Changing Product Perceptions: A Pre-COVID-19 and Post-COVID-19 Survey of Software Products

Adarsh Kumar Kakar
Alabama State University, akakar@alasu.edu

Changing Product Perceptions: A Pre-COVID-19 and Post-COVID-19 Survey of Software Products

ABSTRACT

Traditionally software products have been classified as utilitarian or hedonic based on the value they provide to the users. In this cross-disciplinary study, we introduce another category of software products called social products i.e., those which provide symbolic value to its users. However, we also suggest these three types of software products are ideal types. In reality, most software products are likely hybrid. They provide differing magnitude of all three values: Utilitarian, Hedonic and Social. We use the different levels (high, medium, and low) of these three values to classify products as predominantly Utilitarian, predominantly Hedonic, predominantly Social and five types of Hybrids. This classification of products offers a fresh perspective into how users view different products in terms of the value they provide to them. The insights from the study can be used to assess software product positioning and to develop suitable product development strategies.

Keywords

Utilitarian products, hedonic products, social products, hybrid products Guides, instructions, length, conference publications

INTRODUCTION

The typology of utilitarian and hedonic products and services is well established in information systems literature as in consumer product marketing literature (van der Heijden, 2004;Wu and Lu, 2013; Gerow, Ayyagari, Thatcher and Roth, 2013) While utilitarian goods are "functional and goal oriented and generate cognitive response from the user", the hedonic goods provide "novelty, aesthetics, unexpectedness, pleasure and fun and evoke affective user responses" (Strahilevitz and Myers, 1998). For example, swiss army knives with their versatile applications provide utilitarian value to the user while a perfume provides hedonic value to the user.

But we suggest that there is another class of software products (and services), those that provide social value to the user. Social value (SV) helps consumers establish self as well as social identity. For example, using Apple product creates the impression of one being "creative" (Aaker, 2009) while membership of an exclusive club enhances social status and prestige. Recognizing the SV of products (and services) can help providers position and develop products that enhance consumers' self and social expression. The strongest attachment with the product is said to occur when it provides personal meaning and when the product is considered the extension of the self (Park, MacInnis and Priester, 2006). However, unlike consumer product literature, information systems literature has largely ignored the SV provided by software products. We use SV of provided by software products in extending the typology of software products beyond the utilitarian and hedonic.

An empirical study with actual users of software products found the suggested typology of products into three types: utilitarian, hedonic and social to be valid. In addition, multiple new types of hybrid products could be discerned depending on the combination of values provided by these products. While the hybrid of UV (Utilitarian Value) and HV (Hedonic Value) is well known in literature (e.g. dark chocolates provide pleasure as well as health benefits to the consumer, Gamified eLearning enhances learnings aa well as makes learning fun), these new types of hybrids add further to our understanding and knowledge. For example, email was found to be a hybrid of UV and SV. It provides significant utilitarian (facilitates official communication) as well as social benefits to its user (helps in connecting with friends and relatives). The unique findings of the study are discussed. The useful implications of the typology for product managers in making product design decisions, enhancing brand loyalty of products and developing suitable product strategies are discussed.

LITERATURE REVIEW

The classification of products into utilitarian and hedonic has vastly increased our understanding of how these product types impact consumer choice, satisfaction and loyalty. A large number of studies in all three literatures have investigated the impacts of HV and UV on intention to buy, use, promote and remain loyal to tangible and intangible products such as mobile phones, laptops, computer software, consumer staples, office supplies and services such as travel, tourism and hospitality (e.g., Chitturi et al., 2008; Park and Mown, 2007; Kientz and Simonson, 2002; Gursoy, Spangenberg and Rutherford, 1996; Babin, Darden and Griffin, 1994; Chandon et al., 2000; von Dran, Zhang and Small, 1999; van der Heijden, 2004; Wu and Lu, 2013; Gerow, Ayyagari, Thatcher and Roth, 2013).

It has been suggested that the utilitarian and hedonic dimensions of the product are distinct and together capture the essential facets of a product (Batra and Ahtola, 1999; Block, 1995; Dhar and Wertenbroch, 1999; Mano and Oliver, 1993; Schmitt and Simonson, 1997; Strahilevitz and Myers, 1998; Veryzer, 1995; Kakar, 2015a, b). While these investigations have enhanced our understanding of the relationship between HV, UV and user outcomes, very few studies in the past have empirically examined the impact of SV on user outcomes.

