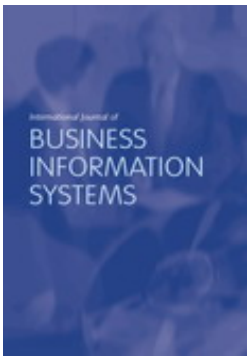


International Journal of Business Information Systems

ISSN online: 1746-0980 - ISSN print: 1746-0972
https://www.inderscience.com/ijbis

Factors affecting mobile coupon acceptance through smartphone app

K.A. Asraar Ahmed, V.S. Damodharan, S. Kumaraperumal

DOI: 10.1504/IJBIS.2022.10049737

Article History:
Received: 21 February 2022
Accepted: 01 July 2022
Published online: 12 May 2024

Factors affecting mobile coupon acceptance through smartphone app

K.A. Asraar Ahmed*

VIT-AP School of Business,
VIT-AP University,
G-30, Inavolu, Beside AP Secretariat Amaravati,
Andhra Pradesh, 522237, India
Email: asraarvit@gmail.com
*Corresponding author

V.S. Damodharan

Abu Dhabi Vocational Education and Training Institute,
Al Jazirah Institute of Science and Technology,
Post Box No. 95005, Rabdan, Abu Dhabi, UAE
Email: sriramdams@gmail.com

S. Kumaraperumal

Rajalakshmi School of Business,
Chennai-Bangalore Highway,
Chembarambakkam, Tamil Nadu, 600124, India
Email: kumaraperumal.s@rsb.edu.in

Abstract: There will be more than 7.5 billion smartphone users around the world by the end of the year 2026 (Statista, 2022). The increase in smartphone sales in India has caused tremendous growth in the mobile commerce sector. Recent reports predict that by the year 2025, India will have the second-largest market globally in the m-commerce sector after China. This paper explores the factors that affect mobile coupon application acceptance among Indians by using the extended UTAUT2 model as a theoretical background. This study applied SEM modelling for analysing the data with AMOS 25 software. The price value, internal social influence, external social influence, perceived risk, performance expectancy, trust, personal innovativeness, hedonic motivation, and mobile self-efficacy significantly impacted the mobile coupon application acceptance.

Keywords: mobile coupons; UTAUT2; structural equation modelling; SEM; AMOS; mobile apps; smartphone; India.

Reference to this paper should be made as follows: Ahmed, K.A.A., Damodharan, V.S. and Kumaraperumal, S. (2024) 'Factors affecting mobile coupon acceptance through smartphone app', *Int. J. Business Information Systems*, Vol. 46, No. 1, pp.140–164.

Biographical notes: K.A. Asraar Ahmed is currently working as an Assistant Professor Senior Grade-1 at the VIT-AP School of Business, VIT-AP University, Amravati, Andhra Pradesh. He received his Doctorate of Philosophy from VIT University, Vellore, India. He has published research articles in Scopus/ABDC-listed journals in the areas of marketing and technology adoption. He is an expert in teaching business analytics, human resouces analytics, data analytics using Excel/R/SPSS/Tableau, machine learning using R/Python, marketing management, marketing research and quantitative methods. He has conducted several workshops, faculty development programs, and management development programs on structural equation modelling using R, SPSS, AMOS, Smart PLS, and Business analytics using advanced excel, R, and Tableau.

V.S. Damodharan is an Academician, Professional Chartered and Management Accountant, Data Analyst with ACBSP Teaching Excellence Award from ACBSP USA. He holds a PhD in Entrepreneurship and a Master of Philosophy in Accounting and Finance. He is a qualified Chartered Accountant, (ACCA) UK, Management Accountant, Certified Management Accountant (CMA) of IMA USA. He is an Associate Cost and Management Accountant (ACMA) from India. He has two decades of experience in education and consulting experience in the MENA and Asia regions. He has diverse background in instructing students at the undergraduate level, postgraduate, and professional level. His expertise includes data analytics, finance, accounting, auditing, budgeting, costing and management accounting, CRM, entrepreneurship, family business, professional coaching, consulting, and training. He has delivered guest lectures at regional and international conferences, and published research papers in Scopus Q2 refereed journal topics ranging from entrepreneurship and innovation, family business, leadership, technology, pedagogy and eLearning.

S. Kumaraperumal is currently working as an Associate Professor at Rajalakshmi School of Business, Chennai, Tamil Nadu, India. He has blended experience from industry and academia. He is an expert in teaching marketing management, retailing, strategic management, business research methods and sales and distribution management. He has also published research articles in Scopus/ABDC listed journals in the areas of marketing.

1 Introduction

The Mobile Marketing Association (MMA) (2007) defined a mobile coupon as ‘a digital coupon that is delivered directly to the consumers’ mobile devices through which they can redeem a monetary discount’. Mobile coupons are a marketing strategy that offers to promote products at discount prices. According to Statista (2021), more than 60% of online shoppers worldwide look for coupon discounts from e-retailers (Stephanie, 2021). There will be more than 7.5 billion smartphone users worldwide by end of the year 2026 (O’Dea, 2021). According to SpendEdge (2021), the global mobile coupon spending capacity will be more than USD 3,316.58 billion by the year 2025. Post COVID-19 pandemic online shoppers worldwide have become price-saving oriented and health-conscious consumers (PwC, 2021). India will have more than 1 billion smartphone users by the year 2025 (Statista Research Department, 2021). Emarketer (2014) initially predicted India to have 200 million smartphone users by 2015, which was proved correct

as per the latest report of the Counterpoint Research (2016), which shows that there were around 220 million smartphone users in India at the end of December 2015. These extensive penetrations of smartphones have increased mobile commerce acceptance in India. In the year 2021, India had more than 400 million smartphone users (Statista, 2021). These encouraging reports have also led Indian users to adopt mobile coupons through smartphones.

The combined research report on mobile coupons released by Business Standard (2014) states that the digital coupons business in India is growing at a whopping 62%, with more than 7 million users per month. The report further says that more than 14% of virtual shoppers in India use digital coupons for virtual purchases. The top five coupon categories were

1 mobile recharge
2 travel
3 fashion
4 food and dining
5 mobile and tablets.

A large proportion of smartphone users in India are aged between 20–35 years (Statista, 2021). Males contribute 65%, and female contributes 35% of mobile coupon usage. Paytm, e-bay, and Amazon are the three top brands used among Indians for coupon access (Business Standard, 2014). These growths have brought marketers' attention to mobile coupons.

Several exclusive Indian mobile apps offering digital coupons for various categories (such as Coupon India, Grabon, Coupon Dunia, Groupon, Paytm, Phonepay, Google pay, Mydala, Desidime, Coupon Raja, etc.) are available on Google play store/Apple iStore. Adopting such mobile coupons could help smartphone users receive personalised coupon messages ubiquitously and result in profitable growth for mobile business providers. The mobile coupons in India are at a very nascent stage, this research will identify the necessary factors that can drive mobile coupon acceptance through smartphone apps among Indians. Wang et al. (2015) state mainly the ubiquitous nature of mobile coupons can drive consumers to adopt MCOU effectively. Additionally, location-based mobile coupon service is a new area of mobile marketing, resulting in immense competition on pricing among retailers, which will eventually benefit the buyers (Zou and Huang, 2015).

Chances of impulse purchase will be high if consumers adopt mobile coupons (MCOU) (Balakrishnan et al., 2020; Hui et al., 2013). Mobile coupon app adoption will lead to customer loyalty (Balakrishnan et al., 2020). According to Akram et al. (2020), Kim and Song (2020) state a need for more exhaustive research on mobile marketing, especially on mobile apps. The smartphone user installs several mobile apps in them; positioning a particular app on the first screen of the smartphone by the user is a challenging task for marketers (Shankar et al., 2016). The mobile coupon app will provide the customer with a feature to compare offers of competitors (Shankar et al., 2016; Balakrishnan et al., 2020). There are a few dearth's of studies investigated on the effect of trust, privacy, security, price, and self-efficacy, on behavioural intention towards mobile coupon app acceptance (BIMCOUA) (Nayal and Pandey 2020c; Lee and Choeh, 2021; Shanker et al., 2016; Hsu and Tang, 2020; Balakrishnan et al., 2020). There are many factors such as price, trust, privacy, security, knowledge about mobile apps, etc.

that inhibits the acceptance of mobile marketing applications, and there exists limited knowledge on the acceptance behaviour of coupons over smart devices (Akram et al., 2020; Balakrishnan et al., 2020; Carranza et al., 2020; Kim and Song 2020; Gupta and Wali (2020), Nayal and Pandey (2020a), Nayal et al. (2021), Hsu and Tang, 2020). Ahmed and Kranthi (2019) and Kim and Song (2020) had recommended examining the effect of price value on BIMCOUA. Akroush et al. (2020), Ozturk et al. (2017), Reinhart and Naatus (2017), Ahmed and Kranthi (2019) and Hsu and Tang (2020), recommended investigating more on the effect of trust, risk and privacy in the future studies. Nayal and Pandey (2020c), in their meta-analysis, identified that very limited literature and research studies conducted in this context of online coupon use behaviour and strongly recommended for future research. Manko (2022), Mathen (2014), Balakrishnan et al. (2020), Gupta and Wali (2020), Nayal and Pandey (2020a), Nayal et al. (2021), and Chopdar et al. (2018) described prospects in the mobile coupon scenario of India, wherein they recommended studying more on mobile coupon app acceptance (MCOUA) behaviour among Indian consumers. Thus, based on the above recommendations and the gap, this study addresses the determinants of BIMCOUA among Indian smartphone users.

