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# Using the decomposed theory of planned behaviour to analyse consumer behavioural intention towards mobile text message coupons

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**Abstract** The rapid development and expansion of the global mobile phone market have made mobile phones another vital marketing communication channel, next to electronic and print media. Sending discount coupons through mobile phone text messages or short message service (m-coupons) has become the latest sales promotion trend for companies. As such, the factors influencing attitude and behavioural intention of consumers using m-coupons is worth studying. The present study uses the decomposed theory of planned behaviour proposed by Taylor and Todd (1995) to analyse the attitude and behavioural intention of consumers towards m-coupons, using the said theory to understand the validity of each construct. Results of the study discovered that the decisive or crucial factors influencing the behaviour and intention of consumers in using m-coupons are attitude and perceived behavioural control, while subjective norms are not evident. The perceived usefulness under 'behavioural attitude' has a big effect on behavioural attitude; the influence of the primary group under 'subjective norms' was also evident, while self-efficacy under 'perceived behavioural control' is the most significant influential factor.

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## INTRODUCTION

Based on the statistics released by the Ministry of Transportation and Communications, for 2005, the number

messages sent in Taiwan via short message service (SMS) in the first quarter reached as high as 0.225bn messages, registering an increase of about 12m

messages from the previous quarter, a growth rate of 5.8 per cent. This shows that people are increasingly using mobile phone text messages as a form of communication.<sup>1</sup> Because text messages can be accurately customised, and the message sent to the target customer base on time, text messages are slowly becoming another important marketing communication channel for electronic and print media.

Currently, many businesses in the country are jumping on the 'mobile sales promotion' bandwagon, taking advantage of innovative marketing strategies to create new opportunities, and companies are successively trialling m-coupons. At present, the m-coupon market is still in its growth stage and it seems the business opportunities for it are limitless. However, the acceptance attitude of users towards m-coupons still needs further research; furthermore, the effects of m-coupons have not been thoroughly measured. As such, it is vital for businesses to understand the perception and attitude of customers towards promotional tools, in order to fully realise their effectiveness, especially the advantages of the 'low-cost, anytime, anywhere' promotion offered by short messaging, which has made businesses look at it as their killer-level promotional tool.

The main difference between m-coupons and traditional discount coupons lies in their communication environment and communication model. From the consumer perspective, the communication mode of traditional discount coupons is passive acceptance; with m-coupons, however, consumers can choose the information that they want. The present study therefore seeks to analyse whether the behavioural attitude and intention of consumers using m-coupons shows the same result as that from traditional discount coupons, and

whether there is a difference in influential factors

This study uses the decomposed theory of planned behaviour proposed by Taylor and Todd<sup>2</sup> as its primary reference and understands the degree of influence of each construct on the consumers' behavioural intention towards m-coupons to make up for the insufficiencies in this field. In addition, in conducting actual sales promotions, the use of m-coupons is still in its passive stage, businesses are concerned only with sending and not with effectiveness. Hence, this study designed a research model to analyse the behavioural attitude and behavioural intention of consumers towards m-coupons and through the decomposed theory of planned behaviour aims to understand the influenced outcome of each construct. The study hopes that the result will provide the real marketing world with valuable recommendations and improve the inadequacies of today's m-coupon marketing.

## LITERATURE REVIEW

### The evolution of coupons

#### The printed coupon

The period of the printed coupon began in 1895, with C. W. Post, a company producing breakfast cereal, using coupons to carry out product sales and promotion, to attract consumers and boost consumers' desire to switch brands and maintain repeat purchase.<sup>3</sup> Common strategies of reaching consumers with conventional coupons include distributing the coupons in the street; direct mail; as a gift with the product purchased; or in newspaper or magazine advertisements, whereby consumers cut out the coupons and use them when purchasing the product.<sup>4</sup>

Using coupons as a marketing tool is a

common phenomenon in the retail and manufacturing industry. Market studies have shown that about 80 per cent of consumers have used coupons at least within the last six months.<sup>5</sup> For the retailers, special chain store coupons can attract consumers to enter the store and try the new product or make a purchase. Retailers use the discount mechanism to establish sales promotion for the product.<sup>6</sup> From the consumer perspective, using coupons saves time, cost and elastic cost, as has been proven in studies of consumer transactions.<sup>7-8</sup>

Ward and Davis<sup>9</sup> noted that merchants will usually intuitively feel that the number of redeemed coupons can progressively increase with the distribution, however the studies on the different brands of special products (lemon juice) using the econometric model found that although the redeemed coupons will progressively increase with the distribution, if redemption rate is used as a measurement, then a phenomenon of progressive decrease will arise. Reibstein and Traver<sup>10</sup> argued that there has not yet been a uniform explanation regarding the direction of influence of the distribution quantity and redemption rate. A study by Teel, Williams and Bearden<sup>11</sup> discovered that coupons have a marked effect on the use of new products for those who have comparatively large families, or are younger, with a high income. Meanwhile, Neslin and Darral<sup>12</sup> discovered that coupon use differs depending on gender, age, grocery expenditure and family size. Bawa and Shoemaker<sup>13</sup> found a tendency to use coupons among the younger, high-income, highly educated, living in the city, housewives, children, and those who have no brand loyalty. Their continuous market study from 1989 revised the original buyers of promotional products as being

predominantly female, having a higher level of education, having a larger family, and possess their own as those who are more inclined to use coupons in their purchases.

