Shopping Value and its Influence on Healthy Shopping Habits in E-Commerce

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ABSTRACT

With the increase in the number of online retail companies, attempts are being made to influence shoppers to adopt healthy shopping habits with online recommendations for healthier foods. In order for these recommendations to be accurate, however, it is important to understand the shopping value one derives online and how that influences the healthy shopping habits of online consumers. To contribute to research in this area, we explore the effect of hedonic and utilitarian shopping values on healthy shopping habits and use continuance of e-commerce shoppers. To achieve this, we carried out an online survey of 244 e-commerce shoppers. The result of a structural equation modeling suggests that young shoppers that are high in utilitarian shopping value are influenced to shop for healthy foods online compared to older shoppers. On the other hand, older shoppers that are high in hedonic shopping motivation are more likely influenced to shop online for healthy foods. The results presented here suggest design guidelines that can create more efficient recommendations for online shoppers.

CCS CONCEPTS

• Applied computing → Electronic commerce → Online shopping

KEYWORDS

E-commerce recommendation; Hedonic shopping value; Utilitarian shopping value; Healthy shopping habits

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1 INTRODUCTION

Adopting a non-sedentary lifestyle and embracing healthy eating habits have been identified as the two major ways of improving one's health, reducing weight and preventing weight gain [5]. There has been a lot of research on promoting non-sedentary lifestyles such as the development of games that influence people to be more active [9], [14] and the development of fitness apps and devices such as the Fitbit[1] that encourage people to exercise more and adopt an active lifestyle. However, the area of influencing people to adopt healthier eating habits by shopping for healthy foods is still under-researched.

There has been a steady increase in the number of people who shop online. This growth will likely continue over the next decade with more companies having an online presence. Retail companies especially have joined this trend with many retail companies offering same-day delivery to their e-commerce shoppers. Many have suggested that online retail is key to influencing people to shop for healthy foods by recommending healthier foods to consumers at the point of sale.

In order for such recommendations to be effective, it is imperative to understand the shopping motivation and value consumers derive when shopping online. For example, if a consumer's shopping motivation is to quickly purchase a product and go offline, sending a long list of recommendations to such a shopper will be of no value to them and could result in a negative effect such as the shopper discontinuing with a merchant.

Research has shown that one of the reasons consumers return to a retailer is because of the value they get from the retailer [13]. A shopping experience can be valuable or valueless [3]. There are two common dimensions of value proposition: hedonic and utilitarian values. Research has also shown that people with high hedonic shopping value tend to shop for the pleasure or happiness they derive from the shopping experience and not necessarily for the utility or service the product offers [13], [6]. These shoppers are typically motivated to approach pleasure and avoid pain and they can be spontaneous [12], [3]. On the other hand, shoppers with utilitarian shopping value shop for the functional benefits; they are typically goal-focused, see no need for commitment and see shopping as a task that has to be carried out consciously [6]. In

[1] www.fitbit.com

order for recommendations of healthy foods to be effective based on shopping value, it is important to explore how these shopping values (hedonic and utilitarian) effect healthy shopping habits and how people in each of these categories are influenced to shop for healthy foods online.

To achieve this, we carried out an online survey of 244 e-commerce shoppers. The results of a structural equation modeling suggest that young shoppers that are high in utilitarian shopping value are influenced to shop for healthy foods online compared to older shoppers. On the other hand, older shoppers that are high in hedonic shopping motivation are more likely influenced to shop online for healthy foods.

To the best of our knowledge, no one has explored the influence of shopping value on healthy shopping habits.

2 RELATED WORK

Hedonic and utilitarian shopping values have been explored in e-commerce. Overby and Lee [13] studied the effect of utilitarian and hedonic shopping motivation on consumer preference and intentions in e-commerce. The authors suggest that the hedonic and shopping motivations of e-shoppers are positively related to their preference for the retailer, however, the preference towards the retailer was stronger for shoppers with utilitarian value compared to shoppers with hedonic shopping value. This indicates that the consumers who shop for the functional benefits derive more value shopping online compared to those who shop for pleasure.

Carpenter [7] in his study, explored the relationship between consumer shopping value, satisfaction, and loyalty in the retail industry. His study suggests that utilitarian and hedonic values influence satisfaction loyalty, word of mouth communication and purchases in the discount retail sector.

Wang et al. [8] explored the role of utilitarian and hedonic shopping value in understanding customers' repeat purchase intentions in e-commerce. Their results suggest that utilitarian and hedonic value significantly influence buyers' repeat purchase intention. In addition, the authors concluded that a higher level of perceived risk has an inverse effect on utilitarian value and increases the effect of hedonic value on repeat purchase intention.

To the best of our knowledge, no one has explored the effect of hedonic and utilitarian shopping values on healthy shopping habits in e-commerce.