Norman (1998) predicted that once a software product meets the functional requirements of the users, considerations of convenience and reliability, and, later, of appearance and symbolic ownership will become more important. Thus, the SV derived from the use of the software product may become increasingly important in future. The watch industry, Norman (1998) noted, after having met the consumer needs of accurate time keeping and durability (UV) is focusing on styling (HV) and exclusivity (SV). For example, Rolex watches are purchased as a symbol of status, image, and prestige.

Recently Kakar (2018a, b) and Kakar and Kakar (2020a, b) conducted studies in which they argued that social value can get confused with social capital, a term used in social sciences with its utilitarian connotations such as use of social networks for economic development and prosperity. They also highlight that in the initial stages, SV was considered (e.g., Holbrook and Hirschman, 1982) as a part of HV. However, in later stages (e.g., Keller, 1993; Park et al., 1986) a clear differentiation emerged between hedonic and social values. While UV is associated with functional value, HV is associated with emotional value and SV is associated with symbolic value. The social dimension of consumption came to be understood through the symbolic interactionism perspective which emphasizes the role of product consumption in the context of social roles played by people (Solomon, 1983; Belk, 1988). The symbolic meaning of product is realized outwardly through the construction of social identity in the social world and inwardly in the construction of self-identity (Elliott, 1997).

In this study, we further advance our understanding in the domain of value constructs by clarifying and systematically compiling the essential differences between UV, HV and SV from a comprehensive and reflective review of past work in the domain (see below):

Summary of Hedonic-Utilitarian-Social Product Characteristics

UTILITARIAN VALUE	HEDONIC VALUE	SOCIAL VALUE
Represents "shoulds" or reasoned preferences (Bazerman, Tenbrunsel and Wade-Benzoni, 1998)	Represents "wants" or affective preferences (Bazerman, Tenbrunsel and Wade-Benzoni, 1998)	Represents social meaning and self-expression choices of the user (Elliot, 1997)
Targets Homo Economicus - Consumers are utility calculator (Rintamaki, 2006)	Targets Homo Ludens - Consumers are guided by senses (Rintamaki, 2006)	Targets Homo Faber - Consumers convey their personalities, lifestyles and beliefs through conspicuous consumption (Rintamaki, 2006)
Is functional and practical (Stelmaszewska, Fields and Blandford, 2004)	Is enjoyment, novelty, aesthetics, unexpectedness, fun (Stelmaszewska, Fields and Blandford, 2004)	Is symbolic, expressive, relational (Smith and Colgate, 2007) (Belk, 1988)
Is a means to an end (Babin and Harris, 2011)	Is an end in itself (Babin and Harris, 2011)	It can be both a means (social status) and an end in itself (self-esteem) (Rintamaki, 2006)
Helps accomplish practical goals/ tasks ((Smith and Colgate, 2007)	Provides sensory benefits (Smith and Colgate, 2007)	Provides relational and network benefits (Smith and Colgate, 2007)
Generates cognitive satisfaction response when fulfilled (Chitturi et al. 2007; Berman, 2005)	Generates affective delight response when fulfilled (Chitturi et al., 2007; Berman,	Builds self-esteem and social status when fulfilled (Elliot, 1997)
Can be Objectively appraised (Chitturi, 2009)	Is Subjective, Experiential (Chittri, 2009)	Is Interactional , Relational (Elliot, 1997)

We then use this tripartite conceptualization of value, UV, SV and HV to develop and test our typology. In this typology we also include Hybrids. Studies in the past have shown that HV is important for even products designed for utilitarian use. In their meta-analyses of technology adoption literature for software products, Gerow, Ayyagari, Thatcher and Roth (2013) noted that UV and HV are equally important in impacting the user intention to use the system. HV provides intrinsic psychological rewards to users which in turn lowers perception of effort. The pleasure and enjoyment derived from using the system make the users use the system more extensively (Moon and King, 2001), The impact of Hedonic benefits can also be explained by the "halo effect" in social psychology, People frequently attribute positive characteristics to attractiveness and negative characteristics to unattractiveness (Fogg, Kameda, Boyd, Marshall, Sethi, Sockol and Trowbridge, 2003). Users will thus attribute positive characteristics of a product such as its usability to its attractiveness such as its aesthetic design, an example of a hedonic attribute.

Typology Development

From the perspective of motivation theory (Deci and Ryan, 1987), UV and HV motivates users to use or patronize products in different ways. While HV as an end valued for its own sake provides intrinsic motivation to the users, UV as a means to accomplish instrumental goals provides extrinsic motivation to the user to use the software (Wu and Lu, 2013). However, the SV of consumption can be understood through the symbolic interactionism perspective which emphasizes the role of product consumption in the context of social roles played by people (Solomon, 1983; Belk, 1988).The symbolic meaning of product is realized outwardly through the construction of social identity in the social world and inwardly in the construction of self-identity (Elliott, 1997).

