 33, No. 1, pp.185–198.

Cheng, Y-H. and Ho, H-Y. (2015) 'Social influence's impact on reader perceptions of online reviews', *Journal of Business Research*, Vol. 68, No. 4, pp.883–887.

Chin, W.W., Marcolin, B.L. and Newsted, P.R. (2003) 'A partial least squares latent variable modeling approach for measuring interaction effects: results from a Monte Carlo simulation study and an electronic-mail emotion/adoption study', *Information Systems Research*, Vol. 14, No. 2, pp.189–217.

Choudhury, V. and Karahanna, E. (2008) 'The relative advantage of electronic channels: a multidimensional view', *MIS Quarterly*, Vol. 32, No. 1, pp.179–200.

Crespo, A.H. and Del Bosque, I.R. (2005) 'Influence of corporate social responsibility on loyalty and valuation of services', *Journal of Business Ethics*, Vol. 61, No. 4, pp.369–385.

Dabholkar, P.A. and Sheng, X. (2012) 'Consumer participation in using online recommendation agents: effects on satisfaction, trust, and purchase intentions', *The Service Industries Journal*, Vol. 32, No. 9, pp.1433–1449.

Davis, F.D., Bagozzi, R.P. and Warshaw, P.R. (1992) 'Extrinsic and intrinsic motivation to use computers in the workplace', *Journal of Applied Social Psychology*, Vol. 22, No. 14, pp.1111–1132.

Davis, L.Y. (2013) 'Let us go shopping: exploring Northwest Chinese consumers' shopping experiences', *International Journal of Consumer Studies*, Vol. 37, No. 4, pp.353–359.

Faqih, K.M. (2013) 'Exploring the influence of perceived risk and internet self-efficacy on consumer online shopping intentions: perspective of technology acceptance model', *International Management Review*, Vol. 9, No. 1, p.67.

Filieri, R., McLeay, F. and Tsui, B. (2017) 'Antecedents of travellers' satisfaction and purchase intention from social commerce websites', in Schegg, R. and Stangl, B. (Eds.): *Information and Communication Technologies in Tourism 2017*, Springer, Cham.

Finlay, K.A., Trafimow, D. and Moroi, E. (1999) 'The importance of subjective norms on intentions to perform health behaviors', *Journal of Applied Social Psychology*, Vol. 29, No. 11, pp.2381–2393.

Fornell, C. and Larcker, D.F. (1981) 'Structural equation models with unobservable variables and measurement error: algebra and statistics', *Journal of Marketing Research*, Vol. 18, No. 3, pp.382–388.

Gao, L., Waechter, K.A. and Bai, X. (2015) 'Understanding consumers' continuance intention towards mobile purchase: a theoretical framework and empirical study – a case of China', *Computers in Human Behavior*, Vol. 53, pp.249–262.

Gefen, D., Straub, D. and Boudreau, M-C. (2000) 'Structural equation modeling and regression: guidelines for research practice', *Communications of the Association for Information Systems*, Vol. 4, No. 1, p.1–70.

Goyal, A., Maity, M., Thakur, R. and Srivastava, M. (2013) 'Customer usage intention of mobile commerce in India: an empirical study', *Journal of Indian Business Research*, Vol. 5, No. 1, pp.52–72.

Hair, J.F., Ringle, C.M. and Sarstedt, M. (2011) 'PLS-SEM: indeed a silver bullet', *Journal of Marketing theory and Practice*, Vol. 19, No. 2, pp.139–152.

Hair, J.F., Ringle, C.M. and Sarstedt, M. (2013) 'Partial least squares structural equation modeling: rigorous applications, better results and higher acceptance', *Journal: Long Range Planning*, Vol. 46, Nos. 1–2, pp.1–70.

Han, H., Hwang, J. and Woods, D.P. (2014) 'Choosing virtual-rather than real-leisure activities: an examination of the decision-making process in screen-golf participants', *Asia Pacific Journal of Tourism Research*, Vol. 19, No. 4, pp.428–450.

Hansen, T., Møller Jensen, J. and Stubbe Solgaard, H. (2004) 'Predicting online grocery buying intention: a comparison of the theory of reasoned action and the theory of planned behavior', *International Journal of Information Management*, Vol. 24, No. 6, pp.539–550.

Henseler, J. and Sarstedt, M. (2013) 'Goodness-of-fit indices for partial least squares path modeling', *Computational Statistics*, Vol. 28, pp.565–580.

