The Impact of Shopbots on Consumer Buying Behaviour in Digital Market, India

¹C. J. Rajendra Prasad, ²*Prakash A., ³Antony K.Bijoy,

¹Krupanidhi Degree College, Bengaluru, Karnataka, India ²Krupanidhi College of Management, Bengaluru, Karnataka, India ³IV Semester, MBA 2019-21, Krupanidhi College of Management, Bengaluru, Karnataka, India

Abstract

Shopbots are online search tools that help customers collect information about various products in the online markets. The word "Shopbots" is the short form of "shopping robots". These Shopbots help customers compare the products and their features from different websites; they display the price and other features of the product on a single page. Generally, Shopbots are price comparison tools that help customers compare prices of products available on other sites. Hence, customers get the best products at the best prices from different online sites. After analyzing primary data on certain aspects regarding Shopbots, it was found that most people do not use it as they are unaware of it. Most of the customers' purchasing decision is based on their brand loyalty, and most prefer online shopping over traditional shopping. Even though some people know Shopbots, they only use it as a locator to find cheaper products. They are unaware of the artificial intelligence associated with it; also, it is used only when they make expensive purchases. Through this study, we learned that most people are price sensitive, and slight variations in the price may lead to a change in their purchasing decision. Shopbots Impact the customer's purchase decisions but only to a limited extent because of a lack of familiarity with Shopbots among the customers. The main benefit that the public received is that they learned about Shopbots and most people believe that they will be using it on their future purchases.

Key Words: Shopbots, Price sensitive, Brand loyalty, Comparison websites, Comparison shopping agent, Comparison-shopping engines, Digital-divide, Artificial Intelligence – AI

Introduction

Shopbots can be defined as an online search that enables customers to quickly compare the prices and features of different products offered by different vendors. It helps to record data regarding the customer's previously viewed products. So, online retailers will get to know about their preferences and provide the services accordingly. It allows customers to traverse vast product assortments for the bargain quickly. While screening and rescreening Shopbots puts retailer margins under pressure, unambiguous forecasts about their effect may overlook a few critical factors and create gaps in product/service knowledge (Bakos, 1991; 1997). The first factor - is the spatial and temporal differentiation enforced by electronic markets between consumers, suppliers, and product service quality attributes. Customer behavior at Shopbots tends to be driven by retailer variability in service levels, which provides a significant source of asymmetric knowledge for Internet customers looking for the "best offer." The Second factor - while it is easy for Shopbots to communicate certain product characteristics, such as price and other characteristics, more is needed to communicate, such as service quality and reliability. The Third factor - Shopbots may have broken loyalties between the needs of customers and sellers (Punj 2012; Pedersen and Nysveen, 2001).

Shopbots search and provide comparison tables showing variance in price levels, delivery periods, and product availability across retailers (Zhang and Jing, 2011). Consumers then assess the product details before making a visible decision by clicking on a specific bid. Shopbots gather and show information on various product

characteristics, provide summary information for well-known and lesser-known retailers, and usually rate retailers based on a shopper-relevant characteristic such as price or shipping time (Passyn et al., 2013). Additionally, any retailer at a Shopbot is "one click away, lowering switching costs." In any case, these factors should help to increase competition and lower retailer margins in Shopbots-served markets. Shopbots are growing increasingly in number and complexity, helping more and more customers reduce spending and optimize satisfaction. Customers of Shopbot, who are among the most price-conscious on the Internet, clearly prefer well-known, branded retailers. Consumers who care about delivery times are more likely to choose well-known brands, possibly due to the difficulty of enforcing guaranteed shipping times. Consumers consider costs when using Shopbots, delivery options, return policies, privacy rights, and brand reputation (Drechsler and Natter, 2011). This study helps to identify the significant innovations that need to be done by the online retailers in Shopbots to attract more customers.

Most product and service providers have created websites where current and future consumers can learn about product features and prices. However, since the amount of information available is so vast, customers may need help locating specific information about goods and vendors. Shopbots have become an option, so digital markets are more competitive (Brynjolfsson and Smith, 2001). This has affected the consumer buying behavior and consumer loyalty. Most of the purchase decision is based on the price of a product. So, the price can be an essential factor that determines people's purchasing decisions (Greenwald and Kephart, 2000). With the introduction of Shopbots, prospective buyers can now get insights into products and resellers for almost no cost. Shopbots are automated devices that compare prices, enquire about many digital shops, and collect, and organize information and service details for specific products.

Shopbots will help customers reduce search costs and reduce the vendor's chances to differentiate their products. In the current scenario where the taste and preference of the people are changing with the trends, Shopbots ensure that it helps the customers in their purchasing decisions and keeps a set of data concerning their previously viewed products (Allen and Wu, 2010). It is impossible in a physical store to keep a record like this. It will help to know the tastes and preferences of the customers without bothering them, and thus, we will be able to receive an appropriate result. It also helps the customers with their queries in a human-level interaction and helps the customers to choose the right product for them at any time.

This study explains the adoption and usage of Shopbots in the current scenario. Consumers display a conservative behavioral trend in purchasing goods. The present customer has a choice of goods, which helps to make the decision and consumer behavioral activity more complicated. Shopbots have been expanded to various ranges of products and services in business.