Users are known to identify themselves in relation to other users or group of users (Bagozzi, 2007; Kelman, 1974). This social identity includes self-awareness of group membership and feeling of attachment and belongingness to the group (Taifel, 1978). For example, consumers of Volcom products are youth who feel a sense of belonging to those who are against the world of adults. In addition to the social identity, products and their attributes through their symbolic value often become part of the extended self of the user and reflect his self-identity (Belk, 1988). For example, users feel "creative" when using Apple products (Aaker, 2009).

Users wo derive significant SV from association with the product consider the product as an extension of the self (Park, MacInnis and Priester, 2006). Consumers and users of such products believe that their absence will have a negative impact on their lives, thereby making them irreplaceable. Thus all three values UV, HV and SV are important dimensions of value sought by users/ consumers. Brand attachment literature reveals that as in inter-personal relationships between people, consumers seek a total experience with brands, an experience not limited to the functional but also but also emotional and social (Fombrun, 2001; Brakus, Schmitt and Zarantonello, 2009; Iglesias, Singh and Batista-Foguet, 2011). The stronger and more varied the dimensions of experience the more will be the strength of brand attachment and greater will be its impacts on consumer outcomes such as their loyalty to the brand.

In line with this reasoning we develop a typology of products based on the magnitude of each type of value provided by the product. The high, median and low levels of each value helps us classify software products into nine categories (see Table 1):

Product Value →	Utilitarian Value			Hedonic Value			Social Value		
Product Types ↓	Low	Medium	High	Low	Medium	High	Low	Medium	High
Utilitarian			■	■			■		
Hedonic	■					■	■		
Social	■			■					■
Hybrid 1		■	■		■	■	■		
Hybrid 2		■	■	■				■	■
Hybrid 3	■				■	■		■	■
Hybrid 4			■			■			■
Hybrid 5	■			■			■		

Low<2.25; High >6.75; Medium >=2.25 and <= 6.75 on a 9 point scale

Table 1. The Typological Scheme

Based on this we classified products as predominantly Utilitarian, predominantly Hedonic, predominantly Social, Hybrid Type 1 (UV-HV), Hybrid Type 2 (UV-SV), Hybrid Type 3 (HV-SV), Type 4 (UV-HV-SV) and Type 5 (NULL). Thus, SV provided by the product enables us to create many new categories of products. In addition to predominantly social products, considering SV engenders at least four more hybrid categories in the typological scheme (Type 1, 2, 3 and 4).

Aaker (2009) noted that SV may be critical in building brands. He gave examples of self-expressive benefits of brands such as Olay "heightens consumers' self-concept of being gentle, sophisticated, mature, exotic, mysterious and down-to-earth", driving Lexus creates the impression of being "successful", using Apple product creates the impression of being "creative", buying clothes at Zara creates the impression of being "cool". Brands also provide social benefits such as Betty Crocker Mixer Web site that "allows members to talk to experts and connect with others" or "When I go to Starbucks, I am part of a closed club of aficionados even if I don't interact with any." Or provide membership to aspirational groups: "When playing with a Titleist Pro V1, I am among a group that contains some really good golfers." Apple, Nokia and Philips, have "converted products that are conventionally viewed as tools into personally meaningful objects" and "enable consumers to make statements about identity, status, and their varied selves." (Ravasi and Rindova, 2008).

Social networking products such as Facebook and LinkedIn provide SV to its users. It helps users to create a self as well as social identity in the desired community of friends, family and professionals. In support of the typological scheme we expect many more software products to provide SV. Further we expect SV to be relevant in impacting the behavioral intention (BI) of users to use the software product. The impact of HV and UV of BI of users to use the software is well established in literature. BI a more relevant measure in the context of software products as software often is not purchased as it is provided for by the organizations to the users or made available by the providers free of cost.

Method
Study Setting and Design
An Experimental method was adopted in the study. Each randomly chosen subject in the study answered a questionnaire-based survey that captures data on demographics, relevant independent variables, dependent variable and control variables. Actual users of software products provided their responses for the software products they used most extensively during the past 6 months.

Subjects

The subjects were recruited from a large public university. The college of business of this university encourages research exposure by awarding students extra credit for research exposure. An email was sent randomly to 200 students of the college of business from among its 2300 students inviting them to participate in the study. We received a total of 181 responses. Based on this response, we invited all 181 students to participate in the study. Among those invited to participate 172 students actually participated in the study and answered a questionnaire-based survey. The subjects' age ranged between 19 and 24 years and female students (69 out of a total of 122) outnumbered males (53 out of a total of 122). The average age of the subjects was 21.28 years with the female subjects averaging 21.34 years and the male subjects averaging 21.22 years.