Henseler, J., Dijkstra, T.K., Sarstedt, M., Ringle, C.M., Diamantopoulos, A., Straub, D.W., Ketchen, D.J., Hair, J.F., Hult, G.T.M. and Calantone, R.J. (2014) 'Common beliefs and reality about PLS comments on Rönkkö and Evermann (2013)', *Organizational Research Methods* [online] https://doi.org/10.1177/1094428114526928.

Henseler, J., Hubona, G. and Ray, P.A. (2016) 'Using PLS path modeling in new technology research: updated guidelines', *Industrial Management & Data Systems*, Vol. 116, No. 1, pp.2–20.

Henseler, J., Ringle, C.M. and Sarstedt, M. (2015) 'A new criterion for assessing discriminant validity in variance-based structural equation modeling', *Journal of the Academy of Marketing Science*, Vol. 43, No. 1, pp.115–135.

Hernández, B., Jiménez, J. and Martín, M.J. (2010) 'Customer behavior in electronic commerce: the moderating effect of e-purchasing experience', *Journal of Business Research*, Vol. 63, No. 9, pp.964–971.

Hicks, M. (2003) 'System and method for providing customers seeking a product or service at a specified discount in a specified geographic area with information as to suppliers offering the same', *Google Patents*.

Holmes, A., Byrne, A. and Rowley, J. (2013) 'Mobile shopping behaviour: insights into attitudes, shopping process involvement and location', *International Journal of Retail & Distribution Management*, Vol. 42, No. 1, pp.25–39.

Hsu, C-L. and Lin, J.C-C. (2015) 'What drives purchase intention for paid mobile apps? – an expectation confirmation model with perceived value', *Electronic Commerce Research and Applications*, Vol. 14, No. 1, pp.46–57.

Hsu, M-H., Ju, T.L., Yen, C-H. and Chang, C-M. (2007) 'Knowledge sharing behavior in virtual communities: the relationship between trust, self-efficacy, and outcome expectations', *International Journal of Human-Computer Studies*, Vol. 65, No. 2, pp.153–169.

Huang, C-C., Lin, T-C. and Lin, K-J. (2009) 'Factors affecting pass-along email intentions (PAEIs): integrating the social capital and social cognition theories', *Electronic Commerce Research and Applications*, Vol. 8, No. 8, pp.160–169.

Huang, Q., Chen, X., Ou, C.X., Davison, R.M. and Hua, Z. (2017) 'Understanding buyers' loyalty to a C2C platform: the roles of social capital, satisfaction and perceived effectiveness of e-commerce institutional mechanisms', *Information Systems Journal*, Vol. 27, No. 1, pp.91–119.

Hui, S.K., Inman, J.J., Huang, Y. and Suher, J. (2013) 'The effect of in-store travel distance on unplanned spending: applications to mobile promotion strategies', *Journal of Marketing*, Vol. 77, No. 2, pp.1–16.

Kang, H., Hahn, M., Fortin, D.R., Hyun, Y.J. and Eom, Y. (2006) 'Effects of perceived behavioral control on the consumer usage intention of e-coupons', *Psychology & Marketing*, Vol. 23, No. 10, pp.841–864.

Kesari, B. and Atulkar, S. (2016) 'Satisfaction of mall shoppers: a study on perceived utilitarian and hedonic shopping values', *Journal of Retailing and Consumer Services*, Vol. 31, No. 3, pp.22–31.

Khalifa, M. and Shen, K.N. (2008) 'Drivers for transactional B2C m-commerce adoption: extended theory of planned behavior', *Journal of Computer Information Systems*, Vol. 48, No. 3, pp.111–117.

Kim, D. (2013) 'Under what conditions will social commerce business models survive?', *Electronic Commerce Research and Applications*, Vol. 12, No. 2, pp.69–77.

Kim, M., Kim, J., Choi, J. and Trivedi, M. (2017) 'Mobile shopping through applications: understanding application possession and mobile purchase', *Journal of Interactive Marketing*, Vol. 39, pp.55–68.

Kim, S.J., Wang, R.J-H. and Malthouse, E.C. (2015) 'The effects of adopting and using a brand's mobile application on customers' subsequent purchase behaviour', *Journal of Interactive Marketing*, Vol. 31, pp.28–41.