In addition, for those who are sensitive to the latest market trends and products, the number of coupons they received as well as used are far higher than for those who are not quick to spot market trends. In terms of motivations for using coupons, the study of Teel, Williams and Bearden<sup>14</sup> discovered that aside from the motivation of money, self-expression was also one of motive of consumers for using coupons. Chakraborty and Cole<sup>15</sup> used candy bars to perform coupon marketing towards 122 MBA students; the results not only showed that the greater the coupon face value, the greater the effect on redemption rate, but also that it demonstrated a higher rate of repeat purchase.

#### The e-coupon

Aside from print media, since 1990, coupons have also been used in electronic media, such as the world wide web.<sup>16</sup> Many e-coupons were shown on the entrance webpages of products and slowly started to come out while browsing through the websites, allowing consumers to download. This has been instrumental in improving marketing performance for merchants. In addition, certain websites provide consumers with the latest information and give away e-coupons to those who want to use the product. As such, consumers can save time searching by selecting the e-coupon from the different products and product categories.<sup>17</sup>

In recent years, studies on e-coupons still place importance on number of users and lifestyle, however, studies on consumer behaviour and motivation have started to emerge. Warm and Maynes<sup>18</sup>

indicated high effectiveness of e-coupons with progressively shorter validity periods, showing that a shorter exchange period can help more accurately judge the result of the sales promotion. This echoes the hypothesis of Blattberg and Neslin,<sup>19</sup> whereby the highest exchange or redemption rate for e-coupons is when they are newly distributed, as the rate will quickly decline afterwards. This was followed by the regret theory proposed by Inman and McAlister,<sup>20</sup> which suggested a subsequent exchange peak before the expiry date. Fortin<sup>21</sup> used planned behaviour as a theoretical model to study online e-coupon usage behaviour. The scope of research included attitude, subjective standards, conscious behavioural control and integrating past behaviour, to make up the four constructs; however, it did not validate or test the said topic.

#### The m-coupon

Mobile phones have become the third marketing channel on top of digital and print media.<sup>22</sup> In response to current trends, the use of e-coupons has developed into m-coupons, transforming coupons into an electronic format for dissemination via mobile phones. The process of using mobile text messages and redeeming these messages inside stores to obtain the product or service discount is known as m-coupons. M-coupons can be preserved and can be carried around, and can encourage discussion topics, to achieve 'immediate', 'massive', and 'effective' information transmission to the target group, as well as producing interaction, thereby increasing the effectiveness of advertising promotions.

The memory of consumers towards mobile text messages is 60 per cent — four times than that of television and broadcast commercials, which realise only 15 per cent recall.<sup>23</sup> In not knowing

about the transmission of short messages, the reading rate of short messages is nearly 100 per cent. Many companies use mobile phones as the medium to send out advertisements. Because the transmission of messages can clearly establish the targeted groups, this allows advertisers to understand the target accurately, bringing into full play the effectiveness as well as the low-cost factor of the advertisement. Compared with traditional print advertisements, messages can be sent immediately to the targeted mobile phone user or customer. Companies have started to use this kind of advertising method because users always carry their mobile phones with them. Thus, when an m-coupon is sent through mobile phone message, the user can immediately know the latest news about non-scheduled promotions and the discount text messages, whether for the department store, the big sales venue, supermarket, drug store, cosmetic shop or convenience store, etc.

Because the traditionally printed coupon is limited by its accessibility mode and numerous channels, which create problems in collection, it is easier for consumers to forget printed coupons, remembering only that they can use the coupons after they have already paid for their purchase. There are also times when the user becomes 'shy' because of privacy considerations, thereby reducing the consumer's inclination to use coupon. While the e-coupon is restricted by hardware, such as the availability of printers, it is also easier to tamper with, reducing merchants' faith in it. Furthermore, merchants are not able to control the volume of its distribution, and are hence unable to use e-coupons to estimate consumer usage rate or the cost of the promotion. As such, the e-coupon is unable to achieve its marketing objective.

All of these obstacles have created problems for consumers, which in turn limits the function of coupon in marketing, counterbalancing the discount attraction of the coupon. The m-coupon displayed on the mobile phone, however, can remove the obstacles outlined above, further increasing coupon usage rate. Through the m-coupon transmission channel, the m-coupon advertising model uses new mobile communications technology to bring diffusions of innovation to the consumer.<sup>24</sup> This has allowed traditional coupon users to move into e-coupon usage and beyond. The m-coupon vehicle is a more convenient, faster, more customised, technological, and innovative model, which leaves the consumer happier and more satisfied.