2 Theoretical background

This research focuses on extending the unified theory of acceptance and the use of technology 2 (UTAUT2) in the mobile coupon app adoption context with other relevant constructs (Venkatesh et al., 2012). The best part of the UTAUT2 model lies in its explanatory part (Venkatesh et al., 2012). Alalwan et al. (2014), Baabdullah et al. (2014), Slade et al. (2014), Hew et al. (2015), Liu et al. (2015), Ahmed and Sathish (2017), Kranthi and Ahmed (2019) recommended extending UTAUT2 in MCOUA context with relevant variables. Liu et al. (2015) probed factors that affected MCOUA among Chinese consumers and recommended extending UTAUT2 in the MCOUA context in future studies. Shaw and Sergueeva (2019) and Rungruangjit (2020) recommended extending the UTAUT2 model in the MCOUA context. UTUAT2 is most suitable theory to understand the technology acceptance in consumer context (Ahmed and Sathish, 2017; Ahmed and Damodharan, 2022; Shaw and Sergueeva, 2019; Medeiros et al., 2022).

3 Literature review

The MMA defines a mobile coupon as a digital coupon sent directly to consumers' mobile devices through which customers can apply discounts on their purchases. The popularly used mobile coupon apps in India are Coupon Dunia, Mydala, Groupon, Desidime, etc. which offer discount coupon codes for various products. Authors such as (Akram et al., 2020; Nayal et al., 2021; Nayal and Pandey, 2020a; Li et al., 2019; Hsu and Tang, 2020; Souiden et al., 2019; Dickinger and Kleijnen, 2008; Jennings, 2014; Agarwal and Karim, 2015; Ha and Im, 2014; Im and Ha, 2013; Liu et al., 2015; Yakasai and Jusoh, 2015; Shankar et al., 2016; Lee, 2012; Persaud and Azhar, 2012; Achadinha et al., 2014; Walt et al., 2015; Tseng and Chang, 2015; Tang et al., 2018; Hsu and Tang,

2020) have examined virtual coupon acceptance and recommended for more extensive research. This research paper focus on the following determinants:

3.1 Performance expectancy (PREX) with BIMCOUA

The PREX is operationally defined as 'the consumer will adopt m-coupon app technology if he/she finds it worth or productive'. Chopdar et al. (2018), Chiang et al. (2013), Hew et al. (2015) and Venkatesh et al. (2003) stipulated that PREX is a critical determinant for mobile app acceptance. PREX significantly affects BIMCOUA among Thailand, Malaysian, Chinese, Israeli, Spanish, Indonesian and Canadian consumers respectively (Rungruangjit, 2020; Jayasingh, 2009; Tang et al., 2018; Greenstein-Messica et al., 2017; Carranza et al., 2020; Pratiwi, 2018; Winata and Permana, 2020; Souiden et al., 2019). Tseng and Chang (2015) did an experimental study among Taiwanese consumers with three different types of mobile coupons, such as a traditional coupon, electronic coupon, and mobile coupon, wherein they found the PREX was not significant with BIMCOUA. PREX positively affects self-service adoption among French mobile users (Demoulin and Djelassi, 2016; Flacandji and Vlad, 2022). Gupta et al. (2021) states that PREX is an important predictor of continuous intention towards mobile coupon apps. Thus, the users look for more utility benefits from mobile coupon apps and therefore, the hypothesis (H1) can be framed as H1: PREX will significantly affect BIMCOUA.

3.2 Effort expectancy (EFTY) with BIMCOUA

The EFTY is operationally defined as 'the consumer will adopt m-coupon app technology if he/she finds it easy to use'. User-friendly features of mobile apps are very critical and lead to more popularity among users (Chopdar et al., 2018; Hew et al., 2015). Nayal et al. (2021) and Rungruangjit (2020) found EFTY to impact BIMCOUA among Indian and Thailand consumers respectively. EFTY was the primary factor that positively affected BIMCOUA among Chinese (Liu et al., 2015) and Indonesian (Pratiwi, 2018; Winata and Permana, 2020) smartphone users. Balakrishnan et al. (2020) and Nayal et al. (2021) recommended investigating the effect of EFTY on BIMCOUA in the Indian cultural context. Gupta et al. (2021) states that EFTY is an important predictor of continuous intention towards mobile coupon apps. Therefore, the hypothesis (H2) of the present study is framed as H2: EFTY significantly affects BIMCOUA.

3.3 Interpersonal social influence (INSIF) and external social influence (ESIF) with BIMCOUA

Hsu and Chiu (2004) and Bhattacherjee (2000) defined social influence (SONF) with two dimensions:

1 interpersonal social influence

2 external social influence.

INSIF is all about getting influenced through personal contacts like friends, family, colleagues, etc. The ESIF is defined as getting influenced through non-personal contacts like television ads, radio, social media, web blogs, print media, etc. ESIF is an important determinant that affects mobile technology usage and requires a separate investigation

(Balakrishnan et al., 2020; Ahmed and Kranthi, 2019; Fauziah et al., 2019); Kim, 2010; Yul, 2014; Ahmed and Sathish, 2017; Tran and Corner, 2016, Boakye, 2015). From the theoretical perspective, we can see that the SONF construct of UTAUT2 (Venkatesh et al., 2012) measures only the INSIF part, whereas the ESIF part is not measured. Therefore, the ESIF variable is included in the extended UTAUT2 model to predict the BIMCOUA context.

3.3.1 Interpersonal social influence

The INSIF is operationally defined as 'the consumer will adopt the m-coupon app technology based on the recommendations of his or her inner circle of people (such as friends, family, and colleagues)'. INSIF is considered as one of the important constructs in BIMCOUA studies (Tseng and Chang, 2015; Agarwal and Karim, 2015; Yakasai and Jusoh, 2015; Ha and Im, 2014; Jayasingh and Eze, 2010; Achadinha et al., 2014). Tseng and Chang (2015) urged to investigate the effect of INSIF on BIMCOUA. INSIF has strong influence on BIMCOUA among Indians (Balakrishnan et al., 2020; Baxi and Patel, 2021), Malaysians (Yakasai and Jusoh, 2015; Jayasingh and Eze, 2010), Indonesian (Fauziah et al., 2019), Indonesian (Pratiwi, 2018) and US consumers (Im and Ha, 2013; Ha and Im, 2014; Jennings, 2014). There is a need to investigate INSIF on BIMCOUA in the Indian context (Ahmed and Sathish, 2017; Baxi and Patel, 2021; Nayal and Pandey, 2020b; Balakrishnan et al., 2020). The hypothesis (H3) can be framed as H3: INSIF will significantly influence BIMCOUA.

3.3.2 External social influence

The ESIF is operationally defined as 'the consumer will adopt the m-coupon app technology based on the influence of external media (such as television ads, online flash ads, social media, newspapers, online blogs, etc.)'. The reason for investigating the effect of ESIF is because mobile commerce companies spent a lot of money on ads promotion through various channels (such as websites, social media, prints media, internet blogs, mobile apps, online catalogues, e-magazines, etc.). The research results mainly show us the effect of ESIF on BIMCOUA. Many mobile coupon apps use promotions through Coupon Dunia, Groupon, My dala, Coupon raja, etc. via various channels such as social media, internet blogs, print media, newspapers, magazines, and print/online catalog in India. ESIF plays an important role in technology adoption studies (Kim, 2010; Yang, 2012; Yul, 2014) and recommends researching other forms of social influence in mobile shopping adoption studies. Kim (2010) and Erkan et al. (2021) found ESIF to impact mobile service adoption positively. ESIF is a critical component that affects mobile technology usage, and it needs separate investigation (Erkan et al., 2021; Hazarika et al., 2021; Nayal and Pandey 2020c; Kim, 2010, Yul, 2014; Ahmed and Sathish, 2017; Ahmed and Kranthi, 2019; Tran and Corner, 2016, Boakye, 2015). ESIF is a rarely investigated element in mobile technology adoption studies (Erkan et al., 2021; Hazarika et al., 2021; Hsu and Tang, 2020; Li et al., 2019). Therefore, the hypothesis (H4) of the present study could be framed as H4: ESIF will significantly impact BIMCOUA.

3.4 Facilitating conditions (FLC) with BIMCOUA

The FLC is operationally defined as 'consumer will adopt mobile app technology-based resources (such as money to pay for the internet) and support facilitation (such as a suitable device which supports apps)'. Chopdar et al. (2018) state that the FLC significantly influences BIMCOUA among US and Indian mobile users. Demoulin and Djelassi (2016) state that PBC plays a vital role in self-service technology adoption. The PBC results positively affect BIMCOUA among Malaysian (Yakasai and Jusoh, 2015; Achadinha et al., 2014), Vietnamese (Chau and Deng, 2021), Indian (Kumar and Ayodej, 2021) and Indonesian (Pratiwi, 2018) consumers. Souiden et al. (2019) and Iskandar (2018) strongly recommended studying the effect of FCL on MCOUA in the future. Therefore, the hypothesis (H5) of the present study could be framed as H5: FLC will significantly influence BIMCOUA.