Measures Used

Tested measures were used to capture data pertaining to HV (Babin, Darden and Griffin, 1994), SV (Rintamaki, Kanto, Kuusela and Spence, 2006), UV (Venkatesh and Davis, 2000) and BI (Venkatesh et al., 2003). These measures have been used previously in software context (Venkatesh, Thong and Xu, 2012; Kakar, 2017; Kakar and Kakar, 2018). All measures used a 9-point Likert scale with anchors of 9 (strongly agree) and 1 (strongly disagree) in line with the recommendation that increasing the number of choice-points increases scale sensitivity without damaging scale reliability (Cummins and Gullone, 2000). Responses were coded such that high levels of the constructs are represented by high values. Some items were reverse coded. The overall value for each construct was created by averaging the subject responses.

Control Variables

Extraneous variables such as age, gender and length of use experience were controlled for in the analysis of subject responses. Studies have shown that HV impacts females and males differently (Gefen and Straub,

1997; Venkatesh, Morris, and Ackerman, 2000; Wu and Lu, 2013). Further, younger men tend to seek greater novelty and innovativeness in the early stages of using a new product or technology (e.g., Chau and Hui, 1998). Thus, age and gender may impact the assessment of HV derived from a shopping site. Additionally, length of use experience may impact BI. If the consumer derives value from using a software product it becomes increasingly important to him due to habitual use behavior. When a behavior has been performed many times in the past, subsequent behavior increasingly becomes under the control of an automated cognitive process (Aarts, Verplanken and van Knippenberg, 1998). Consumers form favorable intentions about acts they have frequently performed in the past (Ouellette and Wood, 1998), such as repeated use of the product, making them increasingly dependent on the habit (Gefen, 2003) thereby enhancing their BI.

Procedure

172 subjects answered a questionnaire-based survey in November 2019 which included questions about demographics. In addition, subjects provided a total of 1720 responses to the survey questions by providing data on UV, HV, SV and BI (see Appendix A) for her top 10 most extensively used software products in the past one month. They also ranked the most extensively used software products in the descending order of the time they spent using the product. The results were published at a top conference (Kakar, and Kakar 2020). However, with the advent of Covid-19 we also requested subjects for data in the month of April 2020. We received another 1720 responses in this round 2 from the same subjects as all of them complied with the request.

Method of Analyses

Products were classified based on a combination of high, low and medium values of HV, UV and SV. A product value (UV, HV or SV) of particular product is considered high if it is $>= 6.75$ on a 9-point scale. Similarly, a product value (UV, HV or SV) of particular product is considered low if it is < 2.25 on a 9-point scale. All other ratings of UV, SV and HV on a 9-point scale i.e. $>= 2.75$ and $>= 6.75$ constitute medium values. Based on the high, low and medium values for UV, HV and SV so obtained, a product is classified as either utilitarian, hedonic, social or one of the nine types of products (see Table 1).

Factor analysis was performed on the data set obtained from the subjects to identify the latent factors and establish the validity and reliability of the measures used in the study. Further, the correlation matrix and internal reliabilities of the measures were also examined. The widely recommended Moderated Hierarchical Multiple Regression (MHMR) was used for testing the direct and interaction effects of independent variables (Cortina, 1993; Cohen, 1978; Dunlap and Kemery, 1987; Stone and Hollenbeck, 1989). MHMR reveals how well each independent variable predicts the dependent variable, after extracting variance due to other independent and control variables in the regression equation and interaction effects after extracting variance due to independent and control variables.

In the first step of MHMR analysis gender, age and length of use experience of subjects were included, followed by UV in the second step, HV in the third step, SV in the fourth step and the interaction terms of the three values, UV*HV*SV was introduced in the fifth and final step. The interaction effect is present if significant variance in the dependent variable is explained by the interaction terms over and above the variance explained by the control variables and the direct effect of the predictor variables (Cortina, 1993).

Results and Analyses

The results of the factor analysis (Appendix B) showed that the four factors extracted using Varimax rotation represented the four scales used in the study, HV, UV, SV and BI. The high loadings (>.50) within factors demonstrated convergent validity of items within scales, and the no cross loadings (>.50) between factors demonstrated discriminant validity between scales. The internal reliabilities of all the scales used in the study were greater than .70 (see Table 2).