The major difference between the traditional coupon and the m-coupon lies in their communication and dissemination model. For consumers, the traditional coupon dissemination pattern is passive acceptance; however, in using m-coupons, the consumer can take the initiative to choose the searched information. The theory of planned behaviour and decomposed theory of planned behaviour are related theories concerning this change from passive acceptance to taking the initiative to search.

#### **Related theories on coupons**

Narasimhan<sup>25</sup> proposed a theory of coupons where the firm's objective in using coupons is to discriminate strategically those consumers who are price-sensitive and those who are not. In doing so, a firm can maximise its gains by harnessing maximum profitability from non-price-sensitive users; the more price-sensitive consumers would use the coupons to reduce the actual retail price paid. As this theory suggests, there appears to

be a dichotomy of consumers regarding sensitivity to price.

#### **Theory of planned behaviour**

Many scholars have used the theory of planned behaviour to forecast diet behaviour, drinking behaviour, transportation safety, defence behaviour, smoking behaviour, behaviour of chewing betel nut, environmental protection behaviour, recycling, economising the use of water, etc, and have recommended the reinforcement of correct belief and attitude in order to produce a correct behaviour. The present study used the theory of planned behaviour to analyse the behaviour and intention of consumers towards m-coupons with a view to finding the influential factors so that it can cultivate correct usage intent among consumers.

The theory of planned behaviour originated from Fishbein and Ajzen<sup>26</sup> who proposed the theory of rational behaviour. These two scholars integrated behavioural inclination and subjective belief into the earlier expectation model proposed by the psychologist Vroom who hypothesised that most human behaviour and action is under the control of personal will and is rational. He described that some human behavioural inclinations are decisive causes for certain behaviours to occur at a particular time. Character/personality, age, profession, gender and other variables have no direct effect on behavioural intention; rather, these variables pass through attitude and subjective norm, to have an indirect effect on behavioural intention.<sup>27</sup>

#### **Theory of planned behaviour construct and related hypothesis**

- *Behavioural* inclination pertains to the subjective probability of a persons particular behaviour.<sup>28</sup> The theory of planned behaviour holds that attitude,

subjective norm, perceived behavioural control all dictate a person's behavioural inclination. The theory of planned behaviour integrates the effects of attitude, subjective norm, and perceived behavioural condition to analyse its relationship with other behavioural inclinations. This relationship is applied in the present study with respect to m-coupons. From here, it can be learned that the stronger a person's behavioural inclination in getting the m-coupon, the greater the probability that the individual will use the m-coupon.

- *The effect of behavioural attitude on behavioural inclination.* Behavioural intention pertains to the positive or negative assessment of each individual towards a specific behaviour.<sup>29</sup> According to Taylor and Todd<sup>30</sup> and Morris and Dillion,<sup>31</sup> the more positive a person's behavioural attitude, the stronger the behavioural inclination, and conversely, the more negative the attitude, the weaker the behavioural inclination. As a result, the first hypothesis can be inferred:

H<sub>1</sub>: The attitude of consumers toward m-coupons will positively influence its behavioural inclination.

- *The influence of subjective norm on behavioural inclination.* Subjective norms pertain to the important influence exercised by another individual or group towards a person exhibiting a specific behaviour. Subjective norms also imply the pressure felt by the person from another individual or group in society.<sup>32</sup> The findings of Taylor and Todd<sup>33</sup> and other scholars have all proven that subjective norms have an evident influence on behavioural inclination; thus, the more positive the subjective norms, the stronger the behavioural inclination;

the more negative the subjective norms, the weaker the behavioural inclination. Hence, the second hypothesis for this study can be inferred as:

H<sub>2</sub>: Subjective norms will directly influence the behavioural inclination of consumers towards availing the m-coupons.

- *The influence of perceived behavioural control on behavioural intention.* Perceived behavioural control pertains to the degree of difficulty that a person perceives when exhibiting a specific behaviour.<sup>34</sup> It is the concept of expanding the behaviour from rational control to non-rational control. The theory of planned behaviour holds that aside from consciousness, norms, and other rational factors, for a person to manifest a specific behaviour, they still need other non-rational factors to complement, like opportunity, resources, time, technology, money, assistance from other people, etc.<sup>35</sup> These external factors are not necessarily controlled by the individual, hence, the more the individual is able to control, and the more opportunity and resource they possess that are advantageous to the manifested behaviour, then the more likely the behaviour will occur. Results of the 1995 study by Taylor and Todd<sup>36</sup> demonstrated that there is a positive correlation between perceived behavioural control and behavioural intention, hence the present study came up with the following hypothesis:

H<sub>3</sub>: Perceived behavioural control has a positive influence on the behavioural inclination of the consumers in availing the m-coupons.

