Shopper Types and the Influence of Persuasive Strategies in E-Commerce

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Abstract. Identifying the shopper type of e-commerce users has been shown to help e-businesses better understand the attitude of their customers and what they look out for in their shopping decision-making process. However, applying the same influence strategy for all shopper types will not likely bring about the desired behavior change. Because influence strategies have higher efficacy when personalized, we propose a personalized approach to implementing influence strategies for the different shopper types by identifying what shopper type is susceptible to which influence strategy. To advance research in this area, we explore the influence of the commonly used shopper types *convenience shopper, store oriented shopper, balanced buyer* and *variety seeker* on Cialdini's six influence strategies (*reciprocation, commitment, consensus, liking, authority* and *scarcity*) in order to determine what shopper type has the greatest influence on each persuasive strategy. To achieve this, we conducted a study of 226 e-commerce shoppers and developed a path model using Partial Least Squares - Structural Equation Modelling (PLS-SEM). We further carried out multi-group analysis between female and male shoppers. Our results suggest significant differences of the various shopper types' susceptibility to the persuasive strategies. In particular, *balanced buyer* shopper type has the strongest influence on *commitment* persuasive strategy and insignificant effects on the other strategies. In addition, while the male *variety seekers* are susceptible to the influence strategy *scarcity,* the females are not. Similarly, while the female *convenient shoppers* are susceptible to the influence strategy *scarcity,* the males are not.

1   Introduction

Identifying and understanding the shopping motivation of clients is essential to e-businesses as this could help companies better understand the attitude of customers and what they look out for in their shopping decision-making process [1]. This information can help businesses create a better shopping experience for their clients [2]. There are various classifications of shoppers based on their shopping motivation. One popular classification is by Rohm et al. [1]. They classify e-commerce shoppers into four shopper types: *convenience shoppers, variety seekers, balanced buyers* and *store-oriented shoppers*. The *convenience shoppers* are motivated by online shopping convenience. Shoppers in this category do not typically seek immediate possession of their products and they shop online for specific products and services. The *variety seekers* on the other

hand are more interested in seeking variety of products across various retailers and brands. The *balanced buyers* are motivated by the need to seek information online like the variety seeker. However, the *balanced buyers* do not plan their shopping ahead. The *store-oriented shoppers* want immediate possession of goods purchased and are more inclined to social interaction. Shoppers in this category prefer the feel of a physical store to an online marketplace. Despite these classifications of shoppers, there is little knowledge of their susceptibility to the various persuasive strategies. Because influence strategies are more effective when personalized [3], it is imperative to understand what strategies particular shopper types are influenced by in order to personalize these strategies to the shoppers. We hypothesize that identifying what influence strategies shoppers in each category are susceptible to could lead to a more personalized shopping experience for the customer. For example, if the customers who belong to the shopper type *variety seekers* are susceptible to the influence strategy *scarcity*, the e-commerce system could personalize product selection, product display and product descriptions using various *scarcity* strategies. This could bring about the desired positive change in the customer.

To advance research in this area, we carried out a study of 226 e-commerce shoppers to investigate how the various shopper types are influenced by persuasive strategies. We measured persuasive strategies using Cialdini's six influence strategies [4] because they are commonly used in several domains including e-commerce [5]. We developed and tested a path model using partial least squares – structural equation modelling (PLS-SEM). We further explored the moderating effect of gender on the model. The result of our analysis suggests significant differences in the susceptibility of the various shopper types to the different influence strategies. In particular*, balanced buyer* shopper type had the highest influence on *commitment* persuasive strategy and has insignificant effects on the other strategies. This suggests that balanced buyers are likely susceptible to *commitment* strategy. In addition, *convenience shopper* had the highest influence on *scarcity*, while *store oriented buyer* had the highest influence on *consensus*. *Variety shopper,* on the other hand, had the highest effect on the influence strategy *authority*. Furthermore, while the male *variety seekers* are susceptible to the influence strategy *scarcity,* the females are not. Similarly, the female *convenient shoppers* are susceptible to the influence strategy *scarcity* while the males are not.

These results suggest possible guidelines in the personalization of influence strategies in e-commerce.

2   Related Work

2.1   Shopper Types

Classifying shoppers according to their shopping motivation and behavior has been suggested as a way to help businesses effectively tailor products and services to the various segments of customers [1]. It also helps businesses to better understand the attitude of their customers and what they look out for in their shopping decision-making process [2]. Several typologies of online shoppers have been developed in the past. Kau

et al. [2] classified online shoppers into six categories based on the motivation and concerns of online shoppers and their information seeking patterns. Rohm and Swaminathan [1] identified shopper types based on the motivations of shoppers and proposed four categories: *convenience shoppers, variety seekers, balanced buyers* and *store-oriented shoppers*. According to the authors, the *convenience shoppers* are motivated by online shopping convenience. Shoppers in this category do not typically seek immediate possession of their products. The *variety seekers* are more interested in seeking variety of products across various retailers and brands. The *balanced buyers* are motivated by the need to seek information online just like the variety seeker. However, the *balanced buyers* plan their shopping ahead unlike the variety seekers. The *store-oriented shopper* wants immediate possession of goods purchased and are more inclined to social interaction. Shoppers in this category prefer the feel of a physical store to an online marketplace. We used this typology in our study because it focuses on online shopping behavior and because the four categories identified by this typology are similar to that of other researchers such as [2] and [6].