Name of the scale	Cronbach's Alpha	Number of Items
Utilitarian Value (UV)	0.960	5
Hedonic Value (HV)	0.941	5
Social Value (SV)	0.888	6
Behavioral Intention (BI)	0.881	3

Table 2. Internal Reliability of Scales

Step	Variables added in each step	Change in R- Square
1	Control: Gender, Age, Experience	0.06*
2	Main Effect: UV	0.21*
3	Main Effect: HV	0.14*
4	Main Effect: SV	0.13*
5	Interaction Effect (UV*HV*SV)	0.34***

*p < .05 ***p<.001
Table 3. MHMR for Impacts of UV, HV and SV on BI -round 1

Step	Variables added in each step	Change in R- Square
1	Control: Gender, Age, Experience	0.02*
2	Main Effect: UV	0.20*
3	Main Effect: HV	0.16*
4	Main Effect: SV	0.18*
5	Interaction Effect (UV*HV*SV)	0.34***

*p < .05 ***p<.001
Table 4. MHMR for Impacts of UV, HV and SV on BI -round 2

Among the 1720 subject responses for a total of 67 software products in round 1, only 1 product was classified as predominantly social (Twitter), 6 products as predominantly utilitarian (e.g., Blackboard) and 5 products as predominantly hedonic (e.g., Critical ops, a computer game). Most of the software products, as expected were found to be Hybrid. Of the remaining 56 products, 31 were classified as UV-HV (e.g., Producteev, a personal task manager), 6 as UV-SV (e.g. Gmail) and 17 as HV-SV (e.g. Facebook) and 2 were classified in no category. None of the products were classified in the UV-HV-SV category. All 67 products provided significant (statistically > 1 on an average on the 9-point scale) amounts of all three values SV, HV and UV. Further all the three values had a positive and significant impact on BI. The MHMR analyses (Table 3) show that SV could explain 13 % of the variance in BI.

The top 10 software products classified by subjects in round 1 is shown in Table 5. As can be seen the top 2 products were utilitarian software. out of a total of 67 software products on which the subjects provided their response. The maximum number of products in the top 10 most used products were UV-HV hybrids. All 172 subjects classified them in that category with MS Word the most used software. The list of top 10 products classified (see Table 5) out of a total of 70 software products by subjects in round 2, show that the utilitarian software continued to be among the top 3 ranks. Also, the maximum number of products among the top 10 used products remained in the UV=SV hybrid category in round 2.

Product Value → / Product Types	Utilitarian Value		Hedonic Value		Social Value		Product-wise Rankings
	Low	High	Low	High	Low	High	
Utilitarian		■	■		■		MS Word (1), MS Excel (2).
Hedonic	■			■	■		Kerbal (6) Doom Eternal (7)
Social	■		■			■	Twitter (10)
Hybrid 1		■		■			Monday.com (8)
Hybrid 2		■	■			■	LinkedIn (9) Gmail (5) Blackboard (3)
Hybrid 3	■			■		■	Facebook (4)
Hybrid 4		■		■		■	

Table 5. The Top 10 most used products pre-COVID (ranks given in brackets)

Discussion

MHMR analysis show that overall the constructs used in the study accounted for a noteworthy 82 % of variance in BI of software product users in round 1 and 88% of variance in BI in round 2 (Tables 3 and 4). UV was the dominating factor impacting BI accounting for 21% of variance in BI in round 1 but marginally declined to 20% of variance in BI in round 2. The impact of HV on BI increased from 14% in round 1 to 16% in round 2. However, the greatest increase in impact of BI was caused by SV from 13% in round 1 to 18% in round 2. This is understandable and could be due to the enhanced need to derive SV as well as HV due to social distancing and stay-at-home orders in the state resulting in fewer options to derive pleasure and social interactions outside. Perhaps for the same reason, a noteworthy difference of the most used software products in rounds 1 and rounds 2 is the inclusion social networking games and a social interaction software tool in the post-coronavirus list in the HV-SV and UV-HV-SV categories respectively (see Tables 5 and 6). In round 1 no software product was classified in the UV-HV-SV category by users.