#### Decomposed theory of planned behaviour

The belief framework of the theory of planned behaviour is unidimensional and has been criticised by many studies. These criticisms held that such a single belief model cannot achieve a uniform standard with attitude or subjective norms and hence cannot provide a complete understanding of the formation of belief.<sup>37</sup> Correspondingly, in 1995, based on literature on innovative characteristics, the original theory of planned behaviour and technology of acceptance model, Taylor and Todd decomposed the attitude, subjective norms, and perceived behavioural control in the theory of planned behaviour, and proposed the decomposed theory of planned behaviour.

Moore and Benbasat<sup>38</sup> noted that the individual's perception of an information technology innovation will affect their behaviour in using the technology. Among the characteristics of perception, those behaviours that will affect the acceptance of information technology are relative advantage, complexity, and compatibility.<sup>39</sup> Roger<sup>40</sup> defined relative advantage as the benefits and effectiveness brought about by the innovativeness; these benefits also encompass economic benefits, image enhancement, convenience, and satisfaction. Taylor and Todd<sup>41</sup> believed that relative advantage is the perceived usefulness in the technology acceptance model. Complexity is defined as the degree of difficulty in understanding, learning, and operating this new innovation.<sup>42</sup> Taylor and Todd,<sup>43</sup> meanwhile, believed complexity to be the technology accepting the perceived ease of use of the system.

#### Related hypothesis on attitude and predisposing factors

In sum, Rogers<sup>44</sup> presented five perceived characteristics of innovation;

these variables will affect whether or not the consumers will adopt the innovation. The studies of Rogers<sup>45</sup> and Moore and Benbasat<sup>46</sup> discovered that the relative advantage, complexity and compatibility of the products have an intimate connection with the strategy involved.

The concept of relative advantage and the perceived usefulness in the technology acceptance model has the same meaning,<sup>47</sup> hence this study uses perceived usefulness in place of relative advantage. Similarly, this study uses perceived ease of use to take the place of complexity. Lastly, compatibility, innovation, and the hidden characteristics within the consumer, such as value, previous experience and needs, were aligned uniformly. The higher a person's perception of compatibility, the higher the possibility of adopting innovation. As a result, the present study will employ perceived ease of use, perceived usefulness, and compatibility in order to understand the predisposing factors that affect behavioural attitude.

Based on studies by Morris and Dillon<sup>48</sup> and Takacs and Frieden,<sup>49</sup> perceived ease of use, perceived usefulness, and behavioural attitude have a positive correlation. From here, the following hypotheses regarding the relationship among compatibility, innovativeness, perceived ease of use, perceived usefulness, and usage behaviour can be inferred:

- H<sub>4a</sub>: The compatibility of the consumer in using the m-coupons has a positive effect on their behavioural attitude.
- H<sub>4b</sub>: The personal innovativeness of the consumer has a positive effect on their behavioural attitude.
- H<sub>4c</sub>: The perceived ease of use by

the consumer has a positive effect on their behavioural attitude.

- H<sub>4d</sub>: The perceived usefulness by the consumer has a positive effect on their behavioural attitude.

#### Related hypotheses on subjective norms and predisposing factors

Aside from being affected by their own internal structure, eg by motivation, education and mood, humans are also influenced by their contact groups. Many studies have noted that groups have a strong influence on the individual group member's consumer behaviour, information search and usage, and choice of brand. Hence, the present study divided the source of norms affecting the individual into behavioural norms and societal norms, and, based on the reference subject of the sources, divided them into primary and secondary groups. The former pertains to the group with which people have close interaction and may be a reference subject that influences an individual's behavioural norm; this study defines the group as parents, family and friends. The latter pertains to the group with which people have less contact, referring to the other reference subjects that may influence an individual's societal norm; this study defines them as television ads, newspapers and magazines, internet brand, etc. Based on the related literature, the following hypotheses regarding the relationship of the primary group and secondary group to the subjective norm can be inferred:

- H<sub>5a</sub>: The primary group has a positive effect on subjective norm.  
H<sub>5b</sub>: The secondary group has a positive effect on the subjective norm.

#### Related hypotheses on perceived behavioural control and predisposing factors

Ajzen<sup>50</sup> defined perceived behavioural control as the needed belief in resource and opportunity for a specific behaviour to be manifested. According to Taylor and Todd,<sup>51</sup> perceived behavioural control is made up of two beliefs: self-efficacy assessment and facilitating condition. Self-efficacy pertains to the individual's perception of their own ability in completing the behavioural model.<sup>52</sup> In the present study, it is defined as the perceived ability of the consumers in using m-coupons whether or not they have enough ability and knowledge. Facilitating condition pertains to the amount of resource or opportunity that a person possesses in using m-coupons. This study defines it as the amount of resource or obstacles that the consumer has or is faced with in using m-coupons.

