User acceptance of hedonic digital artifacts: A theory of consumption values perspective

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ABSTRACT

Hedonic digital artifacts have become prevalent in today's society. Their users typically pay for them, and in exchange are generally provided with benefits involving enjoyment. Today's research on technology adoption and use, though, has focused mostly on organizational or personal aids that provide efficiency and effectiveness and are free of charge for users. To bridge this gap, we identified several value drivers of hedonic digital artifacts and measured them in the context of mobile phone ringtones using the theory of consumption values. Hypothesis testing was performed using PLS on data collected from 422 ringtone users. Results confirmed that the overall value of hedonic digital artifacts is a third-order composite assessment, which successfully predicted behavioral usage and positive word-of-mouth intentions. Theoretical and practical implications were discussed.

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1. Introduction

Most business studies that focus on technology adoption have concentrated on organizational, productivity-oriented technologies. However, the development of innovative, non-productive, intrinsically motivated artifacts for personal use has changed the boundaries of technology management research: its extended scope includes artifacts that not only directly facilitate organizational processes but also provide enjoyment and other intrinsic stimuli. Such systems have become prevalent in the marketplace; many contemporary elements are employed primarily for hedonic, lifestyle-augmentation, such as entertainment and non-instrumental purposes. For example, users do not expect substantial gains, if any, when downloading an MP3 song, watching video-on-demand over the Internet, or playing an online game. ITs that exclusively offer such enjoyment-oriented environments are termed *hedonic digital artifacts*.

Their market has been booming. For instance, in 2005, there were over two million songs available online, yielding over $1B in sales for record companies. In 2006, the online sales of music doubled, and 11% of recorded music sales were digital downloads or subscriptions. By 2010, the US consumers are expected to spend $7.8B on digital music, TV, and movie downloads. Another example is the online gaming sector, which is expected to produce $11B in revenues by 2009. These numbers demonstrate that people have shifted to digital media in consuming some hedonic products that were previously offered as hard-media. Because this represents a lucrative business opportunity, user adoption of hedonic digital artifacts and its drivers deserve the attention of researchers.

The drivers of technology use have been a major theme in MIS research. Out of the many models developed for these purposes, TAM is probably the best known [13]. Technology may be considered as either instrumental (useful) or non-instrumental (enjoyable) to determine adoption behavior. Hedonic technologies (such as online video games) provide little, if any, instrumental gains. Thus, instrumental drivers such as perceived usefulness may be less relevant in such contexts or lose their productivity-oriented meaning. In fact, even for multi-purpose technologies, not only hedonic in nature, the effect of perceived usefulness is marginal compared to that of intrinsic factors [10]. Thus, a new method of analysis may be required for studying the adoption of hedonic digital artifacts.

Our study used the theory of consumption values [21], which is a means of explaining user decisions to employ a hedonic digital artifact: according to this theory, consumers make informed purchase decisions after considering multiple value dimensions, such as enjoyment, quality, social, value-for-money, and their

tradeoffs. Thus, the potential users of pay-per-use hedonic digital artifacts follow cognitive decision processes and reflect on multiple value dimensions before they make a decision to purchase and use a hedonic digital artifact.

While several studies in the context of IT have employed this perspective [e.g., 23], they did not consider a large array of non-instrumental predictors concurrently. Accordingly, we conceptualized the decision to use a hedonic digital artifact as a cognitive process based on a broad view of value that focuses on various non-instrumental motivators, including tradeoffs among several components, such as value-for-money, musical or visual appeal, escapism, intrinsic enjoyment, playfulness, and social value. This allowed us to consider a range of hedonic-relevant intrinsic motivators.

Rather than focusing solely on behavioral intentions to use a hedonic digital artifact, our study also examined the willingness of users to provide positive word-of-mouth about the artifact. This is a powerful combination of constructs that may better explain the diffusion of digital products than behavioral usage intentions alone since value perceptions beyond efficiency and effectiveness are involved.

