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EXPLORING THE VALUE STRUCTURE BEHIND MOBILE AUCTION ADOPTION INTENTION

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Abstract

Internet-based C2C auctions have been one of the more successful applications in electronic commerce. The major C2C online auction providers are considering extending online auctions to mobile platforms. A survey was conducted in a leading online auction website in Hong Kong to investigate the value structure behind adoption intention drawing on market choice theory. The results show that epistemic value and emotional value are the two best predictors of adoption over monetary and social value. This research contributes to the limited empirical research on mobile auctions and extends the technology adoption literature in Information Systems.

Keywords: Mobile Auctions, Adoption Intention, Value Structure.

INTRODUCTION

Internet-based C2C auctions are one of the most successful applications in electronic commerce. Increasing numbers of participants are flocking to eBay, Amazon, Yahoo and dozens of other auction sites. According to Forrester Research (2005), online consumer auction sales will reach $65 billion by 2010, accounting for nearly one-fifth of all online retail sales. To date, access to online auctions has been predominately PC-based. However, there has been some interest and experimentation in using the mobile telecommunications platform to provide access to online auctions. The mobile infrastructure provides customers anytime, anywhere access, the capability to pinpoint user locations for personalization and localization, and the functionality to access information at the point of need (Siau et al. 2001).

Mobile auctions differ from online auctions in their underlying technology, services, business models, and customer base (Zhang and Yuan, 2002). Mobile auctions provide buyers and sellers continuous contact throughout an auction. In doing so, mobile auctions provide a temporal richness that is lacking in online auctions, possibly bringing some of the face-to-face richness of traditional auctions on a wide geographic scale. Through the use of software agents, auction participants can be notified of changes to bids, auction closure, or changes to the auction. There is the potential to provide users with anytime, anywhere access to auctions.

While mobile access to online auctions seems a natural extension of online auction services, there are many unresolved questions. For online auction providers there are questions of whether online users will adopt a mobile interface to the auction and what value mobile access creates for their existing base of online users. Even though the expectation runs high about mobile applications in industry, there is not enough research in IS which provide theoretical base to understand why an individual adopts mobile applications, and the intrinsic influential factors, such as consumers' attitudes and perceived value that motivate their adoption (Amit and Zott 2001;Venkatesh and Brown 2001; Anckar 2002). Anckar (2002, p.3) points out that the primary drivers for adopting m-commerce remain unclear.

In an attempt to answer these questions, we examine the value structure behind the adoption intention amongst existing online auction users in Hong Kong. An understanding of the value structure can provide online auction providers with valuable information about how to present new services to the users. Knowledge of the value structure can inform design and implementation decisions.

LITERATURE REVIEW AND THEORETICAL BACKGROUND

Value

Value of mobile commerce received great attention in IS literature recently. Siau et al. (2001) used the qualitative Value Focused Thinking approach to understand what customers want and value most about mobile commerce. Balasubramanian et al. (2002) describes eight different areas of mobile commerce value-added services. Clarke (2001) suggests four value propositions for m-commerce to define value added service characteristics around the values of ubiquity, convenience, localization, and personalization.

Value is defined as "consumer's overall assessment of the utility of a product or service based on perceptions of what is received and what is given" (Zeithaml 1988, p14). In the context of mobile auctions, we define value as the user's overall assessment of utility of using mobile auction services. Value is not only a key factor for understanding human behaviour but also creating competitive advantage in business (Sheth et al. 1991a, b; Sweeney and Soutar 2001; Woodruff 1997; Lee et al. 2002).

Value and Market Choice Theory

Sheth et al. (1991a, b)'s Theory of Market Choice receive high attention in consumption value literature. Market choice theory is based on an assumption that the consumer's market choice is a multidimensional phenomenon involving multiple values. These dimensions are functional value, social value, emotional value, epistemic value, and conditional value. Each consumption value in the theory is consistent with various components of model advanced by Maslow (1970), Katona (1971) and Katz (1960). Market choice theory provides the theoretical foundation for this research.