Furthermore, when the individual is making a purchase using the m-coupon, they will be influenced by personal factors. For example, if a person wants to receive m-coupons but is not willing to spend money to avail of the text message service then this will also not create m-coupon consumer behaviour. Hence, the hypotheses regarding the relationship of self-efficacy and facilitating condition towards perceived behavioural control are:

- H<sub>6a</sub>: The self-efficacy of the consumer using the m-coupon has a positive effect on their perceived behavioural control.  
H<sub>6b</sub>: The facilitating condition for the consumer to avail of the m-coupon has a positive effect on their perceived behavioural control.



## RESEARCH DESIGN

According to the investigation conducted by the Eastern Integrated Consumer Profile, those aged 15–29 are the primary users of mobile text messages. As this market segment represents the largest potential base of m-coupon users, the present study focuses on this young market segment. Kaohsiung Shinkuchan is a new business and commercial centre with consumers aged between 20–29 years old making up the biggest group. Because this group conforms to the sample defined by this study, Shinkuchan business and commercial centre was designated as the survey location.

The survey investigation used the personal interview method in Shinkuchan to interview consumers. Before asking them to answer the questionnaire, the interviewee was asked to confirm they were aged within the age bracket designated by the study (15–29 years), and whether they knew what an m-coupon was. If they had not heard of m-coupons, the interviewee provided a sample m-coupon, and explained how it worked. After making sure that the consumer understood, the questionnaire was then given. The time period of the study was three days, from 23–25 April, 2004. To ensure the strictness and caution of the gathering of the data, three interviewees were trained, in order to reduce possible errors.

Shumacker and Lomax<sup>53</sup> and Anderson and Gerbing<sup>54</sup> discovered in their studies that most of the Structure Equation Model (SEM) researches, the number of samples was between 200–500. Based on the opinion of these scholars, this study sent out 300 survey questionnaires, removing those that were not properly completed. In the end, there were 256 effective questionnaires, an effective response rate of 85.3 per cent

## RESEARCH RESULT

### Sample description

This study focused on the trendy and up-to-date group of young people aged between 15–29 years old as the respondents for its survey. Three hundred survey questionnaires were sent out, there were 256 effective returned questionnaires, giving an effective response rate of 85.3 per cent. Those in the age bracket of 20–25 years old comprised the largest group, with 143 respondents, accounting for 55.9 per cent of the total interviewees; the second group was those 19 years old and below, accounting for 30.1 per cent. There were 111 males, accounting for 43.4 per cent of the total number of respondents; 145 females or 56.6 per cent of total number of respondents. Despite there being a greater number of females than males, on the whole each gender accounted for half of the total. In terms of professional distribution, there were more students, with a total of 198 respondents, accounting for 77.3 per cent of the total, while the second largest group were privately-employed personnel, at 16.8 per cent). The educational background of the respondents were mostly college graduates, a total of 187 respondents, accounting for 73 per cent of the total, this was followed by 187 who had received a senior high school education or less (16.4 per cent). The monthly income of the respondents can be divided as follows, those earning US\$154 accounted for 37.1 per cent of the total, followed by those earning US\$154–307 (33.6 per cent).

### Degree of fit

According to Hair Jr. *et al.*,<sup>55</sup> there are three types of fit measurement for the overall model, which include the

**Table 1:** Verification results of relationship of each construct

Hypothesis	Relationship between latent variables	Path coefficient	t-value	Verification results
H <sub>1</sub>	Behavioural attitude → behavioural intention	0.8	10.24**	Established
H <sub>2</sub>	Subjective norm → behavioural intention	0.03	0.04	Not established
H <sub>3</sub>	Perceived behavioural control → behavioural intention	0.6	2.08*	Established
H <sub>4a</sub>	Compatibility → attitude	0.25	3.21**	Established
H <sub>4b</sub>	Personal innovativeness → attitude	-0.04	-0.54	Not established
H <sub>4c</sub>	Perceived ease of use → attitude	0.24	3.15**	Established
H <sub>4d</sub>	Perceived usefulness → attitude	0.46	5.06**	Established
H <sub>5a</sub>	Primary group → Subjective norm	0.52	4.16**	Established
H <sub>5b</sub>	Secondary group → Subjective norm	0.15	1.57	Not established
H <sub>6a</sub>	Self-efficacy → perceived behavioural control	0.77	6.25**	Established
H <sub>6b</sub>	Facilitating conditions → perceived behavioural control	-0.06	-0.56	Not established

\*p < 0.1, \*\*p < 0.05

measure of absolute fit, measure of incremental fit, and measure of parsimonious fit.

The verification for the measurement of absolute fit is in forecasting the degree of the measure of absolute fit in measuring the covariance matrix or related matrix of the theoretical model.<sup>56</sup> The specific value or ratio of this study is 1.705, which is within the standard value. This means that the model of this study can be accepted. In addition the Root Mean Square Error of Approximation (RMSEA) value is 0.054, which is near the 0.05 standard.<sup>57-58</sup> From the results of the verification of the measurement of absolute fit, it can be seen that there is a high degree of fit between the model designed by this study and the data studied.

