The effect of timeliness of benefits and costs on mobile coupon sharing: a moderating role of use of length in social network sites

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Abstract: Timeliness of benefits and costs have some unusual effects on m-coupon sharing. Length of use was considered as a moderating variable between the relationship of long-term factors and sharing intention. This paper provides a new perspective for retailers and SNSs generating a strategy of mobile marketing and the spreading of eWOMs.

Keywords: m-coupon, social exchange theory, theory of reasoned action, use of length

INTRODUCTION

Retailers have to seek new breakthrough that include increasing their flexibility and adopting more efficient means to respond fierce competition (Mobile Commerce Daily, 2014). Coupon, as a price discrimination tools, can stimulate customer to impulsive spending (Cheng and Dogan, 2008) and increase the number of market transactions (Scharl et al. 2005). With the development of technology and science, paper coupons are gradually replaced by mobile coupons (m-coupons).M-coupons are electronic certificates sent through social media in the form of text, picture or video and stored on mobile devices (such as smartphone and pad, etc.). Thus the redemption rate has increased significantly (Mobile Commerce Daily 2013). Retailers still expected to obtain more profits and better market performance m-coupons, so there is a need for them to increase even a higher redemption rate and obtain more target audience. Most m-coupon systems provide a special referral reward function to encourage users to recommend new users to obtain referral benefits (e.g. Airbnb, Uber). It's meant to encourage user to tell all their friends and

family members about the dedicated service on the Social Network Services (SNSs). The integration of m-coupon platforms and prevalent social networks is estimated to leading the continuing growth in coupon usage and redemption (Juniper-Research 2012). There have little research about sharing key factor. Therefore, it is a crucial research topic to investigate the determinants of the intention of to share m-coupons via SNSs.

Previously, some literature have investigated with sharing behavior and m-coupon. About sharing behavior, prior studies present research from the perspective of social capital theory (Kankanhalli et al. 2005), motivation theory (Bock et al. 2005), etc. Extant research has investigated the various factors, such as enterprise knowledge sharing, information sharing, and self-disclosure. For the research of m-coupon, previous studies mainly aimed to specific aspects, such as technology adoption (Jayasingh and Eze, 2010), and redeem (Dickinger and Kleijnen, 2008), et al. However, m-coupon is different from knowledge and self-disclosure in essence. Behavior of sharing m-coupon has more complicated factors considering its currency functions and advertising property. So, imperative research need be carried out for it.

Given the universality and interpretation effectiveness of TRA and social exchange theory (SET), this study choose TRA and SET as the theoretical guide. This study has used reference from previous studies and research results and develop a comprehensive model to research on m-coupons sharing mechanism in SNSs. The attitude is regarded as the main factors in this paper, which influences the sharing behavior of users, also the length of use is regarded as a factor to moderate the impact of social exchange factors on the intention to share m-coupon in SNSs.

The following part of this paper is organized as follows: first, we introduce the study's theoretical background. Then, we apply this theories to the research model and hypotheses. Next, there is the demonstration of the research methodology and the results of hypotheses are introduction. The subsequent part is discussions of the enlightenment, including theoretical and managerial implication. In the end, there is a conclusion and limitation of the research.

SOCIAL EXCHANGE THEORY

M-coupon is a kind of valuable information, and the process of sharing it is a social exchange behavior (Foa and Foa, 1980). When users share m-coupons, the aim is to minimum costs and maximizes benefits (Molm 1997). For different behavior and sharing content, costs and benefits are different. Hu (2008) thought perceived benefit (informational and relational) and perceived cost (informational risks and participative efforts) were the main determinants influencing usage continuance. Huang (2008) divides benefits and cost into two categories，including long-term and short term.

Many forms of benefits are processes of continuous accumulation in the SET, which cannot be gained by the acts immediately. When users share m-coupon, they will assess the costs and the benefits, so this paper is to divide the benefits into a long-term benefit (social reward and reciprocal), a short-term benefit (economic reward), and the cost into the long-term cost (privacy concern) and short-term cost (effort).