The broad topic of market choice behavior involves three levels or types of consumer choices: 1) the choice to buy to or not to buy a product; 2) the choice of product type; 3) the choice of brand. In this paper we are interested in a variation of the first consumer choice, technology adoption intention -- to use or not to use a mobile auction service.

Functional value has historically been viewed as the dominant factor in consumer choice. The functional value of an alternative is defined as "the perceived utility acquired by an alternative as the result of its ability to perform its functional, utilitarian, or physical purpose. Alternatives acquire functional value through the possession of salient functional, utilitarian, or physical attributes" (Sheth et al. 1991a, p.32). Functional value is generally composed of attributes such as performance, reliability, durability, and price.

Market choice theory argues that product choice is also influenced by its social value. The social value of a product alternative is defined as "the perceived utility acquired by an alternative as a result of its association with one or more specific social groups" (Sheth et al. 1991a, p.38). Alternatives acquire their social value through association with positively or negatively stereotyped demographic, socioeconomic, and cultural ethnic groups.

Choice between one product and an alternative product may also be influenced by emotional value, the ability of a product to arouse emotions. The emotional value of a product alternative is defined as "the perceived utility acquired by an alternative as a result of its ability to arouse feelings or affective states. Alternatives acquire emotional value when associated with specific feelings or when they facilitate or perpetuate feelings" (Sheth et al. 1991a, p.50). Many products are associated with the arousal of specific emotions or feelings – for example, comfort, security, excitement, romance, and passion.

Product choices can also be influenced by the ability of an alternative to satisfy curiosity, knowledge, and novelty needs - or epistemic value. Epistemic value of an product alternative is defined as "the perceived utility acquired by an alternative as a result of its ability to arouse curiosity, provide novelty, and/or satisfy a desire for knowledge" (Sheth et al. 1991a, p.62). Epistemic value is strongly associated with products that can provide the consumer with a new and novel experience.

McManus and Standing (2004) compared market choice theory with three other prominent technology adoption theories: Rogers (2003)' Diffusion of Innovation Theory, Ajzen (1991)'s Theory of Planned Behavior (TPB) and The Technology Adoption Model (Davis et al. 1989). Both TPB and TAM derive from Ajzen and Fishbein (1975)'s Theory of Reasoned Action. McManus and Standing (2004) pointed out the limitation of Diffusion of Innovation Theory is that "focus primarily on the communication issues and product life cycle. Does not proactively help to understand option behavior" and the limitation of Theory of Reasoned Action, Theory of Planned Behavior and Technology Acceptance Model is that "studying the attitude towards adoption behavior is not the attitude towards the product". Nevertheless, Sheth et al. (1991a, b)'s model "provide the best foundation for extending value construct as it was validated through an intensive investigation in a variety of fields in which

value have been discussed" (Sweeney and Soutar 2001). The theory of market choice can identify the main value-adding elements in m-commerce or the primary drivers for adopting m-commerce. While several models and theories in IS contain constructs analogous to those in market choice theory, market choice theory is more comprehensive in its exclusive aspects. It has been used successfully in marketing to inform managerial decision making, and contributes to explain consumer behaviours.

Value, Market Choice Theory and Behavioral Intention

Perceived values, involving all the benefits users find in the purchase and use of a product or service (Zeithaml and Binter 2000), affects Behavioral Intention, which is the degree of reported intention to use products or services in the future (Wakefield and Barnes 1996). For example, Oh (1999) found that when a high value was attributed to a specific service, the behavioral intention to use that service in the future was greater. Kim and Kim (2003) examined the relationship between perceived values and adoption intention to mobile Internet among continuing users and discontinuing users. They found that perceived value will affect behavior intention more heavily for continuing users than for discontinuing users. Turel et al. (2007) provided insights into technology adoption of Short Messaging Services (SMS) by considering the price, social, emotional and quality value as the first order measurement of perceived value to predict behavioural intention to use SMS. They found perceived value has the significant impact on behavioural intention to use SMS. The unique perspectives on consumption values from Market Choice Theory are believed to provide "a valuable insight to better understand m-commerce adoption drivers" (McManus and Standing 2004).