We can categorize Shopbot designs into stand-alone, contextual, and personalized. Standalone Shopbots just give correlation data over retailer contributions rather than data about the item itself. Subsequently, clients must come to independent Shopbots destinations having just figured out which item they are keen on buying. Initially, standalone Shopbots offered impartial postings of items, regularly arranged depending on cost. The income model of these Shopbots depended on standard promotions and the retailer commissions, usually 3-5% for deals produced through the Shopbots site. Compared to the conventional physical world, doing business digitally costs little money, which promotes the entry of other retailers with a wide range of brand names and service quality.

Internet Services Industry

The influence of the Internet is well-known in the economic, social, and political environment. In the digital market, buyers and sellers can share prices and product details. The emphasis on the role of the digital market is that Shopbots bring buyers and sellers together. Additionally, the electronic platform affects other factors of commerce, such as security, privacy, payments, etc. This survey focuses on the impact of shopbots on consumer behavior.

Review of Literature

O'Connor, Gina Colarelli and Robert O'Keefe (2000) "The Internet for a New Marketplace: Implications for Consumer Behavior and Marketing Management" a book on digital markets. It explores how conventional marketing practice and strategy development will be affected by the rising usage of the Internet of Things (IoT).

The emphasis is on customer behaviour and sales management, and how it can interact using digital platform. The trends & technology powered by IoT connects purchasers and vendors directly, are emerging. Centered on the buyer behaviour, drawing insights to create a digital platform which is different from conventional sales and marketing. The need of a user is simulated in a number of circumstances. It looks for details of product to his query, compares competing products using evaluation rule, picks, buys it, then uses, tests it for potential buying process. A methodical consideration of main factors, ensures the users will replace classic possibilities of behaviour with modern approaches to the technology of the Internet.

Smith, M., & Brynjolfsson E (2001). Consumer Decision-Making at an Internet Shopbot: Brand Still Matters. The Journal of Industrial Economics, ShopBots turned out to be mediators balancing demand and supply, thus promoting this business model both for consumers and retailers.

Customers uses shops before they make any purchase decision in the online markets. Most of the customers prefer to have a precise representation of markets. In choosing correctly the shopbots would equalize the customers wants regarding cost, services and desire of sellers who are referred to as the largest source of income suppliers (Garfinkel et al., 2001). Online shopping has lowered the cost of price comparison among the retailers. The Shopbots collects the information about the products from different sites and present it in a summary form which makes the purchase decision easy for the customers.

Consumer behavior is the study of how a customer choose, acquire, accept, adapt a particular product, service to satisfy requirements (Gentry, 2002). Consumer buying behavior can be analyzed through personalized marketing. After this future prediction on trends can be done easily. Consumer behavior is "the activities and decision processes of people who buy products and services for personal consumption."

The product, services details can act as facilitators in digital market between purchasers and vendors, providing a "electronic marketplace" decreases the cost of buyers accessing details of vendors, prices and product offers (Smith, 2002). By using Shopbots, customers are now visiting more online retailer websites. The customer search by Shopbots depends on the cost, risk factors and quality, and preference of customers for services.

Given the different tasks to be undertaken in such a two-stage process, it is especially useful to use interactive resources that provide support to customers in the following respects:

- (i) Inspection of products available to decide which to be considered, and
- (ii) Comparison of selected products details before the actual purchasing decision.

Need and Importance of Study

Even though Shopbots were in existences from 1995 the people were not much aware of it. Likewise, there existed the need for Shopbots among the people. On the basis of price factor, the people have always tended to change their purchasing decision. Currently shop bots are commonly used by most of the people in India.

This study is mainly conducted in order to realize the impact of Shopbots on consumers purchase behavior in digital market. And it also focuses to understand the socio-psychological profile of the demographics segment, the level of adoption & awareness of shop bots in the Indian online market, to find out whether Shopbots has any impacts on online shopping behavior of the consumer specific to youth, to analyze the factors that drives youth in using shopbots and to find out whether the shop bots are biased towards the online retailers.

Objectives of the Study

- To study the impact of Shopbots on consumers purchase behavior in online markets in Bengaluru, India.
- To identify the level of adoption & awareness of shop bots in online market in Bengaluru, India.

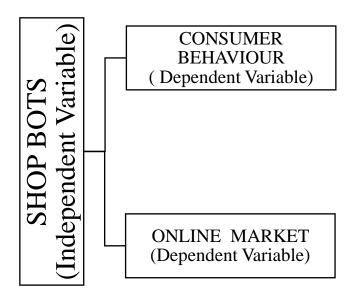


Figure 1 Conceptual and Operational Definitions of Variables

Independent Variable

Shopbots

Consumers use Shopbots to compare prices of different products from different sites. Customers use shops before they make any purchase decision in the online markets (Dutta and Roy, 2002). How well do the Shopbots assist online buyers? Most of the customers would prefer to have a precise representation of markets. When customers choose product service, shopbots would equalize the wants of the customers regarding cost, services and desire of sellers who are referred to as the largest source of income suppliers. Online shopping has lowered the cost of price comparison among the retailers. This comparison site collects the information about the products from different sites and present it in a summary form which makes the purchase decision easy for the customers.

The Shobots are devices used by purchaser and it includes a search engine. The digital platform enables online commercial transactions, Shopbots play an important role. In the recent past research which would help retailing industry.