3 RESEARCH DESIGN & METHODOLOGY

To understand the influence of shopping value on healthy shopping habits, we developed a path model using Partial Least Squares Structural Equation Modelling (PLS-SEM) to measure the influence of hedonic and utilitarian shopping value on healthy shopping habits in e-commerce. As shown in figure 1, our model consists of four constructs that measure hedonic value, utilitarian value, healthy shopping habits and e-commerce shopping continuance intention. Hedonic and utilitarian shopping values were measured using the scale of Babin and Darden[2]. We adopted the scale of Hiser et al. [11] to measure healthy shopping habits, while we used the scale of Bhattacherjee [4] to measure continuance intention. Due to space constraints, we did not include the questionnaire in the paper.

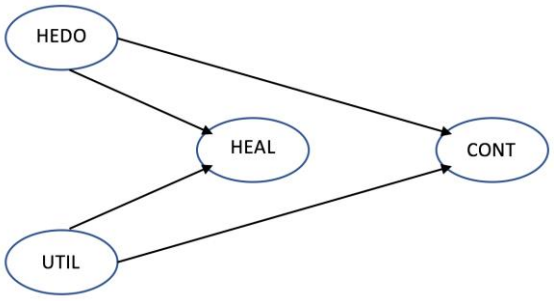

Figure 1: Research model. HEDO = Hedonic value, UTIL = Utilitarian value, HEAL = Healthy shopping habits, CONT = E-commerce continuance intention

3.1 Participants

We recruited 244 e-commerce consumers for this study through Amazon's Mechanical Turk, online social media and news boards. This study was approved by the ethics board of the University of Saskatchewan. Our participants include 66% females and 34% males. Table 1 summarizes some of the demographics of our participants.

Table 1: Demographics of participants

	Value	(%)
Age	Less than 30 years	63
	Over 30 years	37
Gender	Female	66
	Male	34
House hold size	1 to 3 persons	65
	More than 4 persons	35

4 DATA ANALYSES

We analyzed our data using Partial Least Squares Structural Equation Modelling (PLS-SEM) with the SmartPLS tool. As required in structural equation modeling [10], we established the reliability and validity of the constructs in our model before examining the structural model. All indicators in out measurement morel had outer loadings greater than 0.7 as suggested by [15]. Internal consistency was also met as all latent variables were higher than 0.7 [15]. We also computed the path coefficient (β value), coefficients of determination (R^2 values) and the level and significance of the path coefficients. Figure 2 shows the path coefficients between constructs. The number of asterisks represents the significance of each direct effect. The number of

asterisks ranges from 1 to 4 which corresponds with the p-value of <0.05, <0.01, <0.001 and <0.0001 respectively.

5 RESULTS

The result of our analysis is presented in figure 2. It shows that utilitarian shopping motivation influences healthy shopping habits among e-commerce shoppers ($\beta = 0.164^{*}$). This suggests that the online consumers who shop for functional benefits will likely adopt healthy shopping habits online. Utilitarian shoppers, however, are not influenced to continue shopping online unlike their hedonic counterparts who are influenced to continue shopping online ($\beta = 0.144^{*}$).

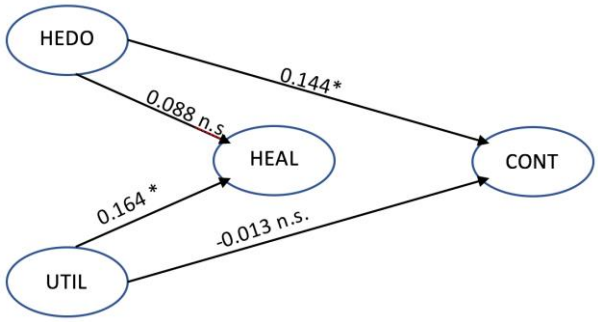

Figure 2: Structural model with results of PLS-SEM analysis. HEDO = Hedonic value, UTIL = Utilitarian value, HEAL = Healthy shopping habits, CONT = E-commerce continuance intention

5.1 Moderating Effect of Age

Research has shown that when influence strategies are tailored to an individual or a group of similar individuals, they are more effective in bringing about the desired behavior change [1]. We hypothesize that in order for recommendations based on the shopping value of consumers to be more effective, they have to be tailored to the individual. Research has shown that age is an effective factor in group-based personalization [1]. We thus investigate if there are any differences in the effect of shopping motivation on healthy shopping habits based on the age of participants.

We split the participants into two groups based on their age. The younger participants were 30 years or less, while the older ones were more than 30 years. Figure 3 shows the results of the multi-group analysis that we carried out between both age groups.