Product Value →	Utilitarian Value		Hedonic Value		Social Value		Product-wise Rankings
Product Types	Low	High	Low	High	Low	High	
Utilitarian		■	■		■		MS Word (1), MS Excel (3)
Hedonic	■			■	■		Doom Eternal (8) Dark Souls (9)
Social	■		■			■	
Hybrid 1		■		■	■		Monday.com (10)
Hybrid 2		■	■			■	Zoom (5) Gmail (4) Blackboard (2)
Hybrid 3	■			■		■	Facebook (6) FarmVille 2 (7)
Hybrid 4		■		■		■	Skype (10)

Table 6. The Top 10 most used products post-COVID (ranks given in brackets)

Future Research and Limitations

This study has some limitations. The subjects in the study were youth between 19-24 years of age. This may limit its generalizability of the findings to users in other age groups. However, the goal of the study was not to classify software products across all age groups but to test the new typological scheme adopted in this study. Yet, future research could use subjects from other specific age groups to classify software products with a view understanding and targeting software products used by those age groups. Another limitation of the study is that self-report measures were used which can introduce common method bias in the results (Schmitt, 1994; Evans, 1985). However, the impact of common method bias is mitigated as the measures used in the study are well established and tested to have the predictive ability. Also, there was temporal separation between user responses in the two rounds of the study which also has the effect of mitigating the common method bias (Sharma, Yetton and Crawford, 2009).

Conclusion

The results of the study highlight the relevance of including SV in the typology of software products as all products were found to provide a statistically significant amount of SV to its users and the largest number of the 10 most used software by users belonged to the combined HV-SV, UV-SV and UV-HV-SV hybrid categories. Further, the study findings show, perhaps for the first time that SV contributes substantially to the users' intention to use the software product. With the inclusion of SV, the typology of software products is more complete than considering only UV and HV. It is the next step in the evolution of viewing consumers as a utility calculator (Homo Economicus) to the experiential view (Homo Ludens) which highlighted the influence of 3 Fs - fantasies, feelings and fun – to the perspective where the goal of consumption is symbolic i.e. to define a self-concept and seek membership of a desired social community.

Few products in the study were classified as predominantly representing only one of these perspectives. As expected most products were classified as Hybrid. For e.g., the subjects in this study categorized LinkedIn as a UV-SV hybrid. Based on the categorization, LinkedIn could either enhance its existing UV or SV attributes or provide users fun in its usage by enhancing its hedonic attributes. Both approaches can enhance its BI. Similarly, Facebook was

categorized as a HV-SV hybrid. It may either continue with its present positioning or attract new users through enhancing utilitarian features that provide functional value to its users. The typology of products thus offers product managers strategic choices.

Yet, it should be noted that introducing SV in the typology is not relevant only in the context of social networking products but all products. For example, most computer games were classified in the HV-SV category. People enjoy playing games together with their friends and even strangers. Perhaps enhancing UV of these products may make them even more relevant as users might seek a complete experience with the product that not only provides emotional value to its users but also functional and symbolic values. Aaker (2009, p 23) had suggested that "… aspire to deliver multiple benefits. We know that providing both functional and emotional benefits is more effective than just one of the two, and this ¬ finding could probably be generalized with the right research" (Aaker, 2009). This is borne out by the findings of the study (Tables 3 and 4) which shows that not only do UV, HV and SV individually and additively enhance BI of users, they also demonstrate significant synergistic interactional effect on BI.

REFERENCES

1. Aaker, D. 2009. "Beyond functional benefits," *Marketing news* (43), pp. 15-23.
2. Aarts, H., Verplanken, B., and van Knippenberg, A. 1998. "Predicting behavior from actions in the past: Repeated decision making or a matter of habit?" *Journal of Applied Social Psychology* (28), pp. 1355-1374.
3. Aiken, L. and West, S. 1991. *Multiple regression: Testing and interpreting interactions*, Thousand Oaks, CA: Sage.
4. Arnold, M.J. and Reynolds, K.E. 2003. Hedonic shopping motivations, Journal of Retailing (79: 2), pp. 77-95.
5. Babin, B. J., Darden, W. R., and Griffin, M. 1994. "Work and/or Fun: Measuring Hedonic and Utilitarian Shopping Value," *Journal of Consumer Research* (20), pp. 644-56.
6. Bagozzi, R. P. 2007. "The Legacy of the Technology Acceptance Model and a Proposal for a Paradigm Shift," *Journal of the association for information systems* (8:4), pp. 3.
7. Belk, R.W. 1988. "Possessions and the extended self," *Journal of Consumer Research* (15), pp. 139–168.
8. Chau, P. Y . K. and Hui, K. L. 1998. "Identifying Early Adopters of New IT Products: A Case of Windows 95," *Information & Management* (33:5), pp. 225-230.
9. Chitturi, R., Raghunathan, R. and Mahajan, V. 2007. "Form Versus Function: How the Intensities of Specific Emotions Evoked in Functional Versus Hedonic Trade-Offs Mediate Product Preferences," *Journal of Marketing Research* (44), pp. 702–714.
10. Chitturi, R., Raghunathan, R. and Mahajan, V. 2008. "Delight by Design: The Role of Hedonic Versus Utilitarian Benefits," *Journal of Marketing* (72), pp. 48-63.
11. Cohen, J. 1978. "Partialled products are interactions: Partialled powers are curve components," *Psychological Bulletin* (85), pp. 858-866.
12. Cortina, J. M. 1993. "Interaction, nonlinearity, and multicollinearity: Implications for multiple regression," *Journal of Management* (19:4), pp. 915-922.
13. Cummins, R. A., and Gullone, E. 2000. "The case for subjective quality of life measurement," in *Proceedings, second international conference on quality of life in citie*s, pp. 74-93.
14. Dawson, J. F. and Richter. A. W. 2006. "Probing three-way interactions in moderated multiple regression: Development and application of a slope difference test," *Journal of Applied Psychology* (91), pp. 917–926.
15. Dunlap, W. P and Kemery, E. R. 1987. "Failure to detect moderating effects: Is multicollinearity the problem?" *Psychological Bulletin* (102), pp. 418-420.
16. Emerson, R. 1962. Power-dependence relations. *American Sociological Review* (27:1), pp. 31–40.
17. Fogg B, Kameda T, Boyd J, Marshall J, Sethi R, Sockol M, Sockol, M., and Trowbridge, T. 2002. *Stanford–Makovsy Web credibility study 2002: investigating what makes websites credible today.* A