When the five items and the standard model were compared with each other, the degree of fit of the standard index has Normed Fit Index (NFI) and Relative Fit Index (RFI) values which are slightly lower than the standard value of 0.9;<sup>59</sup> the other values all reached the standard. These results demonstrate an ideal degree of fit between the model designed by this study and the observed data. In addition, the result also showed that the Akaike Information Criterion (AIC) value of the theoretical model is

1598.42, which is far smaller than the saturated model's 1806.00 and the independent model's 8147.71, conforming to the standard of 'the AIC of the theoretical model should be smaller than the AIC of the saturated model and the independent model'.<sup>60,61</sup> The results from these studies all prove that the model designed by this study is simple and accurate.

On the degree of fit within the model, Hair Jr., *et al.*<sup>62</sup> proposed the use of the measurement model fit to evaluate. The results of this study demonstrate that most of the SMC values of the observed variables are all greater than 0.5. This means the overall measurement index of this study is highly reliable.

### Verification of hypothesis and analysis of results

It can be seen from Table 1 that seven of the 11 hypotheses in the research model have achieved the coefficient standard, while four have not. In addition, aside from testing for the degree of fit in the overall model and the assessment of internal character, explaining the model needs a further step in comparing each effect within the latent variable in order to understand the

**Table 2:** The indirect, direct, and the overall effect of the research model

Latent dependent variable	Latent independent variable	Indirect result	Direct result	t-value	Overall effect
Behaviour and attitude	Compatibility	NA	0.25	3.21**	0.25
	Personal innovativeness	NA	-0.04	-0.54	-0.04
	Perceived ease of use	NA	0.24	3.15**	0.24
	Perceived usefulness	NA	0.46	5.06**	0.46
Subjective norm	Primary group	NA	0.52	4.16**	0.52
	Secondary group	NA	0.15	1.57	0.15
Perceived behavioural control	Self-efficacy	NA	0.77	6.25**	0.77
	Facilitating condition	NA	-0.06	-0.56	-0.06
Behavioural intention	Compatibility	0.18	NA	2.82**	0.18
	Personal innovativeness	-0.05	NA	-0.83	-0.05
	Perceived ease of use	0.19	NA	2.96**	0.19
	Perceived usefulness	0.42	NA	5.54**	0.42
	Primary group	0.01	NA	0.52	0.01
	Secondary group	0.00	NA	0.49	0.00
	Self-efficacy	0.08	NA	2.03*	0.08
	Facilitating condition	-0.01	NA	-0.56	-0.01
	Behavioural attitude	NA	0.83	10.24**	0.83
	Subjective norm	NA	0.02	0.60	0.02
Perceived behavioural control	NA	0.10	2.08*	0.10	

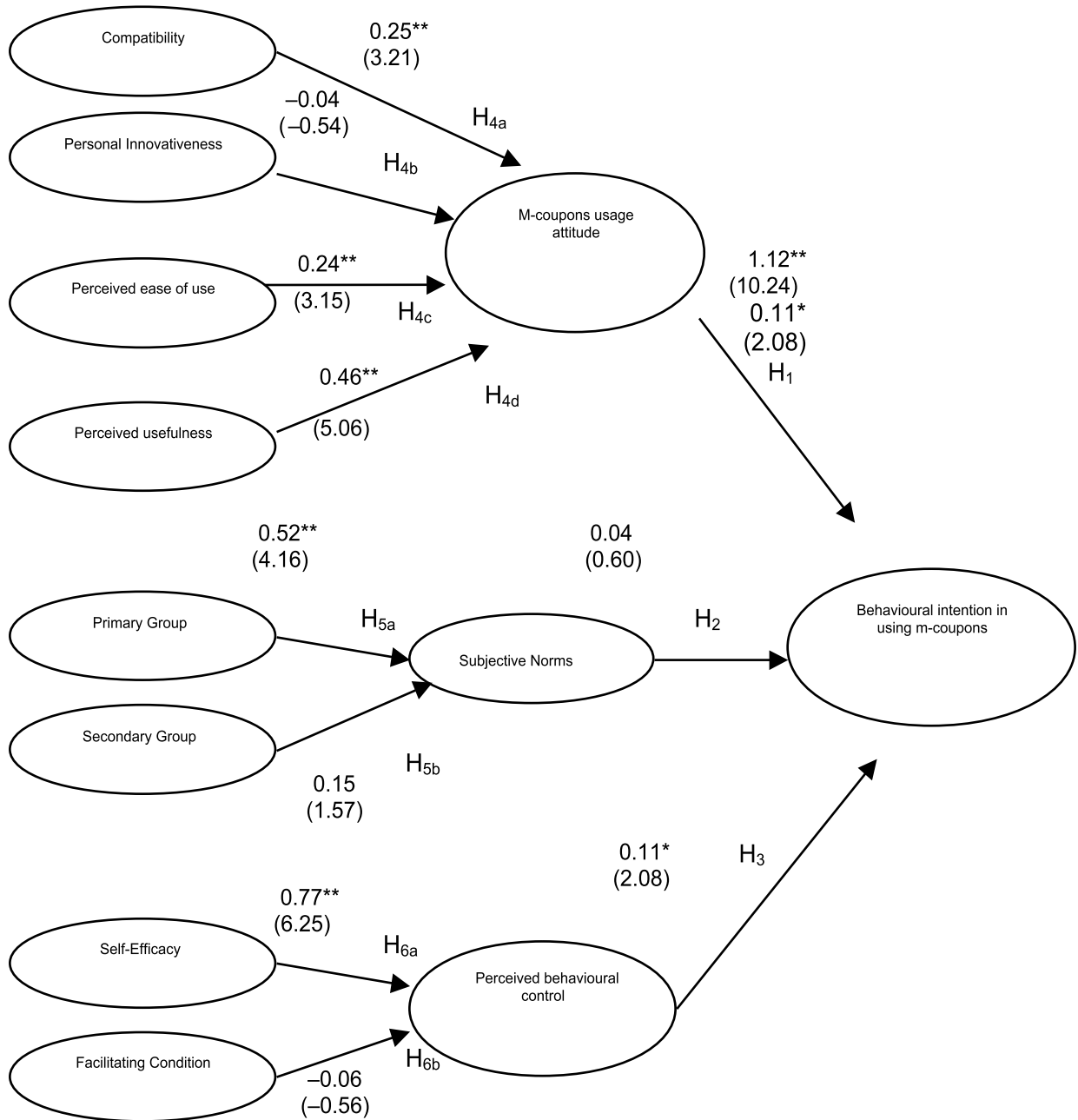
NA, unable to derive the data value from the path analysis