2. Theoretical foundations

2.1. Prior research on hedonic digital artifacts

Research has suggested that consumers always distinguish between hedonic and utilitarian values, and that their perceptions, attitudes and intentions depend on the product's nature. Moreover, deciding whether the product is hedonic or utilitarian may drive the consumers' decision whether to purchase or use the item [4,7].

Two lines of inquiry have been proposed in MIS research. The first is to extend TAM by adding constructs that specifically incorporate the hedonic aspects of the IT artifact [1], with perceived usefulness, perceived ease of use and behavioral intention left intact, and with the hedonic part represented by a single construct, such as perceived enjoyment. Examples include online learning [14], computer games [9], software agents [20], and television commerce [27]. Usually, the IT artifact analyzed in such projects includes both a utilitarian and hedonic component [3].

In the second line of research, new models were developed or adapted from other disciplines, mostly psychology, management and marketing [5,24]. For instance, the theory of reasoned action and the theory of planned behavior (precursors to TAM) were employed to develop a model of user acceptance of online video games [16]. Flow theories were used to explain Web navigation processes in which enjoyment plays an important part [11], and a new instrument was designed to measure the extent of enjoyment experienced by Internet users [15].

2.2. The theory of consumption values

There are information technology artifacts, such as music downloads for mobile phones that offer intrinsic utilities to their users. Thus a broader view of relevant utilities may be needed for explaining individual decisions to use these technologies. Furthermore, as opposed to organizational systems and some hedonic applications that are free of charge, many hedonic digital artifacts cost money (a onetime fee, or pay-per-use) and require users to consider a range of utility tradeoffs. Therefore, even though a digital product may provide positive extrinsic and intrinsic utilities (it is useful, enjoyable, etc.), users may reject it if its cost is too high compared to its benefits.

The use of hedonic products triggers multisensory images, emotional arousal and fantasies. Hedonic products tend to be symbolic or non-tangible in nature. The consumption process of hedonic products requires emotional involvement and mental efforts. Therefore, traditional utilitarian-focused approaches fall short with respect to hedonic artifacts.

We therefore use the theory of consumption values to explain the adoption of hedonic digital artifacts. The question *why we buy what we buy* is a fundamental issue in consumer behavior, marketing and economics literature. The theory integrates components from various consumer behavior models and assumes that consumer choice is a function of multiple consumption values. *Consumption value perceptions* capture consumer utilities along several dimensions, such as emotional value, value-for-money, and quality. These value components are used as the basis upon which consumers develop their choice behavior.

Customer value is derived from a person's experience and interaction with a product or service; it has become a key issue in marketing research, because it is linked to overall business performance. Many scholars agree that there are two motives for acquiring products and services: functional needs, and non-functional wants, associated with social, emotional, and epistemic values; these concepts may also be applied in the domain of IT. Many studies have developed and used additional value dimensions [2,17]. The importance of the theory of consumption values lies in positing that consumers balance value assessments for making informed, intrinsically and extrinsically motivated consumption decisions [12].

Two additional ideas are axiomatic to the theory of consumption values. *First*, while there may be many value dimensions capturing the *utility* derived from various sources, their relative importance can vary from one context to another. For instance, in the context of organizational applications, the functional value is likely to be more important than the emotional value in determining usage behavior. The levels of importance may be reversed in the context of hedonic technologies. *Second*, most of the consumption values are independent; changes in one dimension may not necessarily result in changes in others. This implies that the value dimensions may be somewhat, but not fully, correlated, and the effects of the value dimensions on behavioral outcomes are partially additive. For example, an improvement in a technology's usefulness, say, by making it easier to use, may not result in an identical improvement in its emotional utility. Thus, the effect of multiple value dimensions should be taken into account concurrently as predictors of behavior.

2.3. Perceived value and its effect in the context of hedonic digital artifacts

Perceived value is based on the aggregation of perceptions of various product benefits and associated tradeoffs. It is a consumer's overall assessment of the utility of a product or service based on his or her perceptions of what is received *versus* what is given [28]. This captures a comparison of the 'give' (sacrifice) and 'take' (gain) components of using any artifact, including ITs.