RESEARCH MODEL AND HYPOTHESIS DEVELOPMENT

Based on the market choice theory and the IS literature on technology acceptance and adoption, in this research we propose that the functional value, emotional value, social value, epistemic value and monetary value of mobile auctions are antecedents of user adoption intention (Figure 1). Monetary value refers to how much mobile auction services are satisfactory given with the cost, time or effort spent on using the mobile auctions (Bolton and Drew 1991; Sweeney and Soutar 2001). Monetary value actually is one important dimension of functional value, which cannot be ignored in adoption of mobile auctions. Online auction users have been used to receiving free online services, however, they may need to pay for mobile services. In the research model, monetary value is separated from functional value and from other functional dimensions of mobile auctions, such as reliability, usefulness, flexibility and timing.
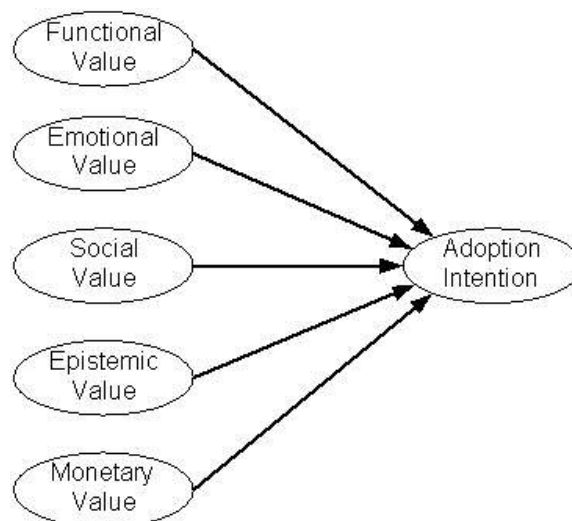

Figure 1. Theoretical Model

To illustrate these concepts in the context of mobile auctions, functional value is empirically defined as "the practical or technical benefits" (Lee et al. 2002) users obtain from using a mobile auction (Sweeney and Soutar 2001). When a user is not at their PC, and an auction in which they are participating is close to an end, they could satisfy their functional value by using mobile auction access to check the status of the auction. Emotional value is the "mental or psychological need" of mobile auction users (Lee et al. 2002; Sweeney and Soutar 2001). For example, when users gain enjoyment by using a mobile auction, they fulfill their emotional value. Users acquire social value when they feel connected to a social group through using a mobile auction service (Sheth et al. 1991a, b). Epistemic value drives the variety-seeking and novelty-seeking behavior. Like emotional value, the desire for novelty, variety and exploration is inherent in human's behavior. Users want to use mobile auctions in part because of the appeal of the novelty of mobile auctions. They wish to try something new and different. Monetary value refers to "how much mobile auction services are satisfactory given with the cost, time or effort spent on using the mobile auctions" (Lee et al. 2002; Bolton and Drew 1991; Sweeney and Soutar 2001). Monetary value actually is one important sub-dimension of functional value, which cannot be ignored in adoption of mobile auctions. Online auction users have been got used to receiving free online services, however, they may need to pay for mobile services. In the research model, monetary value is separated from other functional dimensions of mobile auctions, such as reliability, usefulness, flexibility and timing. We hypothesize:

H1: Functional value will have a positive influence on mobile auction adoption intention among existing online auction users.

H2: Social value will have a positive influence on mobile auction adoption intention among existing online auction users.

H3: Emotional value will have a positive influence on mobile auction adoption intention among existing online auction users.

H4: Epistemic value will have a positive influence on mobile auction adoption intention among existing online auction users.

H5: Monetary value will have a positive influence on mobile auction adoption intention among existing online auction users.

RESEARCH METHOD

Survey Design

Because there are few studies of mobile auctions, a short exploratory questionnaire with open-ended questions was used to solicit attitudes toward mobile auctions, covering existing status in online auctions, features of mobile auctions, willingness to pay, motivations and barriers to adoption, and when and where to use mobile auctions. Respondents to this exploratory survey were graduate students in two universities in Hong Kong and staff in several companies. The intention of this small survey was to gain some insights into the online auction population and was used to inform the final survey design. Before answering questions, the mobile interface for eBay Pocket Auction is used to help respondents have a general idea of what mobile auctions would look like.