3.5 Hedonic motivation (HMTV) with BIMCOUA

The HMTV is operationally defined as 'a consumer will adopt the m-coupon app technology if he or she feels joyful in using it'. HMTV results in having a significant positive relationship with m-technology adoption (Im and Ha, 2015, 2013; Venkatesh et al., 2012). Chopdar et al. (2018) identified HMTV as a significant determinant of mobile app adoption among US and Indian mobile users. HMTV positively affects BIMCOUA among the Canadians (Souiden et al., 2019), Indian (Gupta and Wali, 2020), USA (Im and Ha, 2015, 2013), French (Flacandji and Vlad, 2022) and Chinese (Liu et al., 2015; Tang et al., 2018) smartphone users. The consumer gets hedonically motivated to flash deals offered through mobile apps, so there is a need for more research on HMTV construct on app adoption (Kranthi and Ahmed, 2018; Ahmed and Kranthi, 2019; Shankar et al., 2016). HMTV can also lead to positive word of mouth (Kranthi and Ahmed, 2018; Gupta and Wali, 2020). Therefore, the hypothesis (H6) of the present study could be framed as H6: HMTV will significantly impact BIMCOUA.

3.6 Price value (PRCL) with BIMCOUA

The PRCL is operationally defined as 'consumer will adopt m-coupon app technology if he or she thinks that the financial benefits gained with the use of such apps are more than the cost of using them'. Using m-coupon apps will benefit consumers to receive discount offers ubiquitously, which will help them complete the purchase task effectively. Chopdar et al. (2018), Dodds et al. (1991) and Chung (2011) postulated that PRCL is a significant factor that affects BIMCOUA. Balakrishnan et al. (2020), Rungruangjit (2020), Greenstein-Messica et al. (2017), Qi et al. (2018), Souiden et al. (2019), and Li et al. (2019) stipulated that PRCL is a critical determinant of BIMCOUA and positively affects BIMCOUA among American, Thai, South African, Israel, Chinese, Canadian and Taiwanese smartphone users respectively. PRCL positively affects the satisfaction of using mobile coupons among South Korean (Lee, 2012; Lee and Choeh, 2021), Pakistani (Ahmed and Sarwar, 2018; Akram et al. 2020), Thailand (Rungruangjit, 2020), Croatian (Filipović, 2020), Italian (Ieva et al., 2018), Indian (Kumar and Ayodeji, 2021) and Canadian (Persaud and Azhar, 2012) consumers. Nayan and Pandy (2020c), Kumar and Ayodeji (2021) and Lee and Choeh (2021) recommended more research on mobile coupon use behaviour with respect to price. Balakrishnan et al. (2020) and Rungruangjit

(2020) recommended extending UTAUT2 in the MCOUA context. Therefore, the hypothesis (H7) of the present study could be framed as H7: PRCL will significantly impact BIMCOUA.

3.7 Habit (HBI) with BIMCOUA

The HBI is operationally defined as 'consumer will adopt m-coupon app technology if he or she is habituated in using it for shopping purpose'. Walt et al. (2015) and Hsu and Tang (2020) states that the ubiquitous nature of mobile coupon apps can addict customers to adopt mobile coupons. Liu et al. (2015), Nayal and Pandey (2020c), and Smith et al. (2019) recommended investigating the effect of HBI on BIMCOUA. Thus the hypothesis (H8) can be framed as H8: HBI will significantly influence BIMCOUA.

3.8 Trust (TST) with BIMCOUA

The TST is operationally defined as 'a consumer will adopt the m-coupon app technology if he or she trusts the m-commerce service provider's commitment aspects'. TST positively affects BIMCOUA among Chinese (Tang et al., 2019), Indonesian (Fauziah et al., 2019), Canadian (Souiden et al., 2019), South Korean (Lee, 2012), and Indian (Agarwal and Karim, 2015; Baxi and Patel, 2021) smartphone users. Baxi and Patel (2021), Souden et al. (2019), and Fauzia et al. (2019) recommended investigating the impact of TST over BIMCOUA. Therefore, the hypothesis (H9) of the present study could be framed as H9: TST will significantly influence BIMCOUA.

3.9 Perceived risk (PDRK) with BIMCOUA

The PDRK is operationally defined as 'the consumer will adopt the m-coupon technology if he or she thinks sharing personal and financial information on the coupon app will not affect them in any form'. A consumer might be afraid of fake coupons offered over the internet. Tseng and Chang (2015) recommend researching more on the effect of PDRK on BIMCOUA. Tang et al. (2016, 2018) stated that privacy issues inhibit consumers from adopting mobile technology, and it also affects location-based service (Zou and Huang, 2015). PDRK has no significant impact on BIMCOUA among the US (Jennings, 2014) and Chinese (Liu et al., 2015) consumers. PDRK is an important determinant and negatively affects BIMCOUA among the USA (Im and Ha, 2015; Ha and Im, 2014), Canadian (Ladhari et al., 2022), Chinese (Tang et al., 2018) and Indian (Baxi and Patel, 2021; Nayal and Pandey, 2020a, 2020b) mobile coupon users. Therefore, the hypothesis (H10) of the present study could be framed as H10: PDRK will significantly influence BIMCOUA.

3.10 Mobile self-efficacy (MAEY) with BIMCOUA

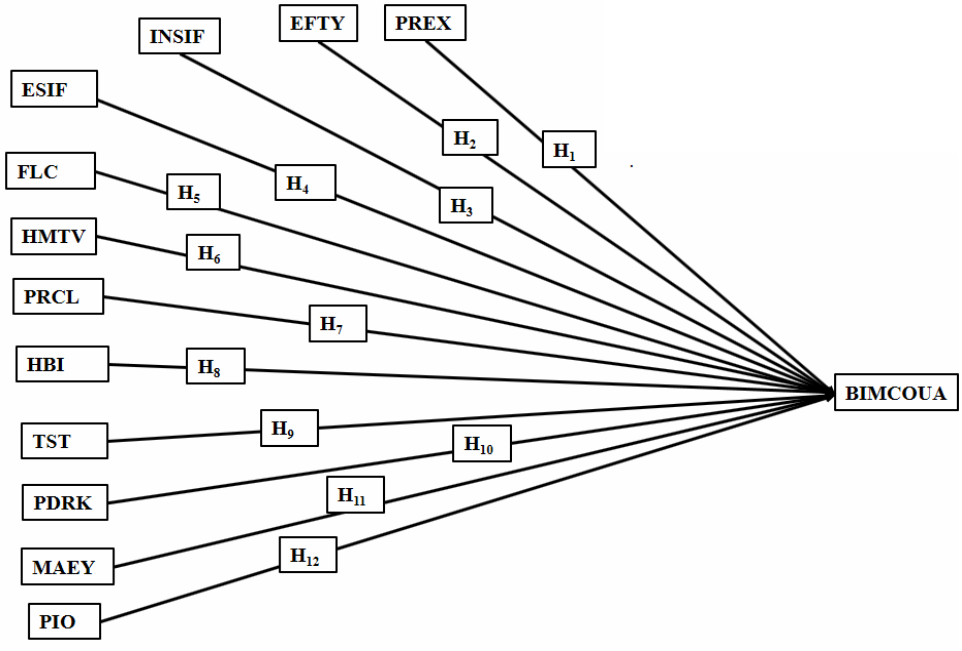
The term MAEY is operationally defined as 'consumer will adopt the m-coupon app technology if they have enough knowledge on how to use it'. MAEY results positively impact BIMCOUA (Yakasai and Jusoh, 2015; Achadinha et al., 2014; Hsu and Tang, 2020). Nayal et al. (2021), Balakrishnan et al. (2020), and Hsu and Tang (2020) recommended investigating the effect of MAEY on BIMCOUA. Therefore, the

hypothesis (H11) of the present study could be framed as H11: MAEY will significantly influence BIMCOUA.

3.11 Personal innovativeness (PIO) with BIMCOUA

The PIO is operationally defined as 'consumers who are open and hesitant free towards new technology will adopt m-coupon app for the current study'. Agarwal and Prasad (1998, 1999) and Kim and Garrison (2009) states that PIO is a critical element in technology acceptance studies. Kranthi and Ahmed (2018), Ahmed and Kranthi (2019), and Xu et al. (2016) stipulated that personality factors play a significant role in BIMCOUA. PIO among Indian PIO significantly influences BIMCOUA among Indian consumers (Agarwal and Karim, 2015; Nayal and Pandey (2020b, 2020c) and USA consumers (Jung et al., 2013). PIO had a positive impact on BIMCOUA among the USA (Ha and Im, 2014), Malaysian (Jayasingh and Eze, 2010), South Koreans (Lee, 2013), and Chinese consumers (Liu et al., 2015). Ahmed and Sathish (2017) and Nayal and Pandey (2020a, 2020b, 2020c) recommended investigating PIO on MCOU context. Therefore, the hypothesis (H12) of the present study could be framed as H12: PIO will significantly influence BIMCOUA.

Figure 1 Conceptual framework



Notes: PREX = performance expectancy, EFTY = effort expectancy, INSIF = internal social influence, ESIF = external social influence, FLC = facilitating conditions, HMTV = hedonic motivation, PRCL = price value, HBI = habit, TST = trust, PDRK = perceived risk, MAEY = mobile application self-efficacy, PIO = personal innovativeness and BIMCOUA = behavioural intention towards mobile coupon acceptance.

4 Methodology

4.1 Sample profile and sample size

This research study collected data from working professionals living in Bengaluru city. A purposive sample of 320 (refer to Table 1) was collected, of which only 286 were only usable. The reason for selecting Bengaluru city is because it was one of the top five cities in India where mobile coupon sales are high, as per the joint report of Google and Forrester published in the year 2014 (Business Standard, 2014). The data consist of 68.5% of males and 31.5% of females. The majority of the sample was aged less than 30 years of age. More than 40% of the samples had income – more than Rs. 30,000 per month. 51% of the samples were using a smartphone for more than 8–12 hours and around 31.5% of the sample use smartphones for more than 12 hours. This research study adopts the purposive sampling method and collected data from only those respondents who are aware and have used mobile coupons through apps at least once.