Dependent Variables

Consumer Buying Behavior

The business success depends on understanding behavior of the customers. Customer behavior is the study how customers choose, acquire, accept, adapt a particular product service so as to satisfy their requirements. Häubl, G., & Trifts, V (2000) Consumer buying behavior can be analyzed through personalized marketing. After this future prediction on trends could be predicted. Every human want to satisfy his or her requirements as they are an important part of the human life. For satisfying this needs people go to the market for purchasing goods and services in return of the money.it can also be defined as a study which helps the customers to make a decision about their purchase. Consumer behavior can be studied before making any purchase and even after making any purchases and thus it helps the companies to find out new trends and chances in the market.

Online Market

The traditional marketing is hazing due to entrance of online marketing which has been spread across the world. The different branches of online market include social media, blogs, chat forums and other general troubleshoot forums. Sharing of information regarding the products and services has become much faster in digital era and it

has also enabled several innovations. Online marketing can influence the consumers' behavior and it also alters brand perception of different products of different industries (Victor et al., 2018; Yadav 2017; Wan et al., 2010; Tang et al., 2011). In this current scenario the customers not only purchase a product but also affect the markets by sharing the product quality, features and other characteristics through certain online forums and social media.

Scope of The Study

This survey helps realize the innovations done by online retailers in shopbots to attract more customers. This study is mainly conducted in order to learn the impact of shopbot on consumers purchase actions in online market. And it also focuses to understand the socio-psychological profile of the demographics segment, the level of adoption & awareness of shop bots in the Indian online market, to find out whether shopbots has any impact on consumer buying pattern, to analyze the factors that drives people in using shopbots and to find out whether the shop bots are biased towards the online retailers.

Research Methodology

This section covers research design and apparatuses for analysis

Research Design

A Cross sectional survey, Primary source of data collection by structured questions form.

The technique used to collect questionnaire was Random sampling. The data collection was conducted from about 105 respondents comprising of male and female respondents respectively. Microsoft excel is used to analyze the data are correlation analysis and descriptive statistics.

The primary data for this analysis was gathered using a standardized questionnaire in the form of Google forms. Respondents received the forms through social media platforms such as WhatsApp, Facebook, and Email. The information was gathered from 105 people.

There are few limitations in this study due to current situation and time constraints, some of them are: As the survey was carried out in Bengaluru, India. They were not aware of Shopbots and as a result majority of the respondents were filling the questionnaire without having a knowledge. Due to the random sampling technique applied, the approach does not make use of the population's existing expertise.

Data Analysis

Demographics

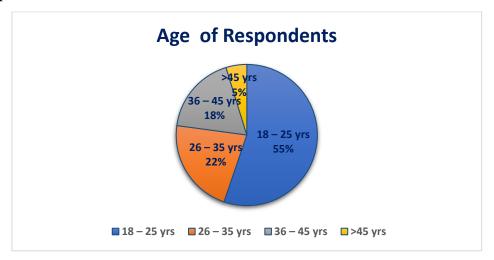
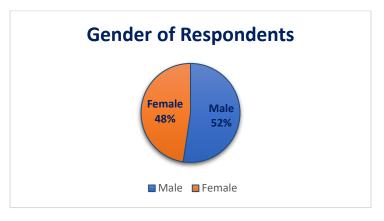


Figure 1.1 Age of Respondents

The Figure 1.1 portrays the age groups of respondents who took the survey. Respondents of about 55.2% were of the age group 18-25 years; 21.9% are in the age group of 26-35 years; 18.1% are in age group of 36-45 years, and 4.5% are in age group of above 45 years.

1.2 Gender:

Figure 1.2



The above Figure 1.2 depicts the Gender of respondents. Male constitute 52.4%

1.3 Occupation:



Figure 1.3 Occupation of Respondents

The Figure 1.3 represents the Occupation group of respondents who took part in the study. Majority of the respondents about 63.8% were of the category of younger generation. About 7.6% belonged to the category of Self-Employed; about 26.7% belonged to the category of Employed; about 63.8% belonged to the category of Underemployed/ Student and the remaining respondents 1.9% belonged to category of others.

1.4 Respondents Current Income:

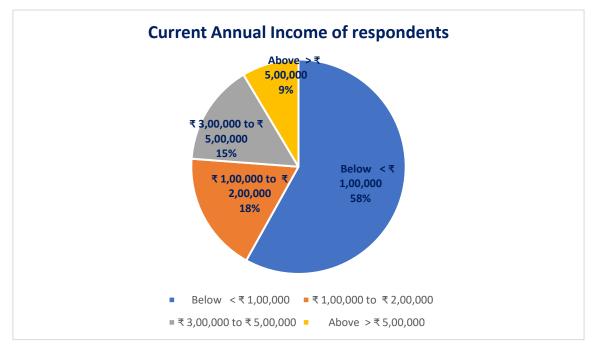


Figure 1.4

The above figure 1.4 portrays the Annual income of respondents who took part in the study. The Majority of the respondents 58.1% have very low income as they may be either Under-employed or students. About 8.6% belonged to the income group of below ₹1 Lakh; About 9.5% belonged to the to the income group of ₹1-2 Lakh; About 15.2% belonged to the to the income group of ₹3-5 Lakh and the remaining respondents 8.6% belonged to the income group of ₹5 Lakh & Above.