Based on the theory of consumption values, the comparison of value components is used as the basis on which individuals develop purchase decisions. Indeed, the use of value components as predictors of behavioral outcomes has been common [18]. Nevertheless, it has recently been argued that this is conceptually inadequate. Recall that the definition of perceived value is an *overall assessment*. The component level value perceptions are expected to provide the basis on which individuals form an overall value assessment. This assessment, in turn, and not its components, would affect the outcome variables. Accordingly, the concept of perceived value as a second-order composite with first-order formative components is better than other value

configurations. The overall perceived value concept is a molar factor that has formative indictors (the value components) because it satisfies the statistical and conceptual condition for a formative construct. Conceptually, the overall value assessment is formed by several independent components after one considers their trade-offs. Statistically, value components do not necessarily co-vary, and thus, do not satisfy the conditions for reflective factor modeling [8]. For example, a decrease in quality may not imply a change in enjoyment. Overall, the use of a second-order value conceptualization is justified and has already received support in the business literature. Thus, we adopted the higher-order conceptualization of perceived value.

The original theory of consumption values presented a narrow view in which the value components affected only consumption choice decisions. However, perceived value as a cognitive concept may influence many other behavioral outcomes, such as customer satisfaction, behavioral usage intentions, and brand loyalty [26]. Therefore, the theory may be extended to include behavioral outcome variables that go beyond mere purchase decisions.

Out of the many behavioral outcomes that can be influenced by value perceptions, behavioral intentions to use the hedonic digital artifact and behavioral intentions to provide positive word-of-mouth may be of interest to technology adoption and diffusion researchers. First, behavioral usage intentions are the key outcomes of technology adoption serving as a proxy for actual usage behavior. Second, positive word-of-mouth represents a loyal behavior. It is an intention that does not require individuals to commit to future use or purchase, but rather focuses on willingness to recommend the artifact to others and encourage them to use it. People who may not wish to use a technology may still say positive things about it, and affect its general acceptance. Overall, these concepts may positively affect the diffusion of technology.

Given a positive value assessment of a hedonic digital artifact or an expectation of a positive value, it is reasonable to hypothesize that individuals will be motivated to use the hedonic digital artifact and will develop stronger behavioral usage intentions. Similarly, a positive value assessment may create an atmosphere for affective commitment [19]. Similar effects of value assessments on usage and recommendation behaviors received support in studies which were conducted in various contexts. As such, the following hypotheses were formulated:

H1a. The overall perceived value of a hedonic digital artifact is positively related to user behavioral intentions to use it.

H1b. The overall perceived value of a hedonic digital artifact is positively related to user behavioral intentions to positive word-of-mouth.

2.4. The dimensionality of perceived value in the context of hedonic digital artifacts

Some studies have conceptualized perceived value as a unidimensional construct that includes all the give (e.g., reasonable price) and take (e.g., quality) aspects together; this, however, may be too simplistic, because it does not break down value into its many components. Accordingly, a broad and varying set of dimensions has been utilized in different contexts. We focused mostly on intrinsic, non-instrumental value dimensions that may be of high importance in our context. As such, our "overall value" had only non-instrumental values. The non-instrumental value components of overall value assessment are visual/musical appeal, playfulness, and social value:

- visual/musical appeal—an aesthetic response that can be a salient element of any hedonic digital artifact;

- social value—social gains attributed to the use of an artifact, for instance, video-on-demand via mobile phones may position individuals as trendy and sophisticated; and
- playfulness—engagement in activities that are absorbing and allow individuals to escape from the demands of the day-to-day world. Thus, playfulness gains stem from the use of technologies for non-instrumental purposes generating value for hedonic technology users.

Our study also considered value-for-money as the 'give' component in contrast with the non-instrumental gains of making informed decisions. Users who feel that the hedonic digital artifact is inexpensive compared to its benefits are likely to adopt it. Thus, the following hypotheses were posed:

H2a. The visual/musical appeal value of a hedonic digital artifact is positively related to its overall perceived value.