Drawing upon prior literature and the exploratory survey a final questionnaire was developed. The survey contained four sections with 68 questions: current usage of online auctions, current usage of mobile handset and mobile services, attitude towards mobile auctions, and respondent demographics, where possible previously validated measures were used, adapted to the particular context of mobile auctions where necessary.

The leading online auction site in Hong Kong is in traditional Chinese. The questionnaire was first written in English and then translated to traditional Chinese. To check for consistency between the English and Chinese versions, the Chinese survey was translated back to English by a domain expert proficient in both English and traditional Chinese. Backward translation is used to ensure that traditional Chinese version is consistent with the original English version of the survey. The backward translation was consistent except for one question, which was discussed and then revised.

Data Collection

The final survey was pretested with volunteer employees in the online auction firm. The final online survey was launched on the leading auction website in Hong Kong in August 2005. A popup request was placed on the main online auction page. Two hundred gifts (unspecified on the survey) were offered to the first 200 respondents to motivate participation. There were a total of 985 responses. Four records were not complete or invalid, for a total of 981 valid responses. Since we placed the online survey in the main page of the leading online auction website in Hong Kong, most of respondents are existing online auction users. Some of them are visitors. We only included the responses from the existing online auction users and exclude the responses from non-auction users.

Instrument Validity and Reliability

Measurement items were adapted from different sources. Consumption values from market choice theory including functional value, emotional value, social value, epistemic value were adapted from Lee et al. (2002) and Sheth et al. (1991a). Monetary value is adapted from Sweeney and Soutar (2001) and Adoption Intention is from Davis (1989). Since mobile auctions are still under developing stage, we cannot measure the actual usage. We only measure their adoption intention in the future. Consistent with previous literature in technology adoption (Davis 1989; Venkatesh and Brown 2001), we use adoption intention as a proxy for actual usage. The specific measurement items for each construct are listed in Table 1.

Table 1. Measurement Items and Source

Constructs	Item No.	Question Items	Source
Functional Value	FV1	Mobile auction service will be reliable.	Lee et al. 2002; Sheth et al. 1991a
	FV2	Mobile auction service will have useful functions.	
	FV3	Mobile auction service will provide timely service.	
Emotional Value	EMV1	I will feel good when I use the mobile auction service.	
	EMV2	I will feel relaxed when I use mobile auction service.	
	EMV3	Mobile Auction will give me pleasure.	
Social Value	SV1	Using the mobile auction will give me a sense of belongings to others.	
	SV2	Mobile auction will make me familiar with other people.	
	SV3	Mobile auction will help me make a good impression on other people.	
Epistemic Value	EPV1	I'm curious about mobile auctions.	
	EPV2	I like to do things new and different (such as mobile auctions in the future).	
	EPV3	I like a change of using online auction service.	
Monetary Value	MV1	Mobile auctions need be reasonably priced.	Sweeney and Soutar 2001
	MV2	The price of using mobile auction needs to be	

	MV3	Mobile auctions need offer value for the money that I pay.	
Adoption Intention	AI1	I intend to use Mobile Auctions in the future.	Davis 1989
	AI2	I expect that I will use Mobile Auctions in the future.	
	AI3	I expect to use Mobile Auctions frequently in the future.	

AI-Adoption Intention; FV-Functional Value; EMV-Emotional Value; SV-Social Value; EPV-Epistemic Value; MV-Monetary Value.

Scale reliability and validity are assessed via confirmatory factor (CFA) analysis using the partial least squares (PLS) approach. A CFA is more appropriate than alternative approaches such as exploratory factor analysis where there is strong priori theory and pre-validated measurement scales (Bagozzi and Phillips 1982). PLS does not make distributional assumptions or assumptions of the scale of measurement (Fornell and Bookstein 1982). The analysis was performed using PLS-Graph version 3.00 (Chin and Frye, 1994). All constructs in the model were reflective.

The research model consists of six constructs and 18 indicator items. Each construct has three indicators. Significance analysis was performed using a bootstrap algorithm with 100 resamples. Results of the CFA analysis are listed in Table 2.