2 Awareness:



Figure 2.1 Type of Shopping preference

The above Figure 2.1 depicts the type of shopping preference by the respondents who took part in the study. About 49.5% prefer Online Mode of Shopping and the Majority 50.5% of the respondents prefer Retail shopping

2.2 Frequency of online purchase:

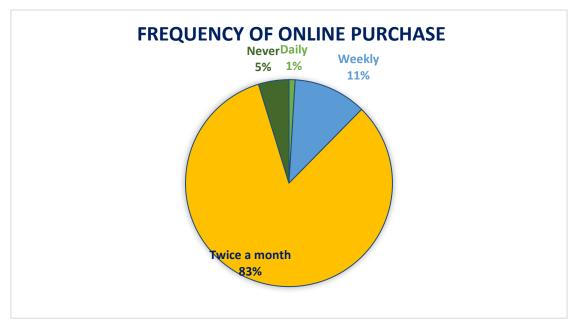


Figure 2.2 Frequency of Online Purchase by respondents

The above Figure 2.2 portrays the frequency of online purchase by respondents who took part in the survey. About 82.9% belonged to the category of Twice a Month purchasers, 11.4% belonged to the category of Weekly purchasers; about 1% belonged to the category of Daily purchasers; and the remaining 4.8% belonged to the category of Never online purchasers. The Majority of the respondents 82.9% were from the category of Twice a Month purchasers.

2.3 Amount spent on shopping per month:

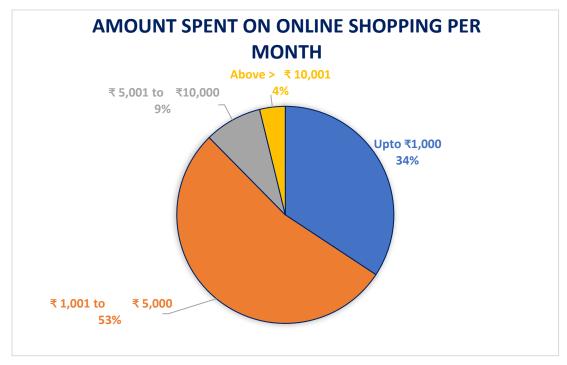
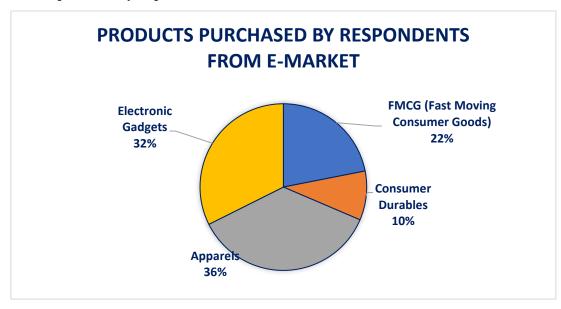


Figure 2.3 Amount spent online per month by respondents

The above figure 2.3 portray the amount spent on shopping per month by respondents who took part in the study. About 34.3% respondents belonged to the spending group of $\leq 0 - \leq 1,000$; about 53.3% belonged to the spending

group of ₹1,001 - 5,000; about 8.6% belonged to the spending group of ₹5,001 - 10,000 and the remaining respondents 3.8% belonged to the spending group of ₹10,001 & Above. The Majority of the people spend ₹1001- ₹5000 for shopping per month which is 53.3% of the respondents.

2.4 Products purchased by respondents from E-market:



2.4 Figure Products purchased by respondents from e-market

The above figure 2.4 illustrates the Products purchased from E-market by respondents who took part in the study. About 21.9% belonged to the category of FMCG (Fast Moving Consumer Goods), About 9.5% belonged to the category of Consumer Durables; About 36.2% belonged to the category of Apparels and the remaining respondents; About 32.4% belonged to category of Electronic Gadgets. The Majority of the people 36.2% purchase Apparels from e-market.

2.5 Driving Factors for online purchase:

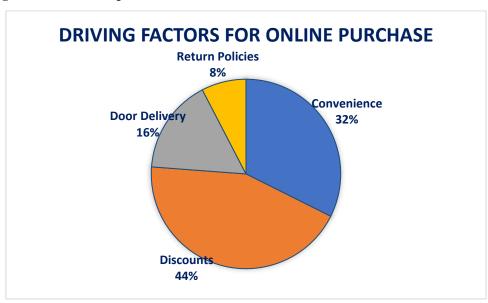


Figure 2.5 Driving factors for online purchase of Respondents

The above figure 2.5 portrays the Factors that drives for online purchase by respondents who took part in the study. About 32.4% chooses for Convenience factor; About 43.8% chooses for Discounts; about 16.2%) opts Door Delivery and the remaining respondents of 7.6% chooses in Return Policies. The Majority of the people

about 43.8% chooses for online shopping for the discount offers

3 Awareness of Shopbots

3.1 Awareness of Shopbots by the respondents:

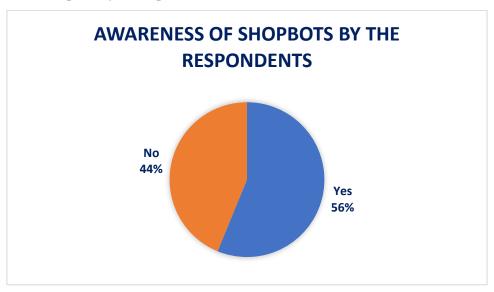


Figure 3.1 Awareness of Shopbots by the respondents

The above figure 3.1 portrays the Awareness of Shopbots by respondents. About 51.4% are aware of Shopbots and the remaining respondents 48.6% are not aware of Shopbots. The Majority of the people are aware of Shopbots 51.4%