H2b. The social value of a hedonic digital artifact is positively related to its overall perceived value.

H2c. The playfulness value of a hedonic digital artifact is positively related to its overall perceived value.

H2d. The value-for-money of a hedonic digital artifact is positively related to its overall perceived value.

Playfulness depends on two factors: escapism (intrinsic gain from forgetting the daily tasks and engaging in playful behaviors) and enjoyment (emotional gain that reflects pleasure). Even though previous studies showed a direct effect of enjoyment on attitudes and behavioral outcomes [6], the relationship between enjoyment and behaviors may be more complicated (i.e., mediated through value assessments). Thus, the following hypotheses were made (see the research model depicted in Fig. 1):

H3a. The escapism value of a hedonic digital artifact is positively related to its playfulness value.

H3b. The enjoyment value of a hedonic digital artifact is positively related to its playfulness value.

3. Methodology and results

3.1. Instrument development and data collection

We conducted an empirical investigation on mobile phone users who had utilized ringtones. These are customizable sounds that replace the traditional rings for incoming calls on mobile phones. They may be downloaded from mobile and wired websites and have various qualities, ranging from mono, to polyphonic and tunes. We selected them for our investigation for two reasons: they are hedonic digital artifacts with a monetary cost (individuals who download personalized sounds pay for them) and they are one of the most popular wireless services. Almost one quarter of the US population (23%) downloaded ringtones in 2005; and this proportion is much higher (around 50%) in the young–adult segment (18–24). Accordingly, we focused on ringtones as the hedonic digital artifact.

The first part of our survey instrument solicited demographic information, such as age, sex, and past ringtone usage. The second part included items intended to supply data for our research model. Items and their sources are outlined in Table 1.

The sample for our study consisted of university students because they represent the target population of ringtone users. Data was collected in two rounds. First, a paper-based survey was administered to 360 fourth-year undergraduate students at a
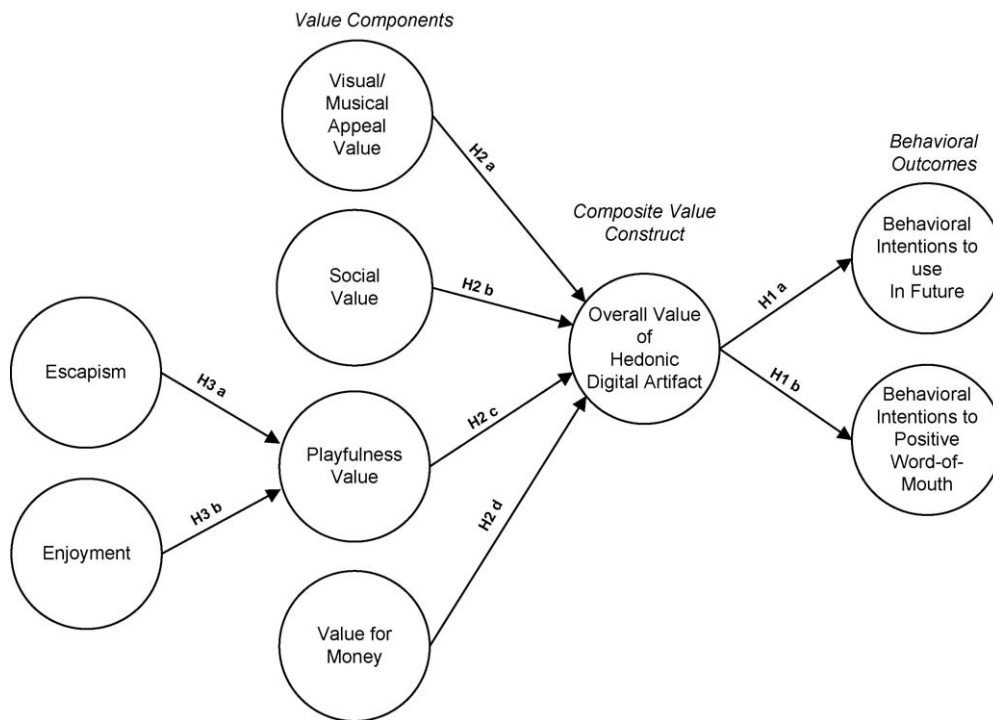
Fig. 1. Research model.