Table 2. Confirmatory Factor Analysis Results

Scale Items	Item Mean	Item S.D.	Total Sample (N=981)			
			Factor Loading	Subsample Mean Loading	Standard Error	T-Statistics
Functional Value			**Composite Reliability= 0.92**			
FV1	4.23	1.37	0.86	0.86	0.0061	149.6221
FV2	4.59	1.38	0.94	0.94	0.0104	85.2416
FV3	4.96	1.39	0.87	0.87	0.0078	115.9655
Emotional Value			**Composite Reliability= 0.96**			
EMV1	4.08	1.47	0.95	0.95	0.006	159.4737
EMV2	3.96	1.46	0.94	0.94	0.0059	159.0902
EMV3	4.16	1.48	0.94	0.94	0.0053	178.7333
Social Value			**Composite Reliability= 0.96**			
SV1	3.44	1.45	0.92	0.92	0.008	115.8623
5V2	3.74	1.55	0.94	0.94	0.0048	196.8547
5V3	3.70	1.51	0.94	0.94	0.0055	169.816
Epidemic Value			**Composite Reliability= 0.96**			
EPV1	4.36	1.55	0.92	0.92	0.0077	118.7616
EPV2	4.41	1.51	0.95	0.95	0.0054	176.8034
EPV3	4.32	1.53	0.96	0.96	0.0033	286.5258
Monetary Value			**Composite Reliability= 0.94**			
MV1	4.55	1.68	0.90	0.90	0.0115	78.4295
MV2	4.72	1.76	0.92	0.92	0.0082	112.6977
MV3	4.54	1.68	0.92	0.92	0.0066	138.8453
Adoption Intention			**Composite Reliability= 0.97**			
AI1	3.86	1.55	0.97	0.96	0.0026	369.712
AI2	3.92	1.57	0.96	0.96	0.0047	204.5802
AI3	3.56	1.56	0.95	0.94	0.0043	219.4654

AI-Adoption Intention; FV-Functional Value; EMV-Emotional Value; SV-Social Value; EPV-Epistemic Value; MV-Monetary Value.

The composite reliability estimate for each construct ranged from 0.92 to 0.97, exceeding the commonly used threshold value (Hair et al. 1998) of 0.70. The average variance extracted (AVE), ranged from 0.79 to 0.92, above the recommended 0.50 level (Hair et al. 1998), which meant that more than one half of the variances observed in items were accounted by their hypothesized constructs. According to Comrey (1973), factor loading in excess of 0.70 could be considered excellent convergent validity. All the factor loading were greater than 0.70. To examine discriminant validity, we compared the square root of AVE with the correlation between the constructs in Table 3 (Fornell and Larcker 1981). The square root of the AVE exceeds the interconstruct correlation indicating adequate discriminate validity.

Table 3. Scale Properties and Descriptive Statistics

	Mean	**SD**	**FV**	**EMV**	**SV**	**EPV**	**MV**	**AI**
FV	4.59	1.38	**0.89**					
EMV	4.07	1.47	0.73	**0.94**				
SV	3.63	1.50	0.55	0.74	**0.94**			
EPV	4.36	1.53	0.71	0.78	0.64	**0.94**		
MV	4.60	1.70	0.48	0.41	0.35	0.47	**0.91**	
AI	3.78	1.56	0.63	0.73	0.63	0.75	0.47	**0.96**

The bold diagonal elements are the square root of the Average Variance Extracted (AVE). Off-diagonal elements in the 6 right-most columns are the correlations between latent constructs.

AI-Adoption Intention; FV-Functional Value; EMV-Emotional Value; SV-Social Value; EPV-Epistemic Value; MV-Monetary Value.