RESEARCH MODEL AND HYPOTHESES

Based on above review of the TRA and SET, we developed our research model as depicted in Fig. 1. In the model, two types of benefits (long-term benefits and short-term benefits) and two types of costs (long-term cost and short-term cost) are considered to be antecedents of intention and attitude, which in turn influences intention of m-coupon sharing.
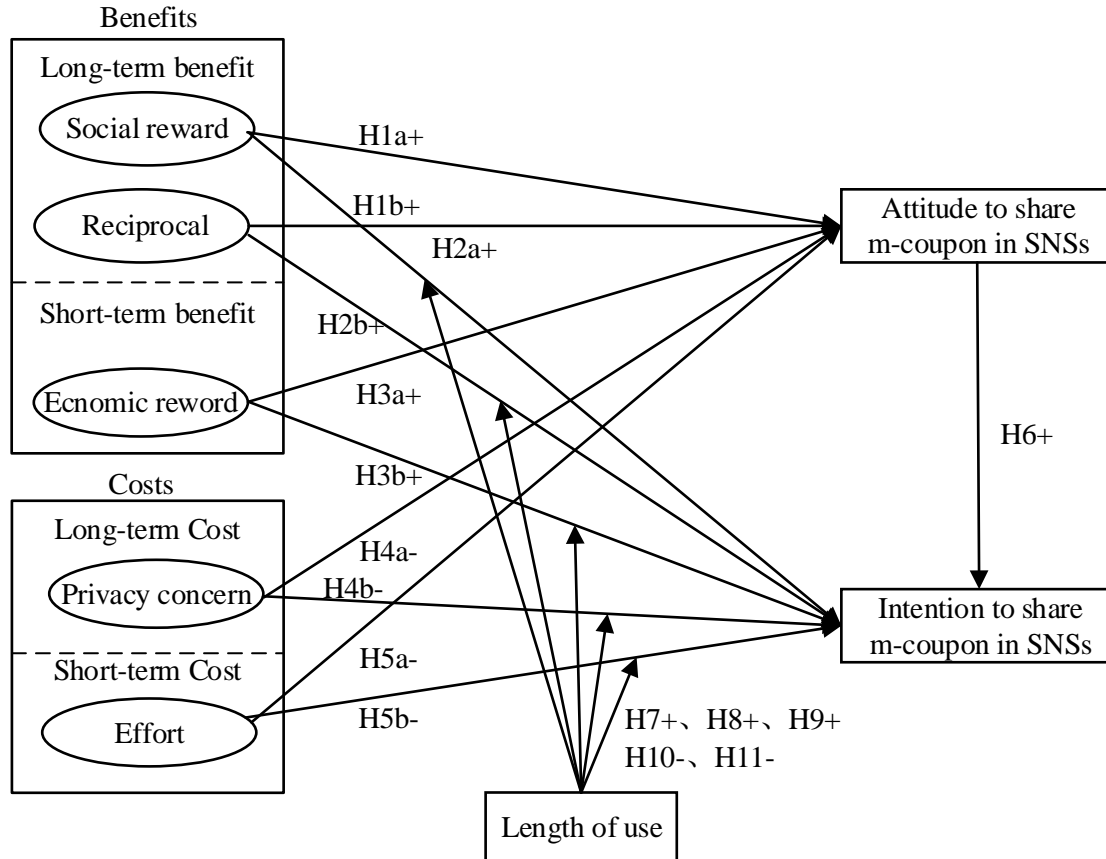

Figure 1-The research model

Benefits and M-coupon Sharing

The intention of user's behavior in "Moments" are not only for personal performance or earn credits for prizes, but very greatly a part to demonstrate their own preference and tracks by sharing m-coupons and then become the spotlight of everyone. The improvement of interpersonal relationship gives users happiness, meanwhile, positive impression and attitude are made by this sharing intention (Hsu and Lin, 2008; Pi 2013). This lead to our first hypothesis:

H1a. Social reward has a positive influence on the attitude towards m-coupon sharing.
H1b. Social reward has a positive influence on the intention to share m-coupon.