North American university. From this group, 186 (about 50%) had downloaded ringtones and completed the survey. In the second round, a link to an online survey, identical to the paper-based version, along with a call for participation in our study was posted on a university website. Those who participated in the first data collection phase were instructed not to complete the online survey to avoid duplicate entries. This data collection round resulted in 236 additional responses, collected over a period of 1 month. Based

Table 1
Constructs and items.

Construct	Abbreviation	Measure source	Number of items	Items
Escapism	ESC	Mathwick et al. [18]	3	Listening to ringtones "gets me away from it all." Listening to ringtones makes me feel like I am in another world. I get so involved when I am hearing ringtones that I forget everything else.
Enjoyment	ENJ	Sweeney and Soutar [22]	5	I enjoy using ringtones. Ringtones make me want to use them. I feel relaxed about using ringtones. The use of ringtones makes me feel good. The use of ringtones gives me pleasure.
Playfulness value	PlayV			*Second-order factor*
Musical appeal	MSCA	Mathwick et al. [18]	3	The way ringtones sound is attractive. Ringtones are musically appealing. I like the way ringtones sound.
Social value	SOCV	Sweeney and Soutar [22]	4	The use of ringtones helps me feel acceptable. The use of ringtones improves the way I am perceived. The fact I use ringtones makes a good impression on other people. The use of ringtones gives me social approval.
Value-for-money	VFM	Sweeney and Soutar [22]	3	Ringtones have a good economic value. Overall, I am happy with ringtone prices. The prices of ringtones are too high given their benefits.
Overall value	OV			*Third-order factor*
Behavioral intentions	BUI	Venkatesh and Davis [25]	2	Assuming I have access to ringtone download services, I intend to use them in future. Given that I have access to ringtone download services, I predict that I would use them in future.
Positive word-of-mouth	PWOM	Lin et al. [17]	3	I would say positive things about ringtones to other people who wish to personalize their cell phones. I would recommend ringtones to someone who wishes to personalize his or her cell phone, and seeks your advice. I would encourage friends and relatives, who wish to personalize their cell phones, to download ringtones.

Table 2
Descriptive statistics for the scales.

Item	Mean	Standard deviation	Residual variance	Item–total correlation	Cronbach's alpha	Internal consistency	Convergent validity (AVE)
ESC1	2.26	1.56	0.18	0.74	0.88	0.93	0.81
ESC2	1.98	1.41	0.11	0.85			
ESC3	1.78	1.37	0.28	0.72			
ENJ1	5.22	1.61	0.26	0.78	0.91	0.93	0.74
ENJ2	4.67	1.75	0.22	0.81			
ENJ3	4.83	1.63	0.38	0.68			
ENJ4	4.41	1.77	0.18	0.84			
ENJ5	4.19	1.83	0.26	0.76			
MSCA1	4.66	1.71	0.21	0.76	0.91	0.94	0.85
MSCA2	5.15	1.64	0.10	0.87			
MSCA3	5.14	1.61	0.15	0.81			
SOCV1	3.14	1.80	0.20	0.81	0.94	0.95	0.85
SOCV2	3.00	1.80	0.12	0.88			
SOCV3	3.00	1.78	0.15	0.85			
SOCV4	2.87	1.80	0.14	0.86			
VFM1	2.83	1.65	0.25	0.62	0.83	0.90	0.75
VFM2	2.93	1.64	0.18	0.77			
VFM3	2.99	1.62	0.33	0.68			
BUI1	4.25	1.76	0.14	0.74	0.85	0.93	0.87
BUI2	4.45	1.70	0.11	0.74			
PWOM1	4.62	1.57	0.17	0.79	0.89	0.93	0.82
PWOM2	4.54	1.72	0.15	0.82			
PWOM3	4.43	1.77	0.21	0.75			

on the web-logs, 43% of viewers had clicked-through and completed the survey. A multivariate analysis of variance revealed no differences between the two datasets (Wilks' Lambda = 0.94, $p > 0.41$). Thus, all analyses employed the combined dataset of 422 records.