relationship between variables. The effect of the latent variables includes direct effect, indirect effect and overall effect<sup>63-67</sup> and needs to consider other indirect effects coming from other mediated variables. Table 2 demonstrates the direct, indirect, and overall effect of each variable. Figure 1 shows the structural model.

The results are shown in Table 1, seven out of the 11 hypotheses were established. Attitude ( $H_1$ ) and perceived behavioural control ( $H_3$ ) showed an evident relationship with behavioural intention; compatibility ( $H_{4a}$ ), perceived ease of use ( $H_{4c}$ ) and perceived usefulness ( $H_{4d}$ ) showed an evident positive relationship with behavioural attitude; primary group ( $H_{5a}$ ) showed an evident positive relationship with subjective norms; and self-efficacy ( $H_{6b}$ ) showed an evident positive relationship with perceived behavioural control. The effect of subjective norm ( $H_2$ ) on behavioural intention was not established; personal innovativeness ( $H_{4b}$ ) had a negative effect on behavioural attitude; and facilitating condition ( $H_{6b}$ ) showed a negative

influence or relationship with perceived behavioural control.

Predisposing factors for behavioural attitude-compatibility, personal innovativeness, perceived ease of use, and perceived usefulness, must go through the behavioural attitude construct to have an effect on behavioural intention. Predisposing factors for subjective norm (primary and secondary group) must go through the subjective norms to have an effect on behavioural intention. The predisposing factors for perceived behavioural control (self-efficacy and facilitating condition), must go through perceived behavioural control to have an effect on behavioural intention. Each predisposing factor has an indirect effect on behavioural intention. Behavioural attitude, subjective norms and perceived behavioural control have a direct effect on behavioural intention. Table 2, shows that behavioural attitude is the most significant factor influencing behavioural intention, followed by perceived behavioural control. The influence of subjective norms was not evident. On the aspect of behavioural attitude,



**Figure 1** Structural model of consumers' behavioural intention

perceived usefulness is the most significant influential factor. Personal innovativeness showed an inverse relationship. The primary group is the major factor influencing subjective norms; the influence of secondary group was not evident. Self-efficacy is the most

important factor influencing perceived behavioural control. Facilitating condition showed an inverse relation. Figure 1 shows the behavioural intention structural model of the consumers, clearly demonstrating the direct effect of the variables.

### Crucial influential factors of 'behavioural intention'

#### Direct influential factors

Behavioural attitude is the most important factor influencing behavioural intention; perceived behavioural control ranks second, while the influence of subjective norm is not evident in the study. This is consistent with previous studies<sup>68-71</sup> which discovered no evident relationship between subjective norms and behavioural intention. These results can show whether or not m-coupons are accepted and used by consumers. First, one must consider the feeling and assessment of consumers towards m-coupons. Secondly, one must have sufficient time and applied knowledge to allow consumers to use m-coupons. The influence of reference groups in their surroundings was not major.