Reciprocal is voluntary and independent. When people on SNSs receive other people's sharing

resources, they will spread their resources to others as well. Users feel themselves as both debtors and creditors. One will likely to find the m-coupons they need in the future when he is sharing (Abouzahra and Tan, 2014). So this fair transaction will absolutely be joyful. Reciprocal behavior affect users' sharing behavior actively and increase their willingness to share (Sophia and Joseph, 2010). Hence, we hypothesize:

H2a. Reciprocal has a positive influence on the attitude towards m-coupon sharing.

H2b. Reciprocal has a positive influence on the intention to share m-coupon.

Sharers of m-coupons have a relatively good referral reward (money, credits) for users behaviors, which will actively endeavor for an ideal results as well (Tsai and Cheng, 2010). While referral reward can active more positive mind as a method for seducing the sharing of the users (Lin 2007), it can also stimulate users' stronger behavioral intention on SNSs (Hung et al. 2011; Choi et al. 2008). When more economic returns resulted from users' shared behaviors, their sharing attitude will be more active and they will be more willing to share. Therefore, we posited:

H3a. Economic reward has a positive relationship with the attitude towards m-coupon sharing.

H3b. Economic reward has a positive relationship with the intention to share m-coupon.

Costs and M-coupon Sharing

When sharing m-coupons, users are concerning about their personal information (Account, Password and contents) will be collected and abused by retailers and SNSs. (Hogben 2007). So privacy concern will lead to a conventional attitude for sharing m-coupons. One's perception to privacy concern is in negative correlation to the length of use (Pavlou et al. 2006; Hu and Kettinger, 2008). The risks of privacy exposure will also be in a negative correlation to affect self-disclosure (Posey et al. 2010). Consequently, the hypotheses are made:

H4a. Privacy concern has a negative influence on the attitude towards m-coupon sharing.

H4b. Privacy concern has a negative influence on the intention to share m-coupon.

Although users can get the rewards from retailers and SNSs, gain friends' respect and reinforce their social influence by sharing coupons, the effort users made in sharing can't be compensated. When users adopt to a new technology, the complexity will always be considered carefully. Once they feel complicated and unacceptable while sharing m-coupons, the spreading process will be exceptionally difficult and users are not willing to share information (Im and Ha, 2013). This leads to the following hypotheses:

H5a. Effort has a positive influence on the attitude towards m-coupon sharing.

H5b. Effort reward has a positive influence on the intention to share m-coupon.

Attitude and M-coupon Sharing Intention

Attitude is the testing method of users' overall conceptual evaluation of viral spreading of m-coupons (Yang and Zhou, 2011). Users' attitude has strong correlation with their sharing willingness in SNSs (Shan and King. 2015). The more positive users' attitude to sharing m-

coupons, they are more inclined to share. If they hold negative attitude to this behavior, then their possibility to share is relatively low. Therefore, hypotheses is proposed:

H6. User's attitude towards m-coupon sharing would have a positive influence on their intention to share m-coupon.

The length of use SNSs, which is a kind of human resource, has a positive effect on social capital (McCallum and O'Connell, 2009; Lin and Huang, 2005). The longer users spent in virtual organizations, the stronger identification and sense of belonging they have for the virtual community in SNSs. It can also demonstrate the more common topics they have with friends in SNSs. The longer users' spend on SNSs means the more communication they have with other people, which further indicates the more trust they have with the friends on contact list. Based on the same benefit, users prefer to share the unique resources with someone they trust. Hence, generating the hypothesis:

H7. The effect of social reward on the intention to share m-coupons is greater for users with long length of use than for those with the short length of use.

H8. The effect of reciprocal on the intention to share m-coupons is greater for users with long length of use than for those with the short length of use.

H9. The effect of economic reward on the intention to share m-coupons is greater for users with long length of use than for those with the short length of use.

The longer users' spend on SNSs means the more contact they attached with the friends on contact lists, the closer they are, and much more trust between each other. It will moderate their feelings of troublesome when they are sharing. Trust has been regarded as a significant method in SNSs and a major pusher to collective behavior (Wasko and Faraj, 2005). Study IS demonstrates that interpersonal trust can alleviate information risks of network service and improve its continuous use (Dinev and Hart, 2006). Within the tolerance range, users are willing to spend time and energy on sharing m-coupons if this behavior can bring benefits to friends and support the prosperity of the community. This leads to the last hypotheses:

H10. The effect of privacy concern on the intention to share m-coupons is greater for users with short length of use than for those with long length of use.