research report by the Stanford Persuasive Technology Lab and Makovsky & Co. Stanford University Press.

18. Fombrun, C. J. 2001. *Corporate reputations as economic assets. In M.Hitt, R.Freeman, & J. Harrison (Eds.)*, *The Blackwell Handbook of Strategic Management* (pp. 289–312). Oxford: Blackwell Publishers.

19. Gefen, D. 2003. "TAM or just plain habit: A look at experienced online shoppers," *Journal of End User Computing* (15:3), pp. 1–13.

20. Gefen, D., and Straub, D. W. 1997. "Gender Difference in the Perception and Use of E-mail: An Extension to the Technology Acceptance Model," *MIS Quarterly* (21:4), pp. 389-400.

21. Gerow, J. E., Ayyagari, R., Thatcher, J. B., and Roth, P. L. (2013). "Can we have fun@ work? The role of intrinsic motivation for utilitarian systems," European Journal of Information Systems (22:3), pp. 360-380.

22. Higgins, E. T. 2001. "Promotion and Prevention Experiences: Relating Emotions to Nonemotional Motivational States," *in Handbook of Affect and Social Cognition*, Joseph P. Forgas, ed. London: Lawrence Erlbaum Associates, pp. 186–211.

23. Hirschman, E. and Holbrook, M. 1982. "Hedonic consumption emerging concepts, methods and propositions," *Journal of marketing*, *46*(3), 92-101.

24. Holbrook, M.B. 1999. *Introduction to consumer value, Consumer Value: A Framework for Analysis and Research*. Routledge Kegan Paul, London.

25. Homans, G. 1950. *The Human Group*. New York: Harcourt, Brace, and World.

26. Kakar, A. K. (2015a). Software product features: should we focus on the attractive or the important?. *Journal of Decision Systems*, *24*(4), 449-469.

27. Kakar, A. K. (2015b). Why do users speak more positively about Mac OS X but are more loyal to Windows 7?. *Computers in Human Behavior*, *44*, 166-173.

28. Kakar, A. K. (2017). Investigating the relationships between the use contexts, user perceived values, and loyalty to a software product. *ACM Transactions on Management Information Systems (TMIS)*, *8*(1), 1-23.

29. Kakar, A., & Kakar, A. K. (2018a). Assessing Shopper's Penalty Reward Calculus in Online versus Instore Shopping. *E-Service Journal*, *10*(3), 24-45.

30. Kakar, A. K., & Kakar, A. (2018b). IS THE TIME RIPE FOR BRANDING OF SOFTWARE PRODUCTS. *Southern Association of Information Systems*.

31. Kakar, A. K. (2020). Investigating factors that promote time banking for sustainable community based socio-economic growth and development. *Computers in Human Behavior*, *107*, 105623.

32. Kakar, A. and Kakar, A. K. (2020a). Is Social Value relevant for Online Shoppers?, AMA Summer.

33. Kakar, A. and Kakar, A. K. (2020b). INTRODUCING SOCIAL AND HYBRID PRODUCTS: A SURVEY OF THE RELEVANCE OF A VALUE BASED TYPOLOGY OF SOFTWARE PRODUCTS. AMA Summer.

34. Kelman, H.C. 1974. *Further Thoughts on the Processes of Compliance, Identification, and internalization,* pp. 126-171 in Perspectives on Social Power; J.T. Tedeschi, ed., Chicago: Aldine.