#### Indirect influential factors

- *Behavioural attitude indirectly affects or influences behavioural intention.* Compatibility, personal innovativeness, perceived ease of use and perceived usefulness passing through behavioural attitude indirectly influence behavioural intention. Among these factors, perceived usefulness has the most significant resulting influence, while the influence of personal innovativeness was not evident. As a result, from the consumer perspective, the usefulness of the m-coupon is much more important. In line with this, merchants and electronic businesses should have an effective and reliable customer database in order to understand in-depth the needs of the consumers, so that marketing and promotional efforts can reach their goal. Businesses must put in the necessary systems and expand customised services.
- *Subjective norms indirectly influence behavioural intention.* Through subjective

norms, the primary group and secondary group indirectly influenced behavioural intention. The influence of the primary group is much stronger than the secondary group. From this, it can be learned that those exercising the most significant influence over consumers' decisions are families and friends. Using this knowledge, businesses can increase brand awareness. For example, the mode of promoting m-coupons might take the form of family special discounts or a 'good friends plan', where when four people avail of the promotion, one could be free; through such promotions, businesses could expand the network and market m-coupons.

- *Perceived behavioural control indirectly influences behavioural intention.* Through perceived behavioural control, self-efficacy and facilitating conditions indirectly influence behavioural intention, while the influence of facilitating conditions was not evident. This shows that the ability of consumers to use m-coupons is a very important influencing factor. Businesses should focus on appropriate education of consumers on how to download and use m-coupons. In addition, facilitating condition has no evident effect on perceived behavioural control. For example, consumer perception and usage of m-coupons may be poor, as they do not understand how to use m-coupons; this further shows the importance of educating consumers.

#### Direct influential factors of the latent variable

It can be learned from Table 2 that behavioural intention, subjective norms, and perceived behavioural control do not have indirect influence. Because behavioural attitude can be established from perceived usefulness and shows a

positive correlation, these results show that when the consumer is faced with many choices, they will consider important factors, such as whether the item is useful or necessary. In addition, it is necessary to set up an information system based on the customers' database and send the promotional campaign to the consumers at the right time and the right place. In this way, not only will the consumers have master control, they will also feel respected; this will also help businesses sell the right product to the consumer and save unnecessary resource waste.

Personal innovativeness was not established on the hypothesis of behavioural attitude. The reason could be that companies have been lacking in their educational campaign, hence a majority of people, have not used m-coupons. Furthermore, even people who are highly creative may have no awareness of the benefits of using m-coupons. In addition, the volume of junk messages received by customers may also affect their perception and attitude towards m-coupons.

The primary group hypothesis received positive support. This shows that consumers still put more faith on endorsement from family and friends. Businesses should therefore target this characteristic in their campaigns so that when the consumer uses the m-coupons, they can also bring in their family and friends, and achieve the company's marketing goal.

The self-efficacy hypothesis also received positive support and implies the importance of educating consumers. There is no evident relationship between facilitating condition and perceived behavioural control. This could be because consumers have inadequate knowledge and do not feel that use of m-coupons is easy or convenient. This proves the importance of educating

consumers — businesses should not only focus their attention on measuring the result of the marketing campaign, but should first build a solid foundation through providing m-coupon education to consumers.

## CONCLUSION AND RECOMMENDATION

From the above results, one can see whether m-coupons are accepted and used by consumers. Two key points must be considered. First, one must consider consumers' feelings and assessments of m-coupons. Secondly, one must have sufficient time and applied knowledge to allow consumers to use m-coupons. The influence of reference groups in their surroundings was not major.

The results of the study also demonstrate that personal innovativeness has no direct relation to behavioural attitude. This could be because consumers are still observing this new kind of marketing communication model, and although some may have accepted the m-coupon, this does not necessarily mean that they will think to use it. Because consumers often receive junk messages, this has also affected their perception and attitude towards m-coupons. The primary group has a stronger influence as compared with secondary groups such as television media, newspaper and magazine and internet brands, showing that it is easier for consumers to believe family and friends' endorsement.

The widespread use of mobile text messages has led many companies to adopt new communication platforms on top of electronic and print media. Because a large percentage of consumers still lack adequate knowledge on the use of m-coupons, many companies need to strengthen their campaign towards m-coupons in order to lower consumers'

perceived danger of this new promotional tool. In addition, many businesses promote m-coupons in their websites or through newsletters inserted in the consumers' bills, so it is easy for consumers to overlook this kind of information. Furthermore, as the behaviour and attitude of consumers are still largely influenced by the endorsement of family and friends, the promotion of m-coupons should not take the form of large-scale marketing efforts. This study recommends businesses or marketing specialists focus on smaller target markets, integrate physical promotion, consumer education and brand promotion, and expand the marketing effect so that consumers will be urged to use the m-coupons, thereby influencing their purchasing behaviour.

## MARKETING IMPLICATIONS

First, this study used the decomposed theory of planned behaviour to analyse the behaviour and attitude of consumers in using m-coupons. The study results proved several factors that markedly affect the behaviour and attitude of consumers in using m-coupons, which can be used for further research in the future.

Secondly, going back to the literature on the theory of planned behaviour and decomposed theory of planned behaviour, and using these theories on studying the usage of m-coupons should ensure that the study of coupons can become more complete and uniform.

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