3.2 Frequency of using Shopbots by the respondents:

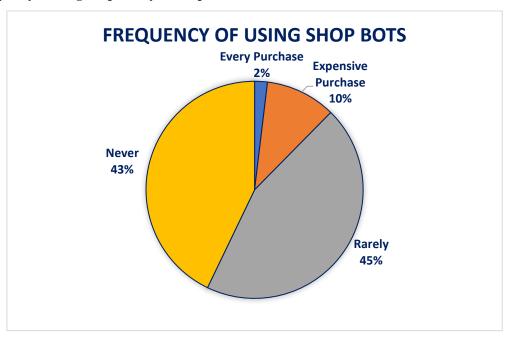


Figure 3.2 Frequency of using shop bots by the repsondents

The above figure 3.2 represents the Frequency of using Shopbots by respondents About 1.9% chooses for Every Purchase, About 10.5% chooses to buy Expensive Purchase, About 44.8% chooses Rarely and the remaining respondents 42.9% opts Never use Shopbots. The Majority 44.7% of the people rarely use Shopbots for online shopping.

3.3 Price variation influences on purchasing decisions:



Figure 3.3 Price Variation Influences on Purchase Decisions of respondents

The above figure 3.3 depicts the Price variation influences on purchasing decisions by respondents who took part in the study. From the sample size of 105 respondents, 86 (81.9%) has stated that minimum price variation in a product will change their buying decision and the remaining respondents 19 (18.1%) has stated that minimum price variation in a product will not change their buying decision. The Majority of the people has stated that minimum price variation in a product will change their buying decision (81.9%).

3.4 Influence of Shopbots on purchasing decision of the respondents:



Figure 3.4 Influence of Shopbots on Purchasing Decision on respondents

The above figure 3.4 depicts the Influence of Shopbots on purchasing decision by respondents. About 55.2% stated that their decisions might change with the use of Shopbots and the remaining respondents 44.8% has stated that their decisions might not change with the use of Shopbots. The Majority 55.2% of the respondent have stated that their decisions might change with the use of Shopbots.

3.5 Factors affecting the respondents purchasing decision: (rank 1,2,3,4,5 1 is lowest 5 is highest) [Brand loyalty, Price and discounts, Convenience, Fashion trends, Customer support system].

Table 3.5

Factors affecting the purchasing decision	1	2	3	4	5
Brand Loyalty	18	14	10	16	47
Price & Discounts	12	45	25	15	8
Convenience	4	22	52	13	14
Fashion Trends	10	15	15	47	10
Customer support System	14	9	3	14	65

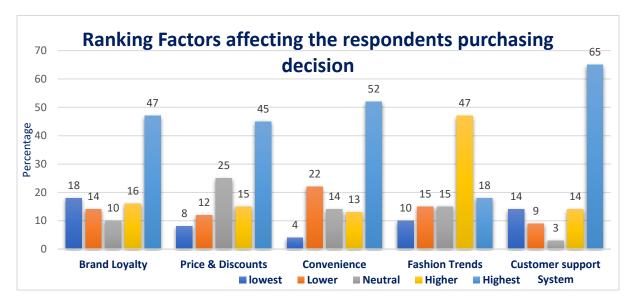


Figure 3.5

The above graph illustrates the factors affecting the purchasing decisions by respondents who took part in the study. The respondents have ranked factors from 1 to 5 i.e., 1 being the Brand Loyalty, 2 being the Price & Discounts, 3 being the Convenience, 4 being the Fashion Trends and 5 being the Customer Support System. When it comes to brand loyalty 47 ranked it as 1st which is a major factor. Hence the Brand is the major factor.

3.6 Respondents feeling on whether Shopbots just shows where the product is economically available:

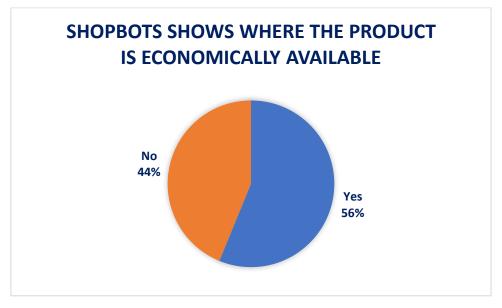


Figure 3.6 Shopbots shows where the product is economically available to respondents

The above figure 3.6 describes the Feeling on whether Shopbots just shows where the product is cheaply available. About 56.2% feels that Shopbots just show where the products are cheaply available and the remaining respondents 43.8% feels that Shopbots does not show where the products are cheaply available. The Majority 56.2% of the people feels that Shopbots just show where the products are cheaply available. **7 Respondents considerations on what Shopbots look before making decision:**

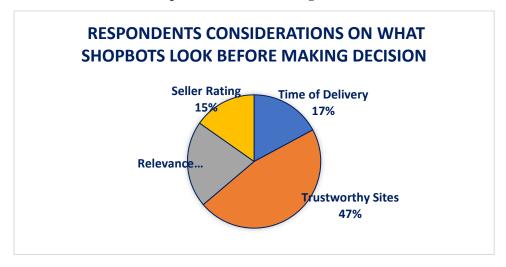


Figure 3.7 Respondents Considerations on what Shopbots look before making decision

The above figure 3.7 portrays the Sensitivity of Respondents on what Shopbots look before giving the results. About 17.1% opts in Time of Delivery, about 46.7% chooses in Trustworthy Sites, About 21% chooses in Relevance and the remaining respondents 15.2% opts in Seller Ratings. The Majority of the people 46.7% opines Shopbots look for trustworthy sites while giving the result.