Table 1 Descriptive statistics

Descriptive statistics	*Frequency*	*Percent*
Gender		
Male	196	68.5
Female	90	31.5
Age		
19–22	108	37.8
23–25	98	34.3
26–28	50	17.5
29–32	21	7.3
> 33	9	3.1
Income		
Rs. 0–30,000/Month	107	37.4
Rs. 30,001–60,000/month	140	49.0
Rs. 60001–90,000/Month	29	10.1
> Rs. 90,001/Month	10	3.5
Number of hours usage of smartphone per day		
Less than eight hours	50	17.5
8 to 12 hours	146	51.0
More than 12 hours	90	31.5
Mobile internet technology		
2G	78	27.3
3G	158	55.2
4G	50	17.5
Total	*286*	*100.0*

Table 2 Measuring instruments loadings and their sources

Items	*Loadings*	*Adapted and slightly modified from sources*
PREX1	0.739	Venkatesh et al. (2012), Jennings (2014), Ahmed and Sathish (2017) and Ahmed and Kranthi (2019)
PREX2	0.849	
PREX3	0.846	
EFTY1	0.824	Venkatesh et al. (2012), Jennings (2014) and Ahmed and Kranthi (2019)
EFTY2	0.825	
EFTY3	0.893	
EFTY4	0.815	
INSIF1	0.871	Venkatesh et al. (2012), Jennings (2014), Ahmed and Kranthi (2019)
INSIF2	0.993	
INSIF3	0.805	
ESIF1	0.748	Bhattacherjee (2000), Kim (2010) and Ahmed and Kranthi (2019)
ESIF 2	0.710	
ESIF3	0.829	
ESIF4	0.786	
FLC1	0.955	Venkatesh et al. (2012) and Ahmed and Kranthi (2019)
FLC2	0.784	
FLC3	0.773	
FLC4	0.917	
HBI1	0.875	Venkatesh et al. (2012) and Ahmed and Kranthi (2019)
HBI2	0.731	
HBI3	0.779	
PRCL1	0.751	Venkatesh et al. (2012), Liu et al. (2015), Ahmed and Sathish (2017) and Ahmed and Kranthi (2019)
PRCL2	0.832	
PRCL3	0.880	
HMTV1	0.794	Venkatesh et al. (2012), Liu et al. (2015), Ahmed and Sathish (2017) and Ahmed and Kranthi (2019)
HMTV2	0.786	
HMTV3	0.864	
MAEY1	0.766	Agarwal et al. (2000), Ahmed and Sathish (2017) and Kranthi and Ahmed (2018)
MAEY2	0.946	
MAEY3	0.852	
MAEY4	0.781	
TST1	0.740	Persaud and Azhar, (2012), Wei et al. (2009), Ahmed and Sathish (2017) and Ahmed and Kranthi (2019).
TST2	0.870	
TST3	0.745	
TST4	0.770	
TST5	0.862	
TST6	0.796	

Table 2 Measuring instruments loadings and their sources (continued)

Items	*Loadings*	*Adapted and slightly modified from sources*
PDRK1	0.743	Im and Ha (2015), Ahmed and Sathish (2017) and Ahmed and Kranthi (2019)
PDRK2	0.815	
PDRK3	0.726	
PDRK4	0.827	
PIO1	0.859	Ha and Im (2014), Liu et al. (2015), Ahmed and Sathish (2017) and Ahmed and Kranthi (2019)
PIO2	0.784	
PIO3	0.896	
BIMCOUA1	0.721	Venkatesh et al. (2012) Jennings (2014), Ahmed and Sathish (2017), and Ahmed and Kranthi (2019)
BIMCOUA2	0.886	
BIMCOUA3	0.945	

4.2 Measuring instruments

Table 2 shows all the 49 measuring items. The five-point Likert scale was used to measure the level of agreement with value '1' denoted as 'strongly disagree' and '5' as 'strongly agree'.

5 Data analysis and results

The statistical analysis is conducted using IBM Statistical Package for the Social Sciences 26 (SPSS 26) and IBM Analysis of a Moment Structures version 25 (AMOS 25) were used to analyse the data. The covariance-based structural equation modelling (SEM) was applied to test the hypotheses. Multiple series of relationships can be tested using SEM techniques (Byrne and Stewart, 2006; Byrne, 2012). According to Anderson and Gerbing (1988) methodology, the reliability and validity of the constructs are to be verified before testing the hypothesised path relationship.

5.1 Measurement model

The confirmatory factor analysis (CFA) showed that the indicators mainly used to measure the latent variables were having high in terms of factor loadings above 0.7, which is considered appropriate (Hair et al., 2006; Steiger, 1990). The reliability Cronbach's alpha should be above 0.7 for each item (Brown, 2002). Further investigation is to identify how much variance is explained by each constructs with its residual error using average variance extracted (AVE) values. Fornell and Larcker (1981a, p.45) defines AVE as 'a measure of the amount of variance that is captured by a construct in relation to the amount of variance due to measurement error'. See Table 3 the results of the constructs have AVE values are above 0.5 which is appropriate for construct validity (Fornell and Larcker, 1981b; Chin et al., 1997; Chin, 1998). The discriminant validity refers to 'the correlation between indicators of constructs should not have correlation and it should be distinct' [Fornell and Larcker, (1981b), p.41]. See Table 3 all the constructs have the unique square root of AVE values which are distinct from each other and there is no high correlation among constructs. Hence the constructs are valid (Hair et al., 2006).

Table 3 CR, AVE, MSV, ASV, and LVC

	CR	*AVE*	*MSV*	*ASV*	*PREX*	*EFTY*	*INSIF*	*ESIF*	*FLC*	*HMTV*	*PRCL*	*HBT*	*TST*	*PDRK*	*MAEY*	*PIO*	*BIMCOUA*
PREX	0.853	0.661	0.165	0.046	*0.813*												
EFTY	0.905	0.705	0.264	0.09	0.104	*0.840*											
INSIF	0.839	0.636	0.132	0.036	0.144	0.307	*0.797*										
ESIF	0.853	0.592	0.213	0.053	0.25	0.167	0.124	*0.770*									
FLC	0.919	0.741	0.101	0.030	0.06	0.124	0.205	0.033	*0.861*								
HMTV	0.856	0.665	0.227	0.077	0.277	0.356	0.196	0.157	0.318	*0.815*							
PRCL	0.862	0.677	0.235	0.06	0.154	0.399	0.092	0.13	0.153	0.259	*0.823*						
HBT	0.84	0.644	0.069	0.031	0.057	0.212	0.061	0.191	0.235	0.251	0.229	*0.803*					
TST	0.913	0.638	0.152	0.045	0.05	0.382	0.127	0.197	0.102	0.095	0.005	0.166	*0.799*				
PDRK	0.86	0.607	0.294	0.081	–0.115	–0.248	–0.197	–0.324	–0.193	–0.310	–0.284	–0.106	–0.264	*0.779*			
MAEY	0.904	0.704	0.187	0.059	0.395	0.128	0.145	0.101	0.083	0.27	0.193	0.046	0.111	–0.31	*0.839*		
PIO	0.907	0.711	0.158	0.051	0.103	0.339	0.062	0.288	0.037	0.131	0.112	0.047	0.234	–0.262	0.292	*0.843*	
BIMCOUA	0.890	0.733	0.294	0.18	0.406	0.514	0.363	0.462	0.245	0.476	0.485	0.262	0.390	–0.542	0.432	0.397	*0.856*

Notes: where: maximum shared variance (MSV), average shared variance (ASV), AVE = Average variance extracted, CR = Composite reliability. Diagonally italic values are the square root of AVE.

From Table 3, it is observed that all the constructs have average squared variance, and mean squared variance values are less than 0.50 and also have values lesser than AVE which is appropriate (Hair et al., 2010). The degrees of freedom ratio (CMIN/df = 1.325), goodness of fit index (GFI = 0.901), normed fit index (NFI = 0.914), and comparative fit index (CFI = 0.980) are more significant than 0.90, which is considered to be a good fit (Hair et al., 2006; Bentler, 1990). The Root mean square error of approximation (RMSEA = 0.030) value is less than 0.08 than deemed a good fit (Hu and Bentler, 1999). Table 3 shows values of composite reliability (CR), AVE, discriminant validity (DVAL), maximum shared variance (MSV), average shared variance (ASV) and latent variable correlation (LVC).

5.2 Structural model

The IBM AMOS 25 software was used to analyse the path analysis. The fit indices value of the structural model

1 the degrees of freedom ratio [CMIN/DF = 1.326]

2 the goodness of fit index [GFI = 0.902]

3 normed fit index [NFI = 0.904]

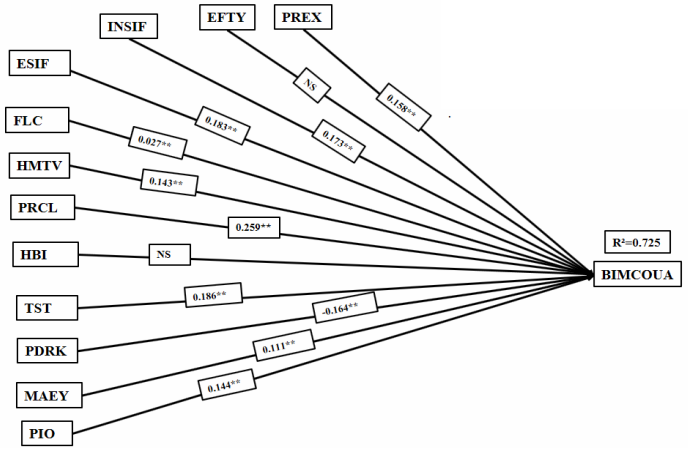
4 comparative fit index [CFI = 0.974]

5 root mean square error of approximation [RMSEA = 0.034

6 adjusted goodness of fit index [AGFI = 0.824].