Kivetz, R. and Zheng, Y. (2017) 'The effects of promotions on hedonic versus utilitarian purchases', *Journal of Consumer Psychology*, Vol. 27, No. 1, pp.59–68.

Kukar-Kinney, M. and Carlson, J.R. (2015) 'A fresh look at consumers' discounting of discounts in online and bricks-and-mortar shopping contexts', *International Journal of Research in Marketing*, Vol. 32, No. 4, pp.442–444.

Lee, C-C., Cheng, H.K. and Cheng, H-H. (2007) 'An empirical study of mobile commerce in insurance industry: task-technology fit and individual differences', *Decision Support Systems*, Vol. 43, No. 1, pp.95–110.

Lee, J. and Hong, I.B. (2016) 'Predicting positive user responses to social media advertising: the roles of emotional appeal, informativeness, and creativity', *International Journal of Information Management*, Vol. 36, No. 3, pp.360–373.

Lee, T., Park, C. and Jun, J. (2014) 'Two faces of mobile shopping: self-efficacy and impulsivity', *International Journal of E-Business Research*, Vol. 10, No. 1, pp.15–32.

Li, X. (2018) 'Impact of average rating on social media endorsement: the moderating role of rating dispersion and discount threshold', *Information Systems Research*, Vol. 29, No. 3, pp.525–577.

Liaw, S-S. and Huang, H-M. (2013) 'Perceived satisfaction, perceived usefulness and interactive learning environments as predictors to self-regulation in e-learning environments', *Computers & Education*, Vol. 60, No. 1, pp.14–24.

Lin, C.P. and Bhattacherjee, A. (2010) 'Extending technology usage models to interactive hedonic technologies: a theoretical model and empirical test', *Information Systems Journal*, Vol. 20, No. 2, pp.163–181.

Lin, T-C. and Huang, C-C. (2008) 'Understanding knowledge management system usage antecedents: an integration of social cognitive theory and task technology fit', *Information & Management*, Vol. 45, No. 6, pp.410–417.

Loch, K.D., Straub, D.W. and Kamel, S. (2003) 'Diffusing the internet in the Arab world: the role of social norms and technological culturation', *IEEE Transactions on Engineering Management*, Vol. 50, No. 1, pp.45–63.

Lu, J. (2014) 'Are personal innovativeness and social influence critical to continue with mobile commerce?', *Internet Research*, Vol. 24, No. 2, pp.134–159.

Lu, J-L., Chou, H-Y. and Ling, P-C. (2009) 'Investigating passengers' intentions to use technology-based self check-in services', *Transportation Research Part E: Logistics and Transportation Review*, Vol. 45, No. 2, pp.345–356.

Madden, C.S., Caballero, M.J. and Matsukubo, S. (1986) 'Analysis of information content in US and Japanese magazine advertising', *Journal of Advertising*, Vol. 15, No. 3, pp.38–45.

McCloskey, D. (2004) 'Evaluating electronic commerce acceptance with the technology acceptance model', *Journal of Computer Information Systems*, Vol. 44, No. 2, pp.49–57.

Nunally, J.C. and Bernstein, I.H. (1978) *Psychometric Theory*, McGraw-Hill, New York.

Pappas, I.O., Pateli, A.G., Giannakos, M.N. and Chrissikopoulos, V. (2014) 'Moderating effects of online shopping experience on customer satisfaction and repurchase intentions', *International Journal of Retail & Distribution Management*, Vol. 42, No. 3, pp.187–204.

Pavlou, P.A. and Fygenson, M. (2006) 'Understanding and predicting electronic commerce adoption: an extension of the theory of planned behavior', *MIS Quarterly*, Vol. 30, No. 1, pp.115–143.

Pedersen, P.E. (2005) 'Adoption of mobile internet services: an exploratory study of mobile commerce early adopters', *Journal of Organizational Computing and Electronic Commerce*, Vol. 15, No. 3, pp.203–222.

Plotnikoff, R.C., Costigan, S.A., Karunamuni, N. and Lubans, D.R. (2013) 'Social cognitive theories used to explain physical activity behavior in adolescents: a systematic review and meta-analysis', *Preventive Medicine*, Vol. 56, No. 5, pp.245–253.

Podsakoff, P.M., Mackenzie, S.B., Lee, J-Y. and Podsakoff, N.P. (2003) 'Common method biases in behavioral research: a critical review of the literature and recommended remedies', *Journal of Applied Psychology*, Vol. 88, No. 5, p.879.