2.2   Persuasive Strategies

Persuasive strategies change peoples' attitude or behavior without coercion or deception [4]. Several persuasive principles exist such as Cialdini's six influence principles: *reciprocation, commitment, consensus, liking, authority* and *scarcity* [4]. The principle of *reciprocation* suggests that human societies subscribe to the rule of reciprocity, hence, humans feel obligated to return a favor they have received in the past. The principle of *commitment* suggests that humans tend to be consistent, therefore, it is likely that people will honor things they have committed to. *Consensus* principle proposes that people tend to manifest the same behavior and beliefs as others after observing several people behaving in a similar manner. *Authority* principle suggests that because humans are trained to believe in obedience of authority figures, hence in deciding what action to take in any situation, information from people in authority could help humans make decisions. *Liking* principle posits that people are more persuaded by something/someone they like. *Scarcity* strategy suggests that humans seemingly have a desire for things that are scare, less readily available or limited in number.

These strategies have been used extensively in consumer studies and other domains, thus, we adopted them in this study to explore how the various shopper types are influenced by them.

3   Research Design and Methodology

In this study, we developed a path model using PLS-SEM to measure the susceptibility of the four shopper types (*convenience shoppers, variety seekers, balanced buyers* and *store-oriented shoppers*) to Cialdini's six influence strategies *reciprocation, commitment, consensus, liking, authority* and *scarcity* [4]. Figure 1 describes our model which is made of four constructs that measure shopper type and six constructs that measure

the six persuasive strategies. Shopper type was measured using Rohm's scale [1] while the persuasive strategies was measured using the scale of kaptein [7].
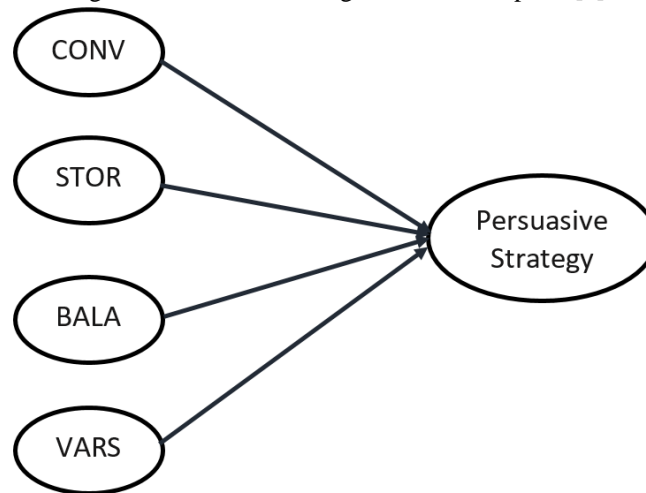
Fig. 1. Research model. All paths assumed positive. CONV = Convenience shopper, STOR = Store oriented buyer, BALA = Balanced buyer, VARS = Variety shopper

Table 1. Demographics of participants

Demographics	Value	Frequency (%)
Age	Less than 30 years	55
	Between 30 and 49	40
	Over 50	5
Gender	Female	44
	Male	56
Household size	1 to 3 people	63
	4 to 5 people	34
	6 or more people	4
Household income	Less than US$30,000	40
	Between US$ 30,000 and 75,000	42
	Above US$ 75,000	18
Continent of origin	Europe	8
	Asia	35
	North America	48
	Others	9

To carry out this study, we recruited 226 e-commerce shoppers through Amazon's mechanical Turk (AMT), online social media and news boards. We used AMT because we wanted a diverse set of participants and because AMT is an accepted method of recruiting participants [3]. We have successfully used online social media and news

boards in the past with success [8], thus, we used them in this study. This study was approved by the ethics board of the University of Saskatchewan. Table 1 describes the demographics of our participants.

4   Data Analysis and Results

The aim of this paper is to examine the susceptibility of the four shopper types (*convenience shoppers, variety seekers, balanced buyers* and *store-oriented shoppers*) to Cialdini's six influence strategies: *reciprocation, commitment, consensus, liking, authority and scarcity*. To achieve this, we carried out structural equation modelling using the SmartPLS tool. We determined the reliability and validity of our constructs and the relationships between the indicators and constructs as recommended in structural equation modelling [9]. Indicator reliability, composite reliability, convergent validity (using Average Variance Extracted - AVE) and discriminant validity were all met as required for structural equation modelling [9].

After establishing the reliability and validity of the constructs in our model, we examined the structural model. We computed the coefficients of determination (R^2 values) and the degree and significance of the path coefficients. Table 2 shows the path coefficients between constructs. The number of asterisks represents the degree of significance of each direct effect. The number of asteriks ranges from 1 to 4 which corresponds with the p-value of <0.05, <0.01, <0.001 and <0.0001 respectively.