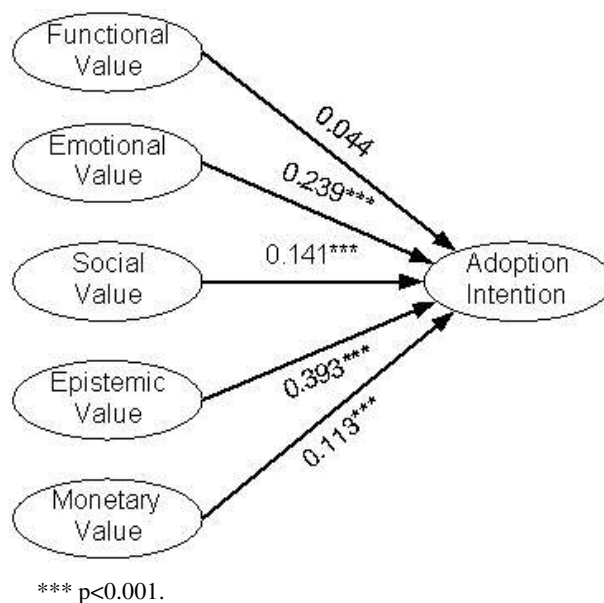# EMPIRICAL RESULTS

Testing Results

*** p<0.001.

Figure 2. Testing Results

As shown in Figure 2, the results demonstrate a salient relationship between adoption intention and epistemic value (Hypothesis 4), emotional value (Hypothesis 2), social value (Hypothesis 3) and monetary value (Hypothesis 5) as expected. However, the association between the adoption intention and functional value (Hypothesis 1) is not supported. The research model explains 64.1% of the variance in adoption intention.

Control Variables

Age, gender, income, average hours staying outside per week (aiming to control for mobility) are added into the model as the controls. We controlled for usage of online auction: auction status (Status1 and Status2 are the two dummy variables to control three categories of auction status: seller only, buyer only and seller & buyer), the value of the items sold and bought in the last three months, the number of items that sold and bought in the last three months and the price range of their willingness-to-pay. We also controlled for mobile technology related variables, such as monthly payment on the mobile service and average hours of using mobile Internet per week. After controlling for these variables, R^2 increased a small amount while the path coefficients are very close. Therefore our findings between different dimensions of perceived values on the adoption intention are strengthened. Table 4 lists the model parameters before and after controls. Interestingly, Willingness-to-Pay has a negative correlation with Adoption Intention. For those who are unwilling to pay for mobile auction features, they still have the intention to use mobile auctions in the future. Please see Forster and Tang (2006) for more detailed discussion on willingness to pay for mobile auctions.

Table 4. Testing Results after Controls

		AI	T-statistics	AI	T-Statistics
	R^2	0.641***		0.652***	
Market Choice Theory	FV	0.044***	1.3679	0.043***	1.435
	EMV	0.239***	6.4346	0.226***	6.0703
	SV	0.141***	4.7084	0.128***	3.6066
	EPV	0.393***	10.6205	0.388***	9.5694
	MV	0.113***	4.5378	0.101***	4.0241
Auction Related	Status1			0.002***	0.0679
	Status2			0.007***	0.2826
	Value of Items bought and Sold in the last three months			0.014***	1.0351
	Number of Items bought and Sold in the last three months			0.029***	1.702
	Willingness To Pay			-0.084***	4.0559
Mobile Technology Related	Monthly Mobile Payment			0.025***	1.0451
	Average hours of using mobile Internet per week			0.018***	0.8903
Controls	Age			-0.009***	0.3786
	Gender			0.001***	0.0481
	Income			0.025***	1.0444
	Average hours staying outside per week			0.038***	1.7791

AI-Adoption Intention; FV-Functional Value; EMV-Emotional Value; SV-Social Value; EPV-Epistemic Value; MV-Monetary Value.
*** $p<0.001$

6. DISCUSSION AND CONCLUSION

One finding that is different from the prior literature in technology adoption where perceived usefulness is the major factor in explaining user's adoption intention, is that functional value in our model is not a significant factor predicting the existing online auction users' intention to adopt mobile auctions. As noted in Forster and Tang (2006), online auction users prefer informational features, such as monitoring auction status, outbid and close bid alerts, to transactional features, such as bidding and online payment,. This implies that online auction users regard mobile auction as a way to supplement information rather than replicate the full functionality of online auctions through mobile. This phenomenon, where a new technology is used as an informational supplement, but the older technology is used for transactions is consistent with the early stages of electronic commerce. Consumers used the new technology, the Internet, to search for products, and used the old transaction technology, the phone, to purchase the product. In Hong Kong, while the Internet is used to conduct an auction, most auction transactions in which product and cash are exchanged take place between the buyer and seller in subway stations. We believe the development of mobile commerce will be similar to the evolution of electronic commerce. In the early stages of mobile commerce, users regard mobile applications as an informational complement and do not intend to use the full functionality of the mobile applications. Our research results appear to be consistent with these expectations.