BASIS ON PRODUCTS PURCHASED BY RESPONDENTS FROM E-MARKET Trustworthy retailer 10% Providing product at cheapest rate 30% Estimating time of Delivery 27%

3.8 Basis on products purchased by respondents from E-market:

Figure 3.8 Basis on products purchased by respondents from E-market

The above Figure 3.8 illustrates the Products purchased by respondents from E-markets, About 33.3% opts in Trustworthy Sites, About 26.7% chooses in Estimating Time of Delivery, About 29.5% chooses in Providing Product at Cheapest Rate and the remaining respondents 10.5% opts in Trustworthy Retailer. The Majority of the people 33.3% have used Shopbots to access Trustworthy Sites.

4.2 CROSS TABULATION:

Association between age and awareness of the shopbots.

Table 4.2

		Awareness about shopbots.		
		Yes	No	Total
Age:	18 - 25	31	27	58
	26 - 35	11	12	23
	36 - 45	11	8	19
	>45	1	4	5
Total		54	51	105

The Table 4.2 above indicates the awareness level of the respondents about Shopbots with respect to the age of the respondents. 58 respondents out of 105 respondents were between the age group of 18-25 out of which 31 respondents were aware and 27 were not aware about Shopbots. The next age group 26-35 had 23 respondents, out of which 11 were aware and 12 were not aware. The Age group of 36-45 had 19 respondents, out of 11 were aware and 8 were not aware. The last age group of above 45 Years had 1 respondent who was aware and 4 were not aware.

Tuijin Jishu/Journal of Propulsion Technology

ISSN: 1001-4055 Vol.44 No. 6 (2023)

H₀: Age of the respondents does not have association with the awareness of Shopbots.

H₁: Age of the respondents have a relationship with the awareness of Shopbots.

Table 4.3

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	2.509 ^a	3	.474
Likelihood Ratio	2.637	3	.451
Linear-by-Linear Association	.424	1	.515
N of Valid Cases	105		

a. 2 cells (25.0%) have expected count less than 5. The minimum expected count is 2.43.

The Table 4.3 above, here with the sig value being 0.474 which is higher than 0.05 there is sufficient evidence to accept the null hypothesis. We can say that the age group is has no significance when it comes to the awareness of Shopbots. With cross tabulation we can figure out that the age group of 18-25 has the highest awareness when it comes to Shopbots. This states that the age of the respondent has no significant association with the awareness of Shopbots. The above analysis proves that if the age of the respondent changes it has no effect on awareness of Shopbots.

Association on gender and awareness of the Shopbots.

Table 4.5

		Awareness abo	Awareness about Shopbots.		
		Yes	No	Total	
Gender:	Male	27	28	55	
	Female	27	23	50	
Total		54	51	105	

The Table 4.5 above indicates the awareness level of the respondents about Shopbots with respect to the gender of respondents. 55 respondents out of 105 respondents were Males, out of which 27 respondents were aware and 28 were not aware about Shopbots. The remaining 50 respondents were Females, out of which 27 were aware and 23 were not aware.

H₀: Gender of the respondents does not have association with the awareness of Shopbots.

 H_1 : Gender of the respondents have association with the awareness of Shopbots. **Table 4.6**

Chi-Square Tests

		Asymptotic		
		Significance (2-	Exact Sig. (2-	Exact Sig. (1-
Value	df	sided)	sided)	sided)
		,	,	,

Pearson Chi-Square	.253ª	1	.615		
Continuity Correction ^b	.094	1	.759		
Likelihood Ratio	.253	1	.615		
Fisher's Exact Test				.697	.379
Linear-by-Linear Association	.250	1	.617		
N of Valid Cases	105				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 24.29.

b. Computed only for a 2x2 table

The Table 4.6 above, Here with the sig value being 0.615 that is higher than 0.05 there is sufficient evidence to accept the null hypothesis. So, it is derived that the gender of the respondent has no significant relationship with the awareness of Shopbots. The above analysis proves that if the gender of the respondent changes it has no effect on awareness of Shopbots.

Association with occupation and awareness of Shopbots.

Table 4.7

		Awareness about Shopbots		
		Yes	No	Total
Occupation:	Self-employed	3	5	8
	Employed	17	11	28
	Under employed/Student	34	33	67
	Others	0	2	2
Total	I	54	51	105

The table 4.7 above indicates the awareness level of the respondents about Shopbots with respect to the occupation of the respondents. 8 respondents out of 105 respondents were Self-Employed out of which 3 respondents were aware and 5 were not aware about Shopbots. The Occupation of Employed had 28 respondents, out of which 17 were aware and 11 were not aware. The Under employed /Student Category had 67 respondents, out of 34 were aware and 33 were not aware. Others had 2 respondents and both of them were not aware of Shopbots.