The fit indices values of the structural model are appropriate to the minimum recommended criteria for the model fit. Thus, the proposed model has a good fit. Table 4 shows the goodness of fit index.

Figure 2 SEM output obtained with the use of AMOS 22



Notes: PREX = performance expectancy, EFTY = effort expectancy, INSIF = internal social influence, ESIF = external social influence, FLC = facilitating conditions, HMTV = hedonic motivation, PRCL = price value, HBI = habit, TST = trust, PDRK = perceived risk, MAEY = mobile application self-efficacy, PIO = personal innovativeness and BIMCOUA = behavioural intention towards mobile coupon acceptance.

Table 4 Fit indices and their recommended values of structural model

Goodness of fit statistics	*Values obtained*	*Recommended values*
CMIN/DF	1.325**	< 3 (Chin and Todd, 1995), < 2 (Byrne, 1989)
Degrees of freedom	842	As low as possible
Minimum fit function Chi-square	1,116.882	As low as possible
Root mean square error of approximation (RMSEA)	0.034**	< 0.08 (Hu and Bentler, 1999; Hair et al., 2006)
Goodness of fit	0.902	> 0.9 (Hair et al., 2006; Hu and Bentler, 1999), > 0.8 (Hair et al., 1998, 2006)
Normed fit index (NFI)	0.924**	> 0.9 (Bentler, 1990)
Comparative fit index (CFI)	0.974**	> 0.90 (Hu and Bentler, 1999)
Adjusted goodness of fit index (AGFI)	0.824**	> 0.80 (Henry and Stone, 1994)
Root mean square residual (RMR)	0.034**	< 0.08 (Hair et al., 2006)

Note: * = close to fit, ** = absolute fit, CMIN/DF= degrees of freedom ratio.

Table 5 Path coefficient

Path	*Hyp.*	*Sig.*	*Estimate*	*S.E.*	*C.R.*	*P*
PREX → BIMCOUA	H1	Supported	0.158	0.051	3.202	0.001**
EFTY → BIMCOUA	H2	Not-supported	0.075	0.049	1.301	0.193ns
INSIF → BIMCOUA	H3	Supported	0.173	0.046	3.582	***
ESFI → BIMCOUA	H4	Supported	0.183	0.053	3.686	***
FLC → BIMCOUA	H5	Not-supported	0.027	0.033	0.631	0.528ns
HMTV → BIMCOUA	H6	Supported	0.143	0.051	2.776	0.006**
PRCL → BIMCOUA	H7	Supported	0.259	0.056	4.876	***
HBI → BIMCOUA	H8	Not-supported	0.030	0.054	0.72	0.471ns
TST → BIMCOUA	H9	Supported	0.186	0.049	3.827	***
PDRK → BIMCOUA	H10	Supported	–0.164	0.051	–3.148	0.002**
MAEY → BIMCOUA	H11	Supported	0.111	0.042	2.296	0.022**
PIO → BIMCOUA	H12	Supported	0.144	0.044	2.961	0.003**

Notes: where: C.R. = Critical ratio, Hyp. = Hypothesis, Sig. = Significance, ns = Not significant, S.E. = Standardised estimate, *** = 99.99% confidence level, ** = 99% confidence level, * = 95% confidence level.

5.3 Hypotheses testing

Except for the hypotheses H2, H5 and H8, all other hypotheses such as H1, H3, H4, H6, H7, H9, H10, H11 and H12 were significant at ρ-value < 0.05 (i.e., confidence interval = 95%). Refer to Table 6 and Figure 2 for all the path analysis co-efficient values between the constructs. Also, refer to Table 6 for all the supporting literature. The PREX with β = 0.158, INSIF with β = 0.173, ESIF with β = 0.183, HMTV with β = 0.143, PRCL with β = 0.259, TST with β = 0.186, MAEY with β = 0.111, and PIO with β = 0.144 are having positive significant (ρ-value =< 0.001) relationship towards BIMCOUA. The PDRK with β = –0.164 has a negative significant (ρ-value =< 0.001)

relationship towards BIMCOUA. The EFTY, FCL and HBI had no significant relationship towards BIMCOUA.

Table 6 Supported studies

Path	*Significance level 95%*	*β*	*Supported studies*
PREX → BIMCOUA	< 0.05	0.158	Jayasingh (2009), Demoulin and Djelassi (2016), Agarwal and Karim (2015), Jennings (2014), Greenstein et al. (2017), Tang et al. (2018), Chopdar et al. (2018), Iskandar (2018), Li et al. (2019) and Carranza et al. (2020)
EFTY → BIMCOUA	> 0.05	0.075	Im and Ha (2015), Tang et al. (2018) and Iskandar (2018)
INSIF → BIMCOUA	< 0.05	0.173	Agarwal and Karim (2015), Baxi and Patel (2021), Fauziah et al. (2019), Yakasai and Jusoh (2015), Jayasingh and Eze (2010), Im and Ha (2013), Ha and Im (2014), Jennings (2014), Iskandar (2018) and Zhao et al. (2016).
ESFI → BIMCOUA	< 0.05	0.183	Hazarika et al. (2021), Erkan et al. (2021), Kim (2010), Tang et al. (2016), Li et al. (2019) and Hsu and Tang (2020).
FLC → BIMCOUA	< 0.05	0.027	Kumar and Ayodeji (2021), Hew et al. (2015), Chopdar et al. (2018), Souiden et al. (2019) and Iskandar (2018).
HMTV → BIMCOUA	< 0.05	0.143	Tang et al. (2018), Gonzalez (2016), Im and Ha (2015, 2013), Liu et al. (2015), Souiden et al. (2019) and Gupta and Wali (2020)
PRCL → BIMCOUA	< 0.05	0.259	Achadinha et al. (2014), Ahmed and Sarwar (2018), Akram et al. (2020), Kumar and Ayodeji (2021), Nayal and Pandey, (2020a, 2020b), Lee (2012), Persaud and Azhar (2012), Gonzalez (2016), Greenstein et al. (2017), Smith et al. (2019), Li et al. (2019), Fauziah et al. (2019), Souiden et al. (2019), Filipović (2020), Manko (2022) and Hsu and Tang (2020).
HBI → BIMCOUA	> 0.05.	0.030	Hew et al. (2015), Chopdar et al. (2018); Shanker et al. (2016)
TST → BIMCOUA	< 0.05	0.186	Tang et al. (2019), Lee (2012), Agarwal and Karim (2015), Zhao et al. (2016) and Fauziah et al. (2019)
PDRK → BIMCOUA	< 0.05	–0.164	Im and Ha (2015), Ha and Im (2014), Chopdar et al. (2018), Reinhart and Naatus (2017), Tang et al. (2018), Nayal and Pandey (2020a, 2020b)
MAEY → BIMCOUA	< 0.05	0.111	Zhao et al. (2016), Yakasai and Jusoh (2015) and Achadinha et al. (2014)
PIO → BIMCOUA	< 0.05	0.144	Agarwal and Karim (2015), Jung et al. (2013), Jayasingh and Eze (2010), Ha and Im (2014), Lee (2013), Liu et al. (2015) and Nayal and Pandey (2020a, 2020b)

Note: Where Sig. = significant, ns. = non-significant and β = path coefficient.

6 Discussion

This study results have shown that apart from UTAUT2 constructs, non-UTAUT2 constructs such as PDRK, TST, MAEY, PIO, and ESIF significantly impact BIMCOUA. Progressive technological modifications had a little significant relationship between the few constructs and BIMCOUA. In this research analysis, few hypotheses were not supported because of differences in various technologies. Venkatesh et al. (2012) has found that the results of UTAUT2 might differ across different culture and technology. There is a dearth of studies exists on the effect of HBI on BIMCOUA. However, the HBI is a vital construct of UTAUT2 (Venkatesh et al., 2012), and there is a need for more investigation on the effect of HBI on BIMCOUA (Ahmed and Kranthi, 2019; Walt et al., 2015; Liu et al., 2015; Shanker et al., 2016) in future studies. Other significant constructs are well supported (refer to Table 6).

7 Theoretical contribution

This study has contributed to the existing research studies and literature on UTAUT2, by extending it with other relevant variables such as TST and PDRK MSEY, ESIF, and PIO. The explanatory power with $R^2 = 0.725$ of the extended UTAUT2 model is substantial in this study. The other authors, such as Ahmed and Sathish (2017), Ahmed and Kranthi (2019), and Slade et al. (2014), have extended the UTAUT2 model in m-banking, m-travel, and m-payment app acceptance context respectively. This study has proved that the UTAUT2 model is applicable in the BIMCOUA context as well. This study also supports the argument of Rungruangjit (2020), Ahmed and Sathish (2017), and Ahmed and Kranthi (2019), who stipulated that 'extending the UTAUT2 model with relevant constructs could increase the explanatory power of intention in technology acceptance studies'. This study has shown that the constructs such as TST, PDRK, MSEY, ESIF, and PIO have a significant relationship towards BIMCOUA through the UTAUT2 approach.