Epistemic value is the most significant factor driving adoption intention. The desire for novelty, variety and exploration are well documented as motivating human behavior in marketing, sociology and psychology. In the early stages of a new technology such as mobile auctions, users are aroused by the novelty of mobile applications and would like to try something different. Mobile auctions, as a supplement to online auctions, provide access at anytime and anywhere, especially when users are on the move, bringing a new experience to the users. Epistemic value of mobile applications may decrease as users have more experience, but in the early stage epistemic value is the strongest factor motivating adoption behavior. We note that in Asia, particularly China, novelty may be more significant than in Western societies. While this may be a somewhat anecdotal conjecture at this point in the research, in general, "new" is more valued than "old", noted in the extremely rapid depreciation of goods and general cultural trends towards technologies such as mobile phones. That is, epistemic value, may be a culturally bound construct, and a significant predictor overlooked by Western models of technology adoption.

The relatively strong effect of emotional value on behavior intention is consistent with the basic human need for pleasure seeking and enjoyment. Heijden (2004) argued that for hedonic information systems, users focus on the fun aspects of using information systems rather than improving productivity, which can explain our finding of the dominance of fun over utility as a driving factor of mobile auction adoption. ITU (2002) predicts that mobile entertainment and information services will represent a significant portion of mobile revenues in the near future. Indeed, as our results imply, understanding, creating and maintaining the emotional perception, particular the entertainment is believed to be crucial for the success of service providers.

The effect of social value is also significant. Our results suggest that social value plays important roles in determining users' adoption intention. In other words, users may use mobile auctions to reinforce their social links and feelings of affiliation within groups. In Forster and Tang (2006), we note that the profile of the existing online auction users is skewed towards young female high school students, perhaps a group with strong social ties.

Perceived monetary value was significant in explaining adoption intention of mobile auction. Previous IS adoption literature has focused on the organizational setting where information systems or technologies were given for free, however, in a personal technology adoption context, perceived monetary value cannot be neglected because users are required to pay for it (Lee et al. 2002; Hong and Tam 2006). As found in our results, perceived monetary value is very important in determining mobile auction adoption intention.

The theoretical contributions of this research are two-fold. First, this research contributes to the limited empirical research on mobile auctions. In particular, because Hong Kong is more similar to Asian markets than Western-based auctions, the online auction in Hong Kong may inform the development of mobile auction in Asia, particularly the huge potential market in China. Second, this research applied an alternative theory, market choice theory, to explain technology adoption. The research finding suggests that epistemic value is, in fact, the most salient factor in influencing adoption behavior, over functional value and emotional value, two aspects believed to be the major determinants in previous IS literature.

This research also has implications for mobile application providers. In this developing stage of mobile commerce, emphasizing the novelty experience that mobile applications could play an important role in achieving the mass acceptance. Adopters expect a different experience from the mobile applications than that from the traditional and Internet channels. Online auction users prefer the informational features over the transactional features of mobile auctions. Rather than fulfilling the full functions of mobile applications, stimulating and arousing enjoyment via browsing and searching is a key factor for the sustainable success of the mobile applications.

All research projects have limitations. This research examines a population of existing online auction users. There is an implicit assumption that non-online auction users will have much lower adoption intention to use mobile auctions. In future research, it will be interesting to investigate non-online auction users to see if their perceptions of mobile auctions are different. Another direction for future research is to investigate the impact of mobile auctions on online auctions after the implementation of mobile auctions. Finally, a comparative study of U.S. and Asian adoption could ascertain if the contribution of epistemic value, the novelty effect, is a more important predictor in Asian than in Western society.

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