Respondents' ages ranged from 18 to 59 years old (average = 22), but the vast majority of respondents (91%) belonged to the young–adult segment (between 18 and 25 years old). The sample was slightly female dominant with 52% women. This is consistent with the findings of the Interactive Media Industry Association that states that women tend to download more ringtones than men. The respondents' experience with ringtone downloads ranged from once to 100 times with an average of seven downloads per person. For each ringtone, individuals paid up to US$ 7, with an average price of about US$ 1.9 per download. All participants had some experience with their current cell phones (1–56 months, mean = 13 months) and service provider (1–120 months, mean = 31 months).

3.2. The measurement model

The structural and measurement models were estimated using PLS–Graph. PLS was chosen because it places less restriction on variable distribution, and enables modeling higher-order molar constructs. The second- and third-order factors in the model were computed by using the repeated-indicators approach (i.e., the hierarchical component model), which is suitable for modeling higher-order factors in PLS.

The initial model included age, gender, experience with ringtones (self-reported number of downloads), and their interactions as control variables, all of which had no significant effect (t-values ranged from 0.02 to 1.0). Furthermore, removing them had marginal, if any, effect on the variance explained in the outcome variables. Thus, the control variables were excluded from further analysis, and we re-estimated the uncontrolled model of Fig. 1.

Our analysis (Table 2) demonstrated that all items had acceptable measurement properties. All factor loadings exceeded the threshold value of 0.7. Thus, variation in the indicators was mostly explained by the underlying latent variables. The item-to-

total correlation estimates for all items met the recommended cut-off value of 0.5 with relatively small residual variances.

All latent variables exhibited good psychometric properties. An assessment of construct reliabilities for all low-order factors was conducted, with all Cronbach's alpha values above 0.8. The measures of internal consistency and convergent validity were greater than the recommended 0.7 and 0.5 thresholds respectively. The convergent and discriminant validities of the low-order constructs were further supported by the matrix of loadings and cross-loadings. See Table 3, where items had substantially stronger loadings on the factors they reflect than on other factors. The inter-construct correlation matrix (Table 4) demonstrated that the

Table 3
Matrix of loadings and cross-loadings.