H₀: Occupation of the respondents does not have association on the awareness of Shopbots.

 H_1 : Occupation of the respondents have association on the awareness of Shopbots

Table 4.8

Chi-Square Tests Asymptotic Significan					
	Value	df	(2-sided)		
Pearson Chi-Square	3.718 ^a	3	.294		
Likelihood Ratio	4.503	3	.212		
Linear-by-Linear Association	.172	1	.678		

Tuijin Jishu/Journal of Propulsion Technology

ISSN: 1001-4055 Vol.44 No. 6 (2023)

N of Valid Cases	105			
a. 4 cells (50.0%) have expected count less than 5. The minimum expected count is .97				

The table 4.8 above, Here with the sig value being 0.294 that is higher than 0.05 there is sufficient evidence to accept the null hypothesis. So, it is derived that the occupation of the respondent has no significant relationship with the awareness of Shopbots. The above analysis prove that if the occupation of the respondent has no effect on awareness of Shopbots.

4.9 CORRELATION:

Relationship of the respondent's gender and minimal change in price.

H₀: Purchasing behavior of gender does not have a relationship on price variation

H₁: Purchasing behavior of gender have a relationship on price variation

Table 4.9

Correlations			
		Gender:	A minimal price variation of Rs100 - Rs300 in a different site does affect your buying decision.
Gender:	Pearson Correlation	1	200*
	Sig. (1-tailed)		.020
	N	105	105
A minimal price variation of Rs100	Pearson Correlation	200*	1
- Rs300 in a different site does affect your buying decision.	Sig. (1-tailed)	.020	
	N	105	105
* Correlation is significant at the 0	.05 level (1-tailed).	1	1

The table 4.9 above, with a significance value of .020 which is lesser than 0.05 meaning it is enough to reject the null hypothesis and accept the alternative hypothesis. We can then prove that there is a significant relationship between the minimal price variation and gender. So, the purchase behaviour of gender has a significant relationship with the price variation. If there is a change in purchasing behavior of the gender then it will affect the price variation.

Relationship between annual income and frequency of online purchasing.

H₀: Annual income of the respondents does not have an influence on the frequency of online purchasing

H₁: Annual income of the respondents influences the frequency of online purchasing.

Table 4.10

Correlations			
			6) How frequently do
	current income?	annual	you purchase from online Platform?

4) What is your current annual	Pearson Correlation	1	111
income?	Sig. (1-tailed)		.130
	N	105	105
6) How frequently do you purchase	Pearson Correlation	111	1
from online Platform?	Sig. (1-tailed)	.130	
	N	105	105

The table 4.10 above, with a significance value of .130 which is higher than 0.05 meaning it is enough to accept the null hypothesis. We can then prove that there is no significant relationship between the current annual income and frequency of purchase from online market. So the annual income of the respondent has no significant relationship with the frequency of online purchasing. If the annual income of the respondent changes it has no effect on the frequency of online purchasing.

Relationship between awareness of shop bots and frequency of using Shopbots for purchase.

H₀: Awareness of the shop bots does not have a relationship with the frequency of using Shopbots for online purchase.

H₁: Awareness of the Shopbots have a relationship with the frequency of using Shopbots for online purchase.

Table 4.11

Correlations			
		Are you aware shopbots?	How often do you use of shopbots for you purchase?
Are you aware of shopbots?	Pearson Correlation	1	.562**
	Sig. (1-tailed)		.000
	N	105	105
How often do you use shopbots t your purchase?	s forPearson Correlation	.562**	1
	Sig. (1-tailed)	.000	
	N	105	105
** Correlation is significant at th	te 0.01 level (1-tailed).		

The table 4.11 above, with a significance value of .000 which is lesser than 0.05 meaning it is enough to reject the null hypothesis. We can then prove that there is a significant relationship between the awareness of Shopbots and frequency of usage of Shopbots for your purchase. If the awareness is more or less then it will affect the frequency of using Shopbots for online purchase.

Summary of Findings:

The majority of respondents were between the age group of 18-25 i.e. 55.2 percent, adoption and usage of online Shopbots while considering the psychological demography.

An increase in the online shopping behavior has resulted in the rise online Shopbots usage due to which could

Tuijin Jishu/Journal of Propulsion Technology

ISSN: 1001-4055 Vol.44 No. 6 (2023)

analyses amount spend on shopping per month by the majority 82.9 percent of the respondents were from the category of Twice a Month purchasers.

The majority 53.3 percent of the people spend Rs.1001 to Rs.5000 for shopping per month.

The majority 36.2 per cent of the people purchase Apparels from e-market.

The majority 43.8 per cent of the people opts in for online shopping due to discount offers. Nowadays most of the people are shifting from traditional shopping to online shopping, it might help the customer with ease of use, convenience and wide options for the products.

The majority 81.9 per cent of the people have stated that minimum price variation in a product will change their buying decision, which has to be considered by marketers.

The Study finds that majority 56.2 per cent of the people sense that Shopbots just show where the products are cheaply available. Also about 55.2 per cent of people feels that their decisions might change with the use of Shopbots.

In this study it was derived that the occupation of the respondent has no significant relationship with the awareness of Shopbots.