8 Conclusions and implications

The research paper findings help us to conclude that PRCL, TST, ESIF, INSIF, PDRK, PREX, and HMTV are the determinants of BIMCOUA. PRCL is the most significant determinant of BIMCOUA. The policymakers must note that if the m-commerce providers offer good PRCL, then BIMCOUA through the app will increase among consumers. Increasing consumers adopting the m-coupon through the app could promote personalised m-coupon offers based on location leading to a more profitable business (Zou and Huang, 2015). TST results in having a second-largest impact on BIMCOUA. At least the respondents of this study have more TST on BIMCOUA. M-coupon service providers must make sure to keep the personal and transactional details of customers more securely to have a long-term customer relationship. The ESIF results in having a third-largest impact on BIMCOUA. The consumers who use m-coupon apps are mainly influenced by ESIF, such as newspapers, print ads, magazines, internet blogs, Facebook pages, social networking sites, social media, etc. The m-commerce providers must strategise their promotion more effectively using such external sources to succeed in business. The INSIF results as the fourth most important determinant for BIMCOUA.

The m-commerce providers must make sure that the user gets the best experiences while using an app to have positive word of mouth. The PREX is the fifth element most important element that affects BIMCOUA. The m-commerce providers can integrate modern features in mobile applications with technologies like artificial intelligence and Voice assistants to delight the users. The HMTV is the sixth most important factor that affects BIMCOUA. The m-commerce providers can integrate a few entertainment elements in the app like short flash games, quizzes, deals, etc. to increase the frequency of app usage.

9 Limitation and future research

A few limitations to this research are. First, the sample size selection consists of professionals from only one sector, leaving future research can focus on different sectors to generalise results. Second, this research study does not focus on socio-demographic variables mainly including variables like age, gender, experience, and income, so further studies can be extended to examine the moderating effect of these factors (Tang et al., 2018; Carranza et al., 2020). Third, the specific categories of m-coupon acceptance were not considered in this study, [i.e., the respondents are adopters of BIMCOUA from all categories (travel, food, hotel, shopping, mobile internet recharge, etc. movie tickets, etc.)]. Therefore, future studies should examine BIMCOUA in specific app categories (Akram et al., 2020; Manko, 2022; Nayal and Pandey 2020a; Souiden et al., 2019; Tang et al., 2018; Im and Ha, 2012). App stickiness plays a significant role in BIMCOUA (Hsu and Tang, 2020) needs more investigation in the future. Fourth, the sample selected for this study is purposive, and it can be extended in future to other population segments. The various other factors such as Culture (Souiden et al., 2019; Carranza et al., 2020), brand familiarity (Nayal and Pandey, 2020c; Lee and Choeh, 2021; Wang, 2020), brand loyalty (Mills and Zamudio, 2018), perceived Informativeness, face value (Tseng and Chang, 2015), aesthetics (Ha and Im, 2014), gaming conditions (Akram et al., 2020), Utilitarian and Hedonic product type (Tang et al., 2018; Khajehzadeh et al., 2015; Wang and Huang (2019), image/reputation (Im and Ha, 2013), social media (Li et al., 2019), habit (Smith et al., 2019), and location-based coupons offering (Souiden et al., 2019) can be examined in future. The price perception will keep fluctuating time-to-time (Akram et al., 2020; Gupta and Wali, 2020; Shanker et al., 2016; Nayal and Pandey, 2020c), so longitudinal studies aimed to give in more information in the future for better results. The proposed model can be further extended and tested with samples from other countries. There is a need for more research on BIMCOUA among rural Indians in the future.

References

Achadinha, N.M.J., Jama, L. and Nel, P. (2014) 'The drivers of consumers' intention to redeem a push mobile coupon', *Behaviour and Information Technology*, Vol. 33, No. 12, pp.1306–1316.

Agarwal, H. and Karim, S.F (2015) 'An investigation into the factors affecting the consumer's behavioral intention towards mobile coupon redemption', *Advances in Economics and Business Management (AEBM)*, Vol. 2, No. 13, pp.1311–1315.

Agarwal, R. and Prasad, J. (1998) 'A conceptual and operational definition of personal innovativeness in the domain of information technology', *Information Systems Research*, Vol. 9, No. 2, pp.204–215.

Agarwal, R. and Prasad, J. (1999) 'Are individual differences germane to the acceptance of new information technologies?', *Decision Sciences*, Vol. 30, No. 2, pp.361–391.

Agarwal, R., Sambamurthy, V. and Stair, R.M. (2000) 'The evolving relationship between general and specific computer self-efficacy—An empirical assessment', *Information Systems Research*, Vol. 11, No. 4, pp.418–430.

Ahmed, K.A. and Damodharan, V.S. (2022) 'Antecedents of QR code acceptance during Covid-19: towards sustainability', *Transnational Marketing Journal*, Vol. 10, No. 1, pp.171–199.

Ahmed, K.A. and Kranthi, A.K. (2019) 'Determinants of m-ticketing adoption using smartphone app among IT employees of Bengaluru city-an extended UTAUT2 approach', *International Journal of Business Innovation and Research*, Vol. 19, No. 1, pp.57–79.

Ahmed, K.A. and Sarwar, Z. (2018) 'Consumer willingness to use digital coupons: a case of Karachi market in Pakistan', *International Journal of Experiential Learning & Case Studies*, Vol. 3, No. 1, pp.33–42.

Ahmed, K.A. and Sathish, A.S. (2017) 'Exploring the factors that affect m-banking adoption through smartphone app among young Indian college students-an extended UTAUT2 approach', *Asian Journal of Information Technology*, Vol. 16, No. 2, pp.240–254.

Akram, U., Ansari, A.R., Fu, G. and Junaid, M. (2020) 'Feeling hungry? Let's order through mobile! examining the fast food mobile commerce in China', *Journal of Retailing and Consumer Services*, Vol. 56, p.102142.

Akroush, M.N., Mahadin, B., ElSamen, A.A. and Shoter, A. (2020) 'An empirical model of mobile shopping attitudes and intentions in an emerging market', *International Journal of Web-Based Communities*, Vol. 16, No. 2, pp.150–179.

Anderson, J.C. and Gerbing, D.W. (1988) 'Structural equation modeling in practice: a review and recommended two-step approach', *Psychological Bulletin*, Vol. 103, No. 3, pp.411–423.

Balakrishnan, J., Foroudi, P. and Dwivedi, Y.K. (2020) 'Does online retail coupons and memberships create favourable psychological disposition?', *Journal of Business Research*, Vol. 116, pp.229–244.

Baxi, C. and Patel, J.D. (2021) 'Use of mobile wallet among consumers: underlining the role of task-technology fit and network externalities', *International Journal of Business Information Systems*, Vol. 37, No. 4, pp.544–563.

Bentler, P.M. (1990) 'Comparative fit indexes in structural models', *Psychological Bulletin*, Vol. 107, No. 2, pp.238–246.

Brown, J.D. (2002) 'The Cronbach alpha reliability estimate', *JALT Testing & Evaluation SIG Newsletter*, Vol. 6, No. 1.

Business Standard (2014) India's online shoppers to touch 100 mn by 2016: Study [online] https://www.business-standard.com/article/news-ians/india-s-onlineshoppers-to-touch-100-mn-by-2016-study-114112000576_1.html (accessed 12th April 2019).

Byrne, B.M. (2012) *A Primer of LISREL: Basic Applications and Programming for Confirmatory Factor Analytic Models*, 1st ed., Springer, New York.

Byrne, B.M. (1989) 'Multigroup comparisons and the assumption of equivalent construct validity across groups: methodological and substantive issues', *Multivariate Behavioral Research*, Vol. 24, No. 4, pp.503–523.

Byrne, B.M. and Stewart, S.M. (2006) 'Teacher's corner: The MACS approach to testing for multigroup invariance of a second-order structure: a walk through the process', *Structural Equation Modeling*, Vol. 13, No. 2, pp.287–321.

Carranza, R., Diaz, E., Martin-Consuegra, D. and Fernandez-Ferrin, P. (2020) 'PLS-SEM in business promotion strategies. A multigroup analysis of mobile coupon users using MICOM', *Industrial Management & Data Systems*, Vol. 120, No. 12, pp.2349–2374.

Chau, N.T. and Deng, H. (2021) 'Conceptualisation for mobile commerce adoption in SMEs: a perspective of developing countries', *International Journal of Business Information Systems*, Vol. 38, No. 4, pp.449–488.

Chiang, H.H., Lin, H.Y. and Tu, S.C. (2013) 'Analyzing behaviors influencing use of mobile coupons from the perspective of transaction utility', *Social Behavior and Personality: An International Journal*, Vol.41, No. 3, pp.433–441.

Chin, W.W. (1998) 'Commentary: issues and opinion on structural equation modeling', *MIS Quarterly*, Vol. 22, No. 1, pp.7–16.

Chin, W.W. and Todd, P.A. (1995) 'On the use, usefulness, and ease of use of structural equation modeling in MIS research: a note of caution', *MIS Quarterly*, Vol. 19, No. 2, pp.237–246.

Chin, W.W., Gopal, A. and Salisbury, W.D. (1997) 'Advancing the theory of adaptive structuration: the development of a scale to measure faithfulness of appropriation', *Information Systems Research*, Vol. 8, No. 4, pp.342–367.

Chopdar, P.K., Korfiatis, N., Sivakumar, V.J. and Lytras, M.D. (2018) 'Mobile shopping apps adoption and perceived risks: a cross-country perspective utilizing the unified theory of acceptance and use of technology', *Computers in Human Behaviour*, Vol. 86, pp.109–128.

Chung, T.L. (2011) *Consumers' Adoption of Mobile Coupon: A Value-Based Adoption Mode*, PhD thesis, Purdue University, Purdue University Press, Purdue.

Demoulin, N.T. and Djelassi, S. (2016) 'An integrated model of self-service technology (SST) usage in a retail context', *International Journal of Retail & Distribution Management*, Vol. 44, No. 5, pp.540–559.