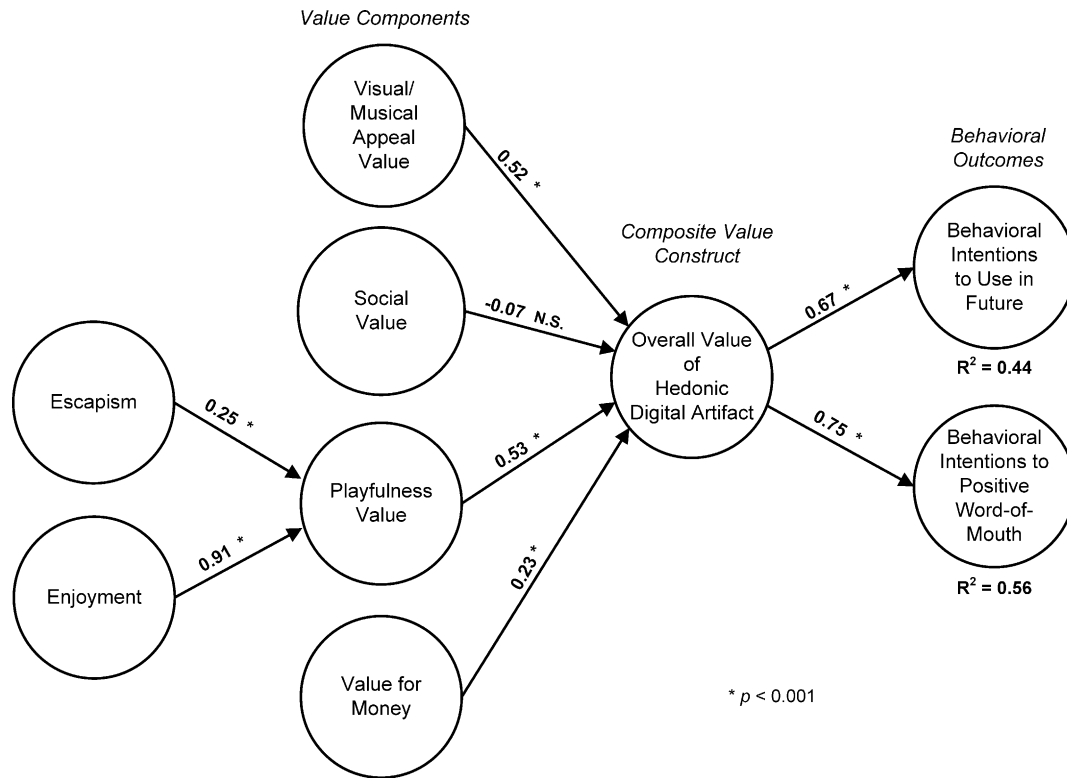|	ESC	ENJ	MSCA	SOCV	VFM	BUI	PWOM
ESC1	**0.90**	0.26	0.20	0.50	0.39	0.16	0.23
ESC2	**0.94**	0.23	0.13	0.50	0.39	0.16	0.20
ESC3	**0.85**	0.12	0.02	0.46	0.34	0.09	0.10
ENJ1	0.11	**0.86**	0.61	0.33	0.13	0.53	0.58
ENJ2	0.22	**0.88**	0.57	0.40	0.15	0.55	0.60
ENJ3	0.11	**0.78**	0.52	0.31	0.16	0.46	0.53
ENJ4	0.28	**0.90**	0.55	0.53	0.18	0.50	0.55
ENJ 5	0.29	**0.86**	0.57	0.55	0.20	0.49	0.54
MSCA1	0.18	0.57	**0.89**	0.42	0.21	0.46	0.56
MSCA2	0.10	0.63	**0.95**	0.30	0.15	0.54	0.64
MSCA3	0.10	0.60	**0.92**	0.26	0.19	0.52	0.62
SOCV1	0.45	0.51	0.33	**0.89**	0.24	0.31	0.35
SOCV2	0.47	0.45	0.33	**0.93**	0.29	0.26	0.34
SOCV3	0.53	0.44	0.33	**0.92**	0.32	0.29	0.36
SOCV4	0.54	0.42	0.31	**0.92**	0.27	0.26	0.34
VFM1	0.44	0.23	0.25	0.34	**0.87**	0.29	0.34
VFM2	0.35	0.16	0.14	0.26	**0.90**	0.30	0.30
VFM3	0.26	0.06	0.10	0.14	**0.81**	0.19	0.19
BUI1	0.12	0.51	0.48	0.24	0.28	**0.92**	0.69
BUI2	0.17	0.59	0.55	0.32	0.30	**0.94**	0.74
PWOM1	0.17	0.61	0.61	0.36	0.29	0.70	**0.91**
PWOM2	0.21	0.59	0.59	0.38	0.29	0.65	**0.92**
PWOM3	0.18	0.58	0.60	0.29	0.32	0.74	**0.89**

Fig. 2. The structural model.

Table 4
Inter-construct correlations and square roots of AVE of low-order constructs.

	ESC	ENJ	MSCA	SOCV	VFM	BUI	PWOM
ESC	**0.90**						
ENJ	0.24	**0.86**					
MSCA	0.14	0.65	**0.92**				
SOCV	0.54	0.50	0.38	**0.92**			
VFM	0.42	0.19	0.20	0.31	**0.86**		
BUI	0.16	0.59	0.55	0.30	0.31	**0.93**	
PWOM	0.20	0.65	0.66	0.38	0.33	0.76	**0.91**

square root of the average variance extracted (AVE) for each construct (on the diagonal) was higher than the corresponding inter-construct correlations. Overall, we concluded that the measures were valid.