Rodríguez-Torrico, P., Cabezudo, R.S.J. and San-Martín, S. (2017) 'Tell me what they are like and I will tell you where they buy. An analysis of omnichannel consumer behavior', *Computers in Human Behavior*, March, Vol. 68, pp.465–471.

Rouibah, K., Lowry, P.B. and Hwang, Y. (2016) 'The effects of perceived enjoyment and perceived risks on trust formation and intentions to use online payment systems: new perspectives from an Arab country', *Electronic Commerce Research and Applications*, September–October, Vol. 19, pp.33–43.

San-Martín, S., Prodanova, J. and Jiménez, N. (2015) 'The impact of age in the generation of satisfaction and WOM in mobile shopping', *Journal of Retailing and Consumer Services*, March, Vol. 23, pp.1–8.

Sarkar, A. (2011) 'Impact of utilitarian and hedonic shopping values on individual's perceived benefits and risks in online shopping', *International Management Review*, Vol. 7, No. 1, p.58.

Schepers, J. and Wetzels, M. (2007) 'A meta-analysis of the technology acceptance model: investigating subjective norm and moderation effects', *Information & Management*, Vol. 44, No. 1, pp.90–103.

Shah, R. and Goldstein, S.M. (2006) 'Use of structural equation modeling in operations management research: looking back and forward', *Journal of Operations Management*, Vol. 24, No. 2, pp.148–169.

Sheppard, B.H., Jon, H. and Warshaw, P.R. (1988) 'The theory of reasoned action: a meta-analysis of past research with recommendations for modifications and future research', *Journal of Consumer Research*, Vol. 15, No. 3, pp.325–343.

Sniehotta, F. (2009) 'An experimental test of the theory of planned behavior', *Applied Psychology: Health and Well-Being*, Vol. 1, No. 2, pp.257–270.

Soares, A.M. and Pinho, J.C. (2014) 'Advertising in online social networks: the role of perceived enjoyment and social influence', *Journal of Research in Interactive Marketing*, Vol. 8, No. 3, pp.245–263.

Stok, F.M., Verkooijen, K.T., Ridder, D.T., Wit, J.B. and Vet, E. (2014) 'How norms work: self-identification, attitude, and self-efficacy mediate the relation between descriptive social norms and vegetable intake', *Applied Psychology: Health and Well-Being*, Vol. 6, No. 2, pp.230–250.

Sun, H. and Zhang, P. (2006) 'Causal relationships between perceived enjoyment and perceived ease of use: an alternative approach', *Journal of the Association for Information Systems*, Vol. 7, No. 9, p.24.

Sun, Y., Liu, L., Peng, X., Dong, Y. and Barnes, S.J. (2014) 'Understanding Chinese users' continuance intention toward online social networks: an integrative theoretical model', *Electronic Markets*, Vol. 24, No. 1, pp.57–66.

Tak, P. and Panwar, S. (2017) 'Using UTAUT 2 model to predict mobile app based shopping: evidences from India', *Journal of Indian Business Research*, Vol. 9, No. 3, pp.248–264.

Taylor, S. and Todd, P.A. (1995) 'Understanding information technology usage: a test of competing models', *Information Systems Research*, Vol. 6, No. 2, pp.144–176.

Toufaily, E., Ricard, L. and Perrien, J. (2013) 'Customer loyalty to a commercial website: descriptive meta-analysis of the empirical literature and proposal of an integrative model', *Journal of Business Research*, Vol. 66, No. 9, pp.1436–1447.

Venkatesh, V. and Davis, F.D. (2000) 'A theoretical extension of the technology acceptance model: four longitudinal field studies', *Management Science*, Vol. 46, No. 2, pp.186–204.

Venkatesh, V., Morris, M.G., Davis, G.B. and Davis, F.D. (2003) 'User acceptance of information technology: toward a unified view', *MIS Quarterly: Management Information Systems*, Vol. 27, No. 3, pp.425–478.

Wang, R.J-H., Malthouse, E.C. and Krishnamurthi, L. (2015a) 'On the go: how mobile shopping affects customer purchase behavior', *Journal of Retailing*, Vol. 91, No. 2, pp.217–234.

Wang, X., Yu, C. and Wei, Y. (2012) 'Social media peer communication and impacts on purchase intentions: a consumer socialization framework', *Journal of Interactive Marketing*, Vol. 26, No. 4, pp.198–208.