Dickinger, A. and Kleijnen, M. (2008) 'Coupons going wireless: determinants of consumer intentions to redeem mobile coupons', *Journal of Interactive Marketing*, Vol. 22, No. 3, pp.23–39.

Dodds, W.B., Monroe, K.B. and Grewal, D. (1991) 'Effects of price, brand, and store information on buyers' product evaluations', *Journal of Marketing Research*, Vol. 28, No. 3, pp.307–319.

Emarketer (2014) *2 Billion Consumers Worldwide to Get Smartphones by 2016* [online] https://www.emarketer.com/Article/2-Billion-Consumers–Worldwide–Smartphones–by–2016/1011694 (accessed 11 February 2016).

Erkan, I., Acikgoz, F., Elwalda, A., Rahman, M. and Akin, N. (2021) 'Mobile word of mouth in mobile messaging applications: an exploration of its antecedents and consequences', *International Journal of Business Information Systems*, Vol. 37, No. 1, pp.45–62.

Fauziah, M., Wulandari, S.Z. and Afif, N.C. (2019) 'Empirical study of intention to redeem mobile coupons; evidence the influence of socializing, economic benefit, and trust variable', *ICORE*, Vol. 5, No. 2, pp.205–212.

Filipović, Z. (2020) 'The differences in purchase behavior between redeemers and non-redeemers of coupons at till under retail loyalty programs', *Ekonomski Vjesnik*, Vol. 33, No. 2, pp.325–338.

Flacandji, M. and Vlad, M. (2022) 'The relationship between retailer app use, perceived shopping value and loyalty: the moderating role of deal proneness', *International Journal of Retail & Distribution Management*, Vol. ahead-of-print, No. ahead-of-print.

Fornell, C. and Larcker, D.F. (1981a) 'Evaluating structural equation models with unobservable variables and measurement error', *Journal of Marketing Research*, Vol. 18, No. 1, pp.39–50.

Fornell, C. and Larcker, D.F. (1981b) 'Structural equation models with unobservable variables and measurement error: algebra and statistics', *Journal of Marketing Research*, Vol. 18, pp.382–388.

Gonzalez, E. (2016) 'Exploring the effect of coupon proneness and redemption efforts on mobile coupon redemption intentions', *International Journal of Marketing Studies*, Vol. 8, No. 6, pp.1–15.

Greenstein-Messica, A., Rokach, L. and Shabtai, A. (2017) 'Personal-discount sensitivity prediction for mobile coupon conversion optimization', *Journal of the Association for Information Science and Technology*, Vol. 68, No. 8, pp.1940–1952.

Gupta, P., Prashar, S., Vijay, T.S. and Parsad, C. (2021) 'Examining the influence of antecedents of continuous intention to use an informational app: the role of perceived usefulness and perceived ease of use', *International Journal of Business Information Systems*, Vol. 36, No. 2, pp.270–287.

Gupta, S. (2013) 'For mobile devices, think apps, not ads (cover story)', *Harvard Business Review*, Vol. 91, No. 3, pp.70–75.

Gupta, S. and Wali, O.P. (2020) 'A study on sales promotions using mobile coupons for the Indian quick-service restaurants', *International Journal of Indian Culture and Business Management*, Vol. 21, No. 1, pp.5–24.

Ha, Y. and Im, H. (2014) 'Determinants of mobile coupon service adoption: assessment of gender difference', *International Journal of Retail & Distribution Management*, Vol. 42 No. 5, pp.441–459.

Hair, J.F., Anderson, R.E., Tatham, R.L. and William, C. and Black (1998) *Multivariate Data Analysis*, 1st ed., Pearson Prentice Hall, Upper Saddle River, NJ.

Hair, J.F., Black, W.C., Babin, B.J., Anderson, R.E. and Tatham, R.L. (2006) *Multivariate Data Analysis*, 3rd ed, Pearson Prentice Hall, Upper Saddle River, NJ.

Hazarika, B., Chen, K. and Razi, M. (2021) 'Are numeric ratings true representations of reviews? A study of inconsistency between reviews and ratings', *International Journal of Business Information Systems*, Vol. 38, No. 1, pp.85–106.

Henry, J.W. and Stone, R.W. (1994) 'A structural equation model of end-user satisfaction with a computer-based medical information system', *Information Resources Management Journal (IRMJ)*, Vol. 7, No. 3, pp.21–33.

Hew, J.J., Lee, V.H., Ooi, K.B. and Wei, J. (2015) 'What catalyses mobile apps usage intention: an empirical analysis', *Industrial Management & Data Systems*, Vol. 115, No. 7, pp.1269–1291.

Hsu, M.H. and Chiu, C.M. (2004) 'Internet self-efficacy and electronic service acceptance', *Decision Support Systems*, Vol. 38, No. 3, pp.369–381.

Hsu, T.H. and Tang, J.W. (2020) 'Development of hierarchical structure and analytical model of key factors for mobile app stickiness', *Journal of Innovation & Knowledge*, Vol. 5, No. 1, pp.68–79.

Hu, L.T. and Bentler, P.M. (1999) 'Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives', *Structural Equation Modelling: A Multidisciplinary Journal*, Vol. 6, No. 1, pp.1–55.

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.

Ieva, M., De Canio, F. and Ziliani, C. (2018) 'Daily deal shoppers: what drives social couponing?', *Journal of Retailing and Consumer Services*, Vol. 40, pp.299–303.

Im, H. and Ha, Y. (2012) 'Who are the users of mobile coupons? A profile of US consumers', *Journal of Research in Interactive Marketing*, Vol. 6, No. 3, pp.215–232.

Im, H. and Ha, Y. (2013) 'Enablers and inhibitors of permission-based marketing: a case of mobile coupons', *Journal of Retailing and Consumer Services*, Vol. 20, No. 5, pp.495–503.

Im, H. and Ha, Y. (2015) 'Is this mobile coupon worth my private information? Consumer evaluation of acquisition and transaction utility in a mobile coupon shopping context', *Journal of Research in Interactive Marketing*, Vol. 9, No. 2, pp.92–109.

Iskandar, A.J. (2018) *Intention to Use Mobile Coupon among Millennials Consumer in UUM*, Doctoral dissertation, Universiti Utara Malaysia.

Jayasingh, S. (2009) 'An empirical analysis of consumer behavioral Intention towards mobile coupons in Malaysia', *International Journal of Business and Information*, Vol. 4, No. 2. pp.221–242.

Jayasingh, S. and Eze, U.C. (2010) 'The role of moderating factors in mobile coupon adoption: an extended TAM perspective', in Solimon K.S. (Eds.): *Communications of the International Business Information Management Association (IBIMA)*, Istanbul, Turkey, DOI: 10.5171/2010.596470 [online] https://www.ibimapublishing.com/journals/CIBIMA/cibima.html (accessed 15th March 2015).

Jennings, E. (2014) *Determinants of Behavioral Intention to Use Mobile Coupons in Casual Dining Restaurants*, Doctoral dissertation, University of Phoenix, USA [online] http://pqdtopen.proquest.com/doc/1552485317.html?FMT=ABS (accessed 15th March 2015).

Jung, J.H., Sung, Y. and Wei-Na, L. (2013) 'Smart choice: smartphone users' intentions to accept mobile advertising', *Online Journal of Communication and Media Technologies*, Vol. 3, No. 2, p.187.

Khajehzadeh, S., Oppewal, H. and Tojib, D. (2015) 'Mobile coupons: what to offer, to whom, and where?', *European Journal of Marketing*, Vol. 49, Nos. 5/6, pp.851–873.

Kim, B. (2010) 'An empirical investigation of mobile data service continuance: incorporating the theory of planned behavior into the expectation-confirmation model', *Expert Systems with Applications*, Vol. 37, No. 10, pp.7033–7039.

Kim, H.J. and Song, H. (2020) 'Effort justification for fun activities? The effect of location-based mobile coupons using games', *Journal of Retailing and Consumer Services*, Vol. 54, p.102029.

Kim, S. and Garrison, G. (2009) 'Investigating mobile wireless technology adoption: an extension of the technology acceptance model', *Information Systems Frontiers*, Vol. 11, No. 3, pp.323–333.

Kumar, V. and Ayodeji, O.G. (2021) 'Determinants of the success of online retail in India', *International Journal of Business Information Systems*, Vol. 37, No. 2, pp.246–262.

Kranthi, A.K. and Ahmed, K.A. (2018) 'Determinants of smartwatch adoption among IT professionals-an extended UTAUT2 model for smartwatch enterprise', *International Journal of Enterprise Network Management*, Vol. 9, Nos. 3–4, pp.294–316.

Ladhari, R., Hudon, T., Massa, E. and Souiden, N. (2022) 'The determinants of women's redemption of geo-targeted m-coupons', *Journal of Retailing and Consumer Services*, Vol. 66, p.102891.

Lee, H.J. and Choeh, J.Y. (2021) 'Motivations for obtaining and redeeming coupons from a coupon app: customer value perspective', *Journal of theoretical and applied electronic commerce research*, Vol. 16, No. 2, pp.22–33.

Lee, H.S. (2013) 'Using the innovation and technology adoption attributes as predictors of digital contents gift giving-focused on mobile coupon', *The Journal of the Korea Contents Association*, Vol. 13, No. 11, pp.356–365.

Lee, S.H. (2012) 'A study on the influencing factors for satisfaction of mobile coupon service', *Journal of Digital Contents Society*, Vol. 13, No. 3, pp.301–307.

Li, Y.M., Liou, J.H. and Ni, C.Y. (2019) 'Diffusing mobile coupons with social endorsing mechanism', *Decision Support Systems*, Vol. 117, pp.87–99.