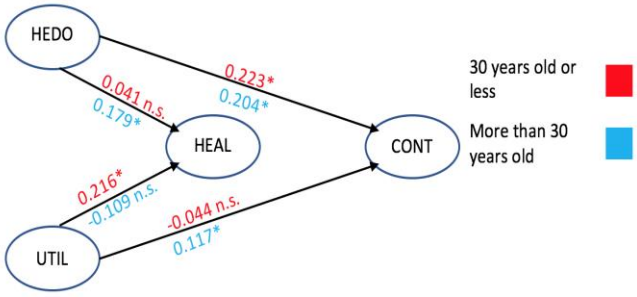

Figure 3: Result of multi-group analysis between younger and older participants. HEDO = Hedonic value, UTIL = Utilitarian value, HEAL = Healthy shopping habits, CONT = E-commerce continuance intention

Our results confirm that there are differences in the influence of shopping value on healthy shopping habits based on the age range of the participants. Utilitarian shopping value significantly influences healthy shopping habits in younger consumers ($\beta = 0.216^{*}$) compared to the older ones ($\beta = -0.109$ n.s.). On the other hand, hedonic shopping value significantly influences healthy shopping habits in older consumers ($\beta = 0.179^{*}$) compared to younger consumers. ($\beta = 0.041$ n.s.).

5.2 Discussion

In this study, we explored the influence of online consumers' shopping value on adopting healthy shopping habits. We hypothesize that product recommendations based on the shopping value of consumers can be effective if we can determine their influence on healthy shopping habits. We developed a path model and further carried a multi-group analysis to explore the moderating effects of age.

The results of the global model in figure 2 suggest that those with hedonic shopping value are likely to continue shopping online compared to the shoppers with utilitarian shopping value. This is understandable because hedonic shoppers shop for the pleasure and the desire that they derive from shopping. Online shopping is convenient, and a lot of stores can be easily accessed within a short time. It is thus possible that hedonic shoppers enjoy the thrill of browsing for products online since they are able to shop more.

Our result also shows that shoppers that have utilitarian shopping value are influenced to adopt healthy shopping habits online compared to those with hedonic shopping value. We hypothesize that people that are likely to adopt healthy shopping habits are more likely to be influenced by healthy food recommendations. Therefore, our result suggests that recommendations for healthy foods that are made to utilitarian shoppers will most likely be effective compared to hedonic shoppers. Thus, retailers can target utilitarian shoppers with healthy food recommendations.

If the age of the consumer is known, this can be used to better tailor recommendations presented to the shopper. Our result in

figure 3 shows that younger shoppers and older shoppers are influenced differently. While older hedonic shoppers are influenced to adopt healthy shopping habits online, the younger ones are not. However, the younger utilitarian shoppers are influenced to adopt healthy shopping habits. This suggests that when recommending healthy products to young shoppers, those with utilitarian shopping value among them will likely be influenced by the recommendations. On the other hand, when recommending healthy products to older shoppers, those with hedonic shopping value among them will likely be influenced by the recommendations. It is therefore important to discover ways of identifying the shopping motivation of online shoppers.

One way we propose to identify the consumers' shopping value is by examining the browsing and shopping patterns of the shoppers. Utilitarian shoppers shop for the functional benefits; they are typically goal-focused, see no need for commitment and see shopping as a task that has to be carried out consciously [6]. Thus, it is very likely that they will spend less time browsing for products and shopping in general. In addition, they will likely know what products they want to buy so will spend less time shopping. Therefore, by looking at the browsing patterns of shoppers and purchase history, one can determine if the consumer's shopping value is hedonic or utilitarian.

6 CONCLUSION

With so many retailers adopting e-commerce, there have been attempts to promote healthy shopping habits among e-commerce shoppers. Because various shoppers have different shopping values, it is important to understand the shopping value of e-commerce shoppers in order to make recommendations more effective. To contribute to research in this area, we explore the effect of hedonic and utilitarian shopping values on healthy shopping habits and use continuance of e-commerce shoppers. To achieve this, we carried out an online survey of 244 e-commerce shoppers. The result of the structural equation modeling suggests that young shoppers that are high in utilitarian shopping value are influenced to shop for healthy foods online compared to older shoppers. On the other hand, older shoppers that are high in hedonic shopping motivation are more likely influenced to shop online for healthy foods. When the gender of the consumer is known, it can be used to tailor recommendations to the user. Our results suggest that while older hedonic shoppers are influenced to adopt healthy shopping habits online, the younger ones are not. However, the younger utilitarian shoppers are influenced to adopt healthy shopping habits. This suggests that when recommending healthy products to young shoppers, those with utilitarian shopping value among them will likely be influenced by the recommendations. On the other hand, when recommending healthy products to older shoppers, those with hedonic shopping value among them will likely be influenced by the recommendations.

Our study has some limitations. The number of participants we recruited is a small fraction of all online shoppers. We are still in the process of gathering data; we plan to repeat the study with more participants. Another limitation is that the ratio of older to younger participants is unequal. We are currently collecting data to bridge that gap. The study is self-reported; thus, we have to rely on the answers provided by the participants. This is common practice in the research community when direct observation is not possible.

In the future, we plan to carry out the study on a larger scale. In addition, we also plan to explore the effect of other demographic information such as gender and culture on the results of the study.

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