Table 2. Path coefficient between constructs and their significance. AUTH = Authority, COMM = Commitment, CONS = Consensus, LIKE = Liking, RECI = Reciprocity, SCAR = Scarcity. n.s. = Not significant, *=P <0.05, **=p <0.01, ***=p<0.001 and ****=p<0.0001

	AUTH	COMM	CONS	LIKE	RECI	SCAR
Balanced Buyer	0.116 n.s.	**0.327****	-0.078 n.s.	-0.062n.s.	0.126 n.s.	-0.054 n.s.
Convenience Shopper	0.186**	0.203**	0.138 n.s.	0.240**	0.259****	**0.295***
Store Oriented shopper	0.142*	0.084 n.s.	**0.276****	0.200*	0.105 n.s.	0.209*
Variety seeker	**0.260***	0.153 n.s.	0.211***	0.240**	0.170*	0.173 n.s.

Our result suggests significant differences of the shopper types to the susceptibility of the persuasive strategies. *Balanced buyer* had the highest influence on the influence strategy *commitment* and had insignificant effects on the other strategies. This suggests that balanced buyers are likely susceptible to *commitment* strategy. According to the *commitment* strategy [4], because people typically try to be consistent in nature, getting people to commit to a behavior will likely mean that they will carry out that behavior

in order to remain consistent. Therefore, getting *balanced buyers* to commit to a behavior could likely lead to them carrying out the behavior because they are susceptible to *commitment* strategy.

Convenience shopper had the highest influence on *scarcity*, while *store-oriented buyer* had the highest influence on *consensus*. *Variety shopper* on the other hand had the highest effect on *authority*.

4.1   Gender Based Multi-Group Analysis

In order to understand the moderating role of gender in the susceptibility of shopper types to Cialdini's six influence strategies, we carried out multi-group analysis between male and female participants. Our result is shown in table 3; it describes only the **significant differences** between females and males. The result suggests some significant differences between females and males. Of worthy mention is the influence of shopper type *variety seeker* on the influence strategy *scarcity* which is significant for males ($p=0.361**$) and insignificant for females ($p=0.026$ n.s.). This suggests that male *variety seekers* are susceptible to the influence strategy *scarcity*. Thus, when presenting product descriptions to **male *variety seekers***, using strategies that describe scarcity could lead to the desired behavior change. One such strategy is Amazon[1]'s use of "*items left in stock*" to show that an item is about to be scarce. On the other hand, female *convenient shoppers* are significantly susceptible to the influence strategy *scarcity* ($p=0.384**$) while the male *convenient shoppers* are not ($p=0.075$ n.s.). Thus, when presenting product descriptions to **female *convenient shoppers***, using strategies that describe *scarcity* could lead to the desired behavior change.

Table 3. Path coefficient between constructs and their significance for paths with significant differences between females and males. COMM = Commitment, CONS = Consensus, LIKE = Liking, RECI = Reciprocity, SCAR = Scarcity. n.s. = Not significant, *=P <0.05, **=p <0.01, ***=p<0.001 and ****=p<0.0001

		COMM	CONS	LIKE	RECI	SCAR
Balanced Buyer	**Female**	**0.257****	**-0.169n.s.**	**-0.148n.s.**	**0.057n.s.**	
	Male	0.538****	0.185*	0.132*	0.341***	
Convenience Shopper	**Female**					**0.384****
	Male					0.075n.s.
Store Oriented shopper	**Female**					
	Male					
Variety seeker	**Female**					**0.026n.s.**
	Male					0.361**

This study is still ongoing; in the future, we will explore the moderating role of age and culture on susceptibility of the shopper types to the persuasive strategies. In addition, we will explore and list specific recommendations that can be applied in e-commerce for each of the significant findings.

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[1] amazon.com

5   Conclusion

In this work in progress paper, we explored the susceptibility of different shopper types to Cialdini's six influence strategies. Shopper types are used to categorize shoppers based on their shopping motivation and has been shown to help companies better understand the attitude of customers and what they look out for in their shopping decision-making process. In order to tailor influence strategies to the various shopper types and increase their efficacy, we explore the influence of shopper types on the six persuasive strategies *reciprocation, commitment, consensus, liking, authority* and *scarcity*. The results of the structural equation modeling carried out on 226 e-commerce shoppers suggest significant differences of the various shopper types' susceptibility to the persuasive strategies. In particular, *balanced buyer* shopper type had the highest influence on the strategy *commitment* and had insignificant effects on the other strategies. This suggests that *balanced buyers* are likely susceptible to *commitment* strategy. In addition, *convenience shopper* had the highest influence on *scarcity*, while *store oriented buyer* had the highest influence on *consensus*. *Variety shopper* on the other hand had the highest effect on the influence strategy *authority*. We further explored the moderating effect of gender on our model. The result of the multi-group analysis between females and males suggests that the male *variety seekers* are susceptible to the influence strategy *scarcity,* while the female *convenient shoppers* are significantly susceptible to *scarcity*. This study is still ongoing; in the future, we plan to explore the moderating effect of other demographic variables of the participants.

6   References

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