H11. The effect of effort on the intention to share m-coupons is greater for users with short length of use than for those with long length of use.

RESEARCH METHODOLOGY

In order to ensure the validity of the instrument, items used to measure the constructs were mostly from scale developed and tested in prior study, modifying them to fit of m-coupon sharing. All the items were originally developed in English, so in order to avoid bias caused by the translation process, the original items were back translated to development the instrument. The initial questionnaire was reviewed and revised by two industry experts to ensure that it has a good content validity. The questionnaire was posted on a social media site (from April 9 to April 23, 2015). The total valid sample size was 343 and the overall response rate was 63.6%.

DATA ANALYSIS AND RESULTS

In this section, we first check the reliability and validity of measure model, then we discuss the research model adopts Smartpls 2.0-a component-based SEM tool to analyze data (Qureshi and Compeau, 2009), which has been accepted by IS researchers (Keil et al. 2013).

Data Analysis

The smallest item to construct loading was 0.73. Table 2 below reveals, our CR values, ranging from 0.86 to 0.97 and AVE scores ranging from 0.66 to 0.87. The model parameters meet all three criteria above, showing good reliability and convergent validity. Finally, through measured the square root of the AVE for each construct, we assess discriminant validity. This results of Table 1 imply good discriminant validity test. Therefore, model has fine capability.

Table 1-Factor correlation coefficients and scale properties

	Mean(SD)	ReC	AtS	ER	Eff	InS	PrC	SR	AVE	CR	Cronbach's α
ReC	5.05 (0.98)	0.81							0.66	0.91	0.87
AtS	4.61 (1.15)	0.55	0.93						0.87	0.97	0.95
ER	5.61 (1.01)	0.65	0.44	0.91					0.82	0.95	0.93
Eff	3.67 (1.12)	-0.25	-0.35	-0.30	0.85				0.72	0.91	0.87
InS	4.92 (0.92)	0.64	0.80	0.54	-0.37	0.88			0.77	0.93	0.90
PrC	5.05 (0.93)	-0.17	-0.39	-0.06	0.42	-0.36	0.82		0.68	0.86	0.77
SR	4.14 (1.11)	0.62	0.62	0.47	-0.19	0.61	-0.26	0.85	0.73	0.92	0.88

Results

After establishing measurement model, we used hierarchical regression analysis which gradually adds predictors to the model to explain the impact on the dependent variable to verify the hypothesis. The two-way interaction of each predictor variable is carried out separately, thereby avoiding the effect of the interaction of the variables of the multicollinearity weakening. This study constructs the following three models, as shown in Table 2. Model 1 examines the impact of control

variables on the dependent variable. Model 2 is the introduction of independent variables used to test the five main effects, and moderator been tested in Model 3. Due to the assumption that the effects of clear direction, there is one-tailed test.

Table 2-Result of hierarchical regression analysis

	Model 1	Model 2	Model 3a	Model 3b	Model 3c	Model 3d	Model 3e
Block 1:Control variables							
Education	-0.06	0.04	0.04	0.04	0.04	0.04	0.04
Gender	-0.01	0.01	-0.01	-0.02	-0.01	-0.01	-0.01
Block 2:Main effects							
ReC		**0.19*****	**0.18*****	**0.20*****	**0.20*****	**0.20*****	**0.19*****
SR		**0.07***	**0.07***	**0.06**	**0.07***	**0.06***	**0.07***
ER		**0.11****	**0.11****	**0.11****	**0.12****	**0.10****	**0.11****
PrC		**-0.07***	**-0.06***	**-0.06***	**-0.07***	**-0.06***	**-0.06***
Eff		**-0.06***	**-0.06***	**-0.07***	**-0.06***	**-0.05***	**-0.06***
Ats		**0.56*****	**0.55*****	**0.54*****	**0.56*****	**0.55*****	**0.55*****
Block 3:Moderation effects							
ReC ×Length of use			0.06*				
SR ×Length of use				0.06*			
ER ×Length of use					-0.02		
PrC ×Length of use						-0.06*	
Eff ×Length of use							-0.04
ΔR²(Intention to share)		0.712	0.004	0.000	0.000	0.003	0.000
f ²(Effect size)		2.507	0.014	0.000	0.000	0.011	0.000
R ²(Intention to share)	0.004	0.716	0.72	0.72	0.717	0.72	0.718
F hierarchical		**794.719**	**4.396**	**1.985**	0.557	**2.047**	1.382