35. Lim, E.A.C. and Ang, S.H. 2008. "Hedonic vs utilitarian consumption: a cross-cultural perspective based on cultural conditioning," *Journal of Business Research* (61: 3), pp. 225-32.

36. Maslow, A. H. 1954. *Motivation and Personality*, New York: Harper and Row Publishers, Inc.

37. Moon, J.-W., and Kim, Y.-G. (2001), "Extending the TAM for a World-Wide-Web Context," *Information and Management* (38:4), pp. 217-230.

38. Norman, D. A. 1998. *The Invisible Computer: Why good products can fail, the personal computer is so complex, and information appliances are the solution*, MIT Press, Cambridge, MA.

39. Ouellette, J. A. and Wood, W. 1998. "Habit and intention in everyday life: The multiple processes by which past behavior predicts future behavior," *Psychological Bulletin* (124:1), pp. 54–74.

40. Park, C. W., MacInnis, D. J. and Priester, J. R. 2006. "Beyond attitudes: Attachment and consumer behavior," *Seoul National Journal* (12:2), pp. 3–36.

41. Ravasi, D. and Rindova, V. 2008. *Symbolic value creation*. Handbook of new approaches to organization, pp. 270-284.

42. Rintamäki, T., Kanto, A., Kuusela, H. and Spence, M. T. 2006. "Decomposing the value of department store shopping into utilitarian, hedonic and social dimensions: Evidence from Finland,} *International Journal of Retail & Distribution Management* (34:1), pp. 6-24.

43. Sharma, R., Yetton, P., and Crawford, J. (2009). "Estimating the Effect of Common Method Variance: The Method–Method Pair Technique with an Illustration from TAM Research," *MIS Quarterly,* 33(3). pp. 473-490.

44. Sherry, J.F., McGrath, M.A. and Levy, S.L 1993. "The dark side of the gift," *Journal of Consumer Research* (28), pp. 225-45.

45. Smith, J. B. and Colgate, M. 2007. "Customer value creation: a practical framework," *Journal of marketing Theory and Practice* (15:1), pp. 7-23.

46. Solomon, M. R. 1983. "The role of products as social stimuli: a symbolic interactionism perspective," *Journal of Consumer Research* (10:3), pp. 319-29.

47. Stone, E. F. and Hollenbeck, J. R. 1989. "Clarifying some controversial issues surrounding statistical procedures for detecting moderator variables: Empirical evidence and related matters," *Journal of Applied Psychology* (74), pp. 3- 10.

48. Venkatesh, V., Morris, M.G. and Ackerman, P.L. 2000. "A Longitudinal Field Investigation of Gender Differences in Individual Technology Adoption Decision Making Processes," *Organizational Behavior and Human Decision Processes* (83:1), pp. 33-60.

49. Venkatesh, V., Morris, M. G., Davis, G. B., and Davis, F. D. 2003. "User Acceptance of Information Technology: Toward a Unified Techniques for Detection and Correction of Common Method View," MIS Quarterly (27:3), pp. 425

50. Venkatesh, V., Thong, J. Y. and Xu, X. 2012. "Consumer acceptance and use of information technology: extending the unified theory of acceptance and use of technology," *MIS Quarterly* (36:1), pp. 157-178.

51. Wakefield, K. L. and Barnes, J. H. 1996. "Retailing Hedonic Consumption: A Model of Sales Promotion of a Leisure Service," *Journal of Retailing* (72:4), pp. 409–427.

52. Wu, J., and Lu, X. 2013. "Effects of Extrinsic and Intrinsic Motivators on Using Utilitarian, Hedonic, and Dual-Purposed Information Systems: A Meta-Analysis," *Journal of the Association for Information Systems* (14:3), pp. 1.

53. Yang, Z. and Peterson, R. T. 2004. "Customer perceived value, satisfaction, and loyalty: The role of switching costs," *Psychology & Marketing* (21:10), pp. 799-822.

ABOUT THE AUTHOR(S)

Adarsh Kumar Kakar: Adarsh Kumar Kakar is a Ph.D in Management Science (MIS track) with an interest in understanding the processes and methods in innovative software development. He has over 3 decades of experience in the software industry and has worked as consultant for many Fortune 500 companies. He is currently working as an Assistant Professor in Computer Information Systems department at Alabama State University. He has published articles in Computers in Human Behavior, International Journal of Human Computer Studies, Interacting with Computers, Journal of Computer Information Systems, Information and Software Technology and AIS Transactions on Human-Computer Interaction.