3.3. Hypotheses testing

The PLS analysis yielded path coefficients for the structural model. The levels of significance were estimated using *t*-statistics derived from a bootstrapping procedure with 200 re-samples (see Fig. 2).

The structural model showed that seven hypotheses were supported and one (H2b) was rejected. Thus escapism and enjoyment were used as the basis upon which individuals assessed the playfulness value of hedonic digital artifacts. This together with musical appeal and the value-for-money components, were used in developing an overall value assessment. Apparently, ringtone users do not consider social gains when developing their overall value assessment. Overall, the model explained major portions of the variation in adoption behaviors—about 44% of the variance in usage intentions and 56% in positive word-of-mouth intentions.

4. Discussion, limitations and conclusions

Our study introduced the theory of consumption values as a way of explaining and predicting the adoption of hedonic digital artifacts: it was shown that users assess some non-instrumental utilities and monetary cost of the hedonic digital artifacts when they consider their use and then develop an overall value assessment on which they form behavioral usage and positive word-of-mouth intentions. The third-order factor model reasonably, accurately and parsimoniously described the acceptance of the artifacts. It exhibited adequate predictive and psychometric properties.

Social value did not have an impact on the overall artifact value in the context of ringtones. The playfulness value, which is based mainly on enjoyment and moderately on escapism, is a strong predictor of the overall ringtone value. Accordingly, this finding further confirms the validity of the model. Interestingly, this study revealed that the effect of enjoyment on behavioral usage intentions was mediated through two concepts: perceived playfulness value and overall value assessment.

In the context of ringtones, escapism is not as important as enjoyment in the assessment of playfulness value. One explanation for this may be the fact that ringtones are short (only a few seconds long) and not interactive. The musical appeal value component emerged as a strong predictor of the overall value of ringtones. Users considered this when they assessed its overall value. Apparently users of hedonic digital artifacts assess their overall value by considering multiple value dimensions and their trade-offs. This is then used as the basis for making adoption decisions and recommending the systems to others.

Despite the prevalence of hedonic digital artifacts, there is still a lack of prescriptive guidelines as to how value perceptions may be employed for augmenting their adoption. Our findings about the value structure behind the adoption of ringtones generated some implications.

Because musical appeal and playfulness are the most important value dimensions behind the use and recommendation of ring-tones, providers should augment and emphasize them in market-ing campaigns. One way is to increase musical appeal by the use of higher-quality sounds. Alternatively, service providers could offer a wider range of ringtones for download, so that they appeal to a broader range of users with different musical tastes. They may also emphasize the fun aspect when promoting ringtones.

The medium effect of value-for-money indicates that the current level of pricing seems reasonable to many users. That is, the utility gains outweigh the cost. Nevertheless, an increase in the level of pricing may have unexpected results. Price reduction also may not be the best option to improve value-for-money perception. Our study also showed that social value is not important in the context of ringtone adoption. Therefore, ringtone providers should not emphasize the social value of ringtones in advertising campaigns since social gains are important only when employing a totally innovative and visible hedonic technology.

Despite its potential contribution, our study has some limita-tions. First, this study used a sample of North Americans from the young–adult segment. This may have introduced a bias. Second, other factors may act as moderators or predictors of adoption behaviors of hedonic digital artifacts, e.g., cultural differences and personality traits. Third, testing the model with only ringtones does not demonstrate its nomological validity.

Overall, the industry of hedonic digital artifacts is a relatively new and growing field. Many successful artifacts have been widely adopted by the users and enormous markets are at stake. Our study used the theory of consumption values to explain the adoption of these artifacts and offered recommendations for their providers. Various non-instrumental value assessments which are encapsu-lated in a third-order factor structure drive the adoption of the artifacts.

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