Notes: *p<0.05.　**p<0.01. ***p<0.001.

We apply the bootstrapping algorithm to estimate the significance level of each path and R^2 of each model. Non-standardized path coefficients for each model, explained variance (R^2) and the effect values (Effect size, used to represent incremental changes in R^2).

The results of model 1 show that all the control variables have no significant effect on the intention to share m-coupon. Model 2 shows long-term benefits (social reward, reciprocal) and

short-term benefit (economic reward) obtained in the course of m-coupon sharing will positively affect the user's m-coupon sharing attitudes and intention in SNSs. Short-term cost (effort) and long-term cost (privacy concern) will negatively affect the user's m-coupon sharing attitudes and intention, and attitude to share largely determines the user's intention to share m-coupon in SNSs.

Hence, H1, H2, H3, H4, H5 and H6 are supported. Model from 3a to 3e examine the interaction effect between the length of use SNSs and the five factors of social exchange. The results show that the length of using SNSs has interaction with social rewards and mutual benefits in sharing m-coupon. The   corresponding value F is also displayed explained variance change is significant. Thus, H10 are supported, explain length of use will positive moderation influence between Privacy concern and intention to share m-coupons in SNSs. Thus, H9 and H11 are not supported. we think there are two reasons for the existence of the following. First, economic reward and shared giving as an objective of the short term variables, pay and reward is fixed, monetary value, and pay efforts will not have any change, no matter how long they use SNSs. Secondly, the economic reward and sharing to pay are one-time transactions, will not affect the user after the use of any. Thus, the time for the user to use SNSs for the duration of the economic reward and cost will not adjust between the intentions to share.

DISCUSSIONS AND IMPLICATIONS

Theoretical Implications

On the basis of SET and TRA, this paper studies the mechanism of m-coupon, extends SET, divides the benefit and the cost into long-term and short-term, describes factors affecting the m-coupon shared in SNSs, and provides a new perspective for the future researcher. It proves that the social exchange factor not only affects the intention directly, but also can influence the intention through the medium variable attitude. The SET and the TRA are integrated completely to explain the behavior of consumers. And it proposes that time user used in SNSs can moderate long-term profits and costs. The effect of profits and expense on sharing attitude towards and intention to share were examined by constructing the model, and the influence of attitude towards sharing intention was also examined. The model also examines the moderating effect of the length of use SNSs. Through the test of the model hypothesis, this paper considers that long-term benefit (social reward and reciprocal) and short-term benefit (economic reward) of m-coupons in the process of sharing affecting the attitude and intention to share positively, long-term cost (privacy concern) and short-term cost (effort) have a negative effect on the attitude and intention to share m-coupons.

Managerial Implications

This research provides important references for m-coupons providers and SNSs. For retailers, first of all, they should give the user more economic incentives stimulate the sharing and exchange of power. By sharing and exchange, WOM marketing is formed so that they can do small profits

and get quick turnover. The value of the dynamic pricing of the m-coupons received by different users has reached the threshold of sharing (Cheng H K et al. 2008). Besides, when making mobile marketing plan, retailers should take the customer as the center, give full play to the user's subjective consciousness. Then, businesses should take full advantage of the positive impact of social incentives to share will, pick the appropriate seed users. Forth, for long-term SNSs users, retailers should pay attention to their long-term interests. Retailers must select with high credit, so as to ease user privacy concern in the sharing. For the platform to share m-coupons, SNSs should ensure that the user's privacy is not collected and not abused, only in this way, they can form their own good reputation and credit.

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