Wixom, B.H. and Watson, H.J. (2001) 'An empirical investigation of the factors affecting data warehousing success', *MIS Quarterly*, Vol. 25, No. 1, pp.17–41.

Wong, C.H., Tan, G.W.H., Ooi, K.B. and Lin, B. (2014) 'Mobile shopping: the next frontier of the shopping industry? An emerging market perspective', *International Journal of Mobile Communications*, Vol. 13, No. 1, pp.92–112.

Wu, J-H. and Wang, S-C. (2005) 'What drives mobile commerce?: An empirical evaluation of the revised technology acceptance model', *Information & Management*, Vol. 42, No. 5, pp.719–729.

Xu, C., Peak, D. and Prybutok, V. (2015) 'A customer value, satisfaction, and loyalty perspective of mobile application recommendations', *Decision Support Systems*, November, Vol. 79, pp.171–183.

Yang, K. (2012) 'Consumer technology traits in determining mobile shopping adoption: an application of the extended theory of planned behavior', *Journal of Retailing and Consumer Services*, Vol. 19, No. 5, pp.484–491.

Yoon, H-J. and Tourassi, G. (2014) 'Analysis of online social networks to understand information sharing behaviors through social cognitive theory', *Biomedical Science and Engineering Center Conference (BSEC)*, *2014 Annual Oak Ridge National Laboratory*, IEEE, pp.1–4.

Zha, X., Li, J. and Yan, Y. (2013) 'Information self-efficacy and information channels: decision quality and online shopping satisfaction', *Online Information Review*, Vol. 37, No. 6, pp.872–890.

Appendix

Measurement items

Construct		*Scale*	*Source*
Attitude, ATT	ATT1	Promocode in mobile commerce is a good idea.	Amaro and Duarte (2005)
	ATT2	Using promocode is a wise idea.	
	ATT3	I like the idea of using promocode.	
	ATT4	Purchasing with promocode would be pleasant.	
	ATT5	Purchasing with promocode is appealing.	
Behavioural control, BEH	BEH1	It takes little time to find promocode I need.	Kang et al. (2006) and Al-Debei et al. (2013)
	BEH2	There is no obstacle for me to use promocode.	
	BEH3	I have complete control over the continuance usage of promocode.	
	BEH4	The continuance usage of promocode is not beyond my control.	
	BEH5	Whether or not I continue use promocode is entirely up to me.	

Measurement items (continued)

Construct		*Scale*	*Source*
Hedonic outcome expectation, HOE	HOE1	Shopping with promocode is truly a joy to me.	Sarkar (2011)
	HOE2	The time spent in shopping with promocode is truly enjoyable to me.	
	HOE3	While shopping with promocode, I can feel the excitement.	
	HOE4	While shopping with promocode, I am able to forget my other problems.	
	HOE5	While shopping with promocode, I feel a sense of adventure.	
Behavioural intention, INT	INT1	I believe it is worthwhile to use promocode as a shopping tool.	Liaw and Huang (2013)
	INT2	It is necessary for me to use promocode for shopping purpose.	
	INT3	I will promocode for shopping.	
	INT4	I have the intention to use promocode in the future.	
	INT5	I have the intention to use promocode often in the future.	
Self-efficacy	SEL1	I do not have the necessary skills to fully use promocode (item reverse coded).	Akhter (2014) and Pavlou and Fygenson (2006)
	SEL2	I do not have the necessary ability to fully use promocode (item reverse coded).	
	SEL3	I am confident that I can solve any problems in using promocode.	
	SEL4	I am confident I could purchase with promocode in the next 30 days.	
Subjective norm, SUB	SUB1	Members of my family think that it is a good idea to use promocode.	Pedersen (2005)
	SUB2	Most of my friends and acquaintances think that using promocode commerce is good idea.	
	SUB3	People who are important to me think I should use promocode.	
	SUB4	People who influence my behaviour think I should use promocode.	
	SUB5	People whose opinion I value prefer me to use promocode.	
Utilitarian outcome expectation, UOE	UOE1	If I use promocode, my friends will perceive me as competent.	Chang et al. (2014)
	UOE2	If I use promocode, I will increase my sense of accomplishment.	
	UOE3	If use promocode, I will increase my chances of obtaining a better sales deal.	
	UOE4	If I use promocode, I will be seen as having higher status by my peers.	
	UOE5	If I use promocode, I will increase my chances of getting a reward.	