Liu, F., Zhao, X., Chau, P.Y. and Tang, Q. (2015) 'Roles of perceived value and individual differences in the acceptance of mobile coupon applications', *Internet Research*, Vol. 25, No. 3, pp.471–495.

Manko, B.A. (2022) 'How digital marketing can use a smart phone app to improve any business's bottom line', *Journal of Information Technology Teaching Cases*, In Press, https://doi.org/10.1177/20438869221075638.

Mathen, N. (2014) *The Potential of Mobile Coupons: Current Status and Future Promises*, Indian Institute of Management Ahmedabad, Research and Publication Department, No. WP2014-07-03, pp.1–24.

Medeiros, M., Ozturk, A., Hancer, M., Weinland, J. and Okumus, B. (2022) 'Understanding travel tracking mobile application usage: an integration of self-determination theory and UTAUT2', *Tourism Management Perspectives*, Vol. 42, p.100949.

Mills, P. and Zamudio, C. (2018) 'Scanning for discounts: examining the redemption of competing mobile coupons', *Journal of the Academy of Marketing Science*, Vol. 46, No. 5, pp.964–982.

Mobile Marketing Association (2007) *Introduction to Mobile Coupons* [online] https://www.mmaglobal.com/files/mobilecoupons.pdf (accessed 12 April 2019).

Nayal, P. and Pandey, N. (2020a) 'Framework for measuring usage intention of digital coupons: a SPADM approach', *Journal of Strategic Marketing*, pp.1–21.

Nayal, P. and Pandey, N. (2020b) 'Digital coupon redemption: conceptualization scale development and validation', *Australasian Journal of Information Systems*, Vol. 24.

Nayal, P. and Pandey, N. (2020c) 'Redemption intention of coupons: a meta-analytical review and future directions', *Journal of Promotion Management*, Vol. 26, No. 3, pp.372–395.

Nayal, P., Pandey, N. and Paul, J. (2021) 'Examining m-coupon redemption intention among consumers: a moderated moderated-mediation and conditional model', *International Journal of Information Management*, Vol. 57, p.102288.

O'Dea, S. (2021) *Number of Smartphone Subscriptions Worldwide from 2016 to 2026* [online] https://www.statista.com/statistics/330695/number-of-smartphone-users-worldwide/.

Persaud, A. and Azhar, I. (2012) 'Innovative mobile marketing via smartphones: are consumers ready?', *Marketing Intelligence & Planning*, Vol. 30, No. 4, pp.418–443.

Pratiwi, A. (2018) *Analisis Penggunaan Mobile Coupon Terhadap Behavioral Intention Mobile Coupon' Telkomsel*, Doctoral dissertation, STIE Indonesia Banking School.

PwC (2021) *PwC's June 2021 Global Consumer Insights Pulse Survey*, June [online] https://www.pwc.com/gx/en/consumer-markets/consumer-insights-survey/2021/gcis-june-2021.pdf.

Qi, W., Li, L. and Yao, R. (2018) 'Consumer coupon redemption behavior prediction on B2C e-commerce', in *Wuhan International Conference on e-Business*, Association for Information Systems, pp.310–311 [online] http://aisel.aisnet.org/whiceb2018/23 (accessed 12th January 2021).

Reinhart, L. and Naatus, M.K. (2017) 'Groupon, m-commerce and mobile apps: perceptions of small business owners and consumers', *Business & Entrepreneurship Journal*, Vol. 6, No. 1, pp.1–3.

Rungruangjit, W. (2020) 'Gender differences in young consumers' intentions to redeem mobile coupons using an application: a case of 7-eleven convenience stores', *Thammasat Review*, Vol. 23, No. 2, pp.127–169.

Shankar, V., Kleijnen, M., Ramanathan, S., Rizley, R., Holland, S. and Morrissey, S. (2016) 'Mobile shopper marketing: key issues, current insights, and future research avenues', *Journal of Interactive Marketing*, Vol. 34, No. 1, pp.37–48.

Shaw, N. and Sergueeva, K. (2019) 'The non-monetary benefits of mobile commerce: extending UTAUT2 with perceived value', *International Journal of Information Management*, Vol. 45, pp.44–55.

Slade, E.L., Williams, M.D. and Dwivedi, Y.K. (2014) 'Devising a research model to examine the adoption of mobile payments: an extension of UTAUT2', *The Marketing Review*, Vol. 14, No. 3, pp.310–335.

Smith, A.D., Shock, J.R. and Beaves, R.G. (2019) 'Customer relationship management and the impact of e-coupons on B2C retail markets', *International Journal of Business Information Systems*, Vol. 30, No. 2, pp.203–231.

Souiden, N., Chaouali, W. and Baccouche, M. (2019) 'Consumers' attitude and adoption of location-based coupons: the case of the retail fast food sector', *Journal of Retailing and Consumer Services*, Vol. 47, pp.116–132.

SpendEdge (2021) *Global Mobile Coupons Market Procurement Intelligence Report with COVID-19 Impact Analysis | Global Market Forecasts, Analysis 2021-2025*, SpendEdge, 24th March [online] https://www.prnewswire.com/news-releases/global-mobile-coupons-market-procurement-intelligence-report-with-covid-19-impact-analysis--global-market-forecasts-analysis-2021-2025--spendedge-301254185.html (accessed 12th April 2021).

Statista (2021) *Number of Smartphone Users in India in 2015 to 2020, with Estimates until 2025*. https://www.statista.com/statistics/467163/forecast-ofsmartphone-users-in-india/. Retrieved on (accessed 20th January 2021).

Statista (2022) *Number of Smartphone Subscriptions Worldwide from 2016 to 2027* [online] https://www.statista.com/statistics/330695/number-of-smartphone-usersworldwide/ (accessed 12th March 2022).

Steiger, J.H. (1990) 'Structural model evaluation and modification: an interval estimation approach', *Multivariate Behavioral Research*, Vol. 25, No. 2, pp.173–180.

Stephanie, C. (2021) *Digital Coupons and Deals – Statistics & Facts* [online] https://www.statista.com/topics/2162/digital-coupons-and-deals/ (accessed 5 July 2021).

Tang, Q., Liu, F., Liu, S. and Ma, Y. (2018) 'Consumers' redemption behavior of recommended mobile coupons in social network sites', *Management Decision*, Vol. 57, No. 9, pp.2477–2500.

Tang, Q., Liu, F., Liu, S. and Ma, Y. (2019) 'Consumers' redemption behavior of recommended mobile coupons in social network sites', *Management Decision*.

Tang, Q., Zhao, X. and Liu, S. (2016) 'The effect of intrinsic and extrinsic motivations on mobile coupon sharing in social network sites: the role of coupon proneness', *Internet Research*, Vol. 26, No. 1, pp.101–119, http://dx.doi.org/10.1108/IntR-05-2014-0136.

Tseng, H.Y. and Chang, A.J.T. (2015) 'Electronic and mobile coupon characteristics on redemption intentions', in Charoenkitkarn, N. (Ed.): *Proceedings of the 10th International Conference on e-Business (iNCEB2015)*, King Mongkut's University of Technology Thonburi, Bangkok, Thailand [online] https://www.inceb2015.sit.kmutt.ac.th/paper/P15Hsiao-Yu.pdf.

Venkatesh, V., Ramesh, V. and Massey, A.P. (2003) 'Understanding usability in mobile commerce', *Communications of the ACM*, Vol. 46, No. 12, pp.53–56.

Venkatesh, V., Thong, J.Y. and Xu, X. (2012) 'Consumer acceptance and use of information technology: extending the unified theory of acceptance and use of technology', *MIS Quarterly*, Vol. 36, No. 1, pp.157–178.

Wang, J. and Huang, W. (2019) 'Redemption time for coupons with limited duration: role of regulatory focus and product type', *The International Review of Retail, Distribution and Consumer Research*, Vol. 29, No. 2, pp.125–138.

Wang, Q. (2020) *In-App Couponing or Group-Couponing: The Impact of Mobile Marketing Strategies on Branded App Adoption*, Doctoral dissertation, Department of Marketing China Europe International Business School (CEIBS), Ning Fu School of Management State University of New York at Binghamton Xia Wang, Department of Marketing Renmin University, May.

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

Winata, L. and Permana, D. (2020) 'The effect of electronic coupon value to perceived usefulness and perceived ease-of-use and its implication to behavioral intention to use server-based electronic money', *International Journal of Innovative Science and Research Technology*, Vol. 5, No. 1, pp.147–158.

Xu, R., Frey, R.M., Fleisch, E. and Ilic, A. (2016) 'Understanding the impact of personality traits on mobile app adoption – insights from a large-scale field study', *Computers in Human Behavior*, Vol. 62, pp.244–256.

Yakasai, A.B.M. and Jusoh, W.J.W. (2015) 'Testing the theory of planned behavior in determining intention to use digital coupon among university students', *Procedia Economics and Finance*, Vol. 31, pp.186–193.

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.

Yul, K.J. (2014) *Determinants of Users' Intention to Adopt Mobile Fitness Applications: an Extended Technology Acceptance Model Approach*, PhD thesis, ProQuest, Purdue University, USA.

Zhao, X., Tang, Q., Liu, S. and Liu, F. (2016) 'Social capital, motivations, and mobile coupon sharing', *Industrial Management & Data Systems*, Vol.116, No. 1, pp.188–206.

Zou, X. and Huang, K.W. (2015) 'Leveraging location-based services for couponing and info mediation', *Decision Support Systems*, Vol. 78, pp.93–103.