5.2 Suggestions

- The study portray that the increase in use, awareness and adoption of Shopbots by the customers. This research also helps the ventures which are associated with the Shopbots as it helps them in determining the various sales promotional tools. And it also helps in planning the future according to the technologies involved by forecasting the changes.
- This study also helps to analyses to the needs and wants of the customers and how their purchasing decision is affected by the Shopbots
- Through this study we came to know that how the demographic factors and rise in demand has changed the minds of the customers towards online shopping.
- This study is beneficial for both the customers and the retailers as they can recognize the scope of Shopbots which are used by the retailers for various promotional activities and by the customers that helps them to choose the best products at lower prices across India.

5.3 Conclusion

We could say that the future of Shopbots is very high, nowadays most of the people prefer to purchase online. After making analysis through primary data certain aspects regarding the Shopbots were found that most of the people does not use Shopbots as they are not aware of it. Even though some people are aware of Shopbots they are only using it as a locator from which they can find cheaper products and they are not aware of the Artificial Intelligence associated with it and also it is used only when they make any expensive purchases. Through this study we came to know that most the people are price sensitive and slight variations in the price may lead to a change in their purchasing decision. Shopbots have an Impact on the customers purchase decision but only to a limited extend because of lack of familiarity of Shopbots among the customers.

We could conclude that Shopbots are being influenced by the people in a positive way and the people are adopting it while making a purchase decision but at lower rate in India. The respondents who are between the age group of 18-25 were in majority when it came to the adoption and usage of online Shopbots while considering the psychological demography. An increase in the online shopping behavior has resulted in the rise of online Shopbots usage. Nowadays most of the people are shifting from traditional shopping to online shopping as it helps the customer with ease of use, convenience and wide options for the products and from all the above aspects we can conclude that Shopbots have a positive influence on the customers and they are adopting it practically. If the customers try to understand the uses and importance of Shopbots, they will be having a remarkable place in online shopping in the future.

Bibliography

[1] Allen, G., & Wu, J. (2010). How well do shopbots represent online markets? A study of shopbots' vendor coverage strategy. *European Journal of Information Systems*, 19, 257-272.

- [2] Bakos, J. Y. (1991). A strategic analysis of electronic marketplaces. MIS quarterly, 295-310.
- [3] Bakos, J. Y. (1997). Reducing buyer search costs: Implications for electronic marketplaces. *Management science*, *43*(12), 1676-1692.
- [4] Brynjolfsson, E., & Smith, M. D. (2001). The great equalizer? Consumer choice behavior at Internet shopbots. *Consumer Choice Behavior at Internet Shopbots (October 2001)*.
- [5] Chen, Y., & Sudhir, K. (2004). When shopbots meet emails: Implications for price competition on the Internet. *Quantitative Marketing and Economics*, *2*, 233-255.
- [6] Drechsler, W., & Natter, M. (2011). Do price charts provided by online shopbots influence price expectations and purchase timing decisions?. *Journal of Interactive Marketing*, 25(2), 95-109.
- [7] Dutta, A., & Roy, R. (2002). Internet Diffusion In Developing Countries: A Socio-Technical Model. *Business Modelling: Multidisciplinary Approaches Economics, Operational, and Information Systems Perspectives*, 389-400.
- [8] Garfinkel, R., Gopal, R., Pathak, B., & Yin, F. (2008). Shopbot 2.0: Integrating recommendations and promotions with comparison shopping. *Decision Support Systems*, 46(1), 61-69.
- [9] Gentry, L., & Calantone, R. (2002). A comparison of three models to explain shop-bot use on the web. *Psychology & Marketing*, *19*(11), 945-956.
- [10] Greenwald, A. R., & Kephart, J. O. (2000). Shopbots and pricebots. In *Agent Mediated Electronic Commerce II: Towards Next-Generation Agent-Based Electronic Commerce Systems 2* (pp. 1-23). Springer Berlin Heidelberg.
- [11] Häubl, G., & Trifts, V. (2000). Consumer decision making in online shopping environments: The effects of interactive decision aids. *Marketing science*, 19(1), 4-21.
- [12] Montgomery, A. L., Hosanagar, K., Krishnan, R., & Clay, K. B. (2004). Designing a better shopbot. *Management Science*, *50*(2), 189-206.
- [13] O'Connor, G. C., & O'keefe, R. (2000). The Internet as a new Marketplace: implications for consumer behavior and marketing management. *Handbook on Electronic Commerce*, 123-146.
- [14] Passyn, K. A., Diriker, M., & Settle, R. B. (2013). Price comparison, price competition, and the effects of shopbots. *Journal of Business & Economics Research (JBER)*, 11(9), 401-416.
- [15] Pedersen, P. E., & Nysveen, H. (2001). Shopbot banking: an exploratory study of customer loyalty effects. *International Journal of Bank Marketing*, *19*(4), 146-155.
- [16] Punj, G. (2012). Consumer decision making on the web: A theoretical analysis and research guidelines. *Psychology & Marketing*, *29*(10), 791-803.
- [17] Smith, M. D. (2002). The impact of shopbots on electronic markets. *Journal of the academy of marketing Science*, *30*, 446-454.
- [18] Smith, M. D., & Brynjolfsson, E. (2001). Consumer decision-making at an Internet shopbot: Brand still matters. *The Journal of Industrial Economics*, 49(4), 541-558.
- [19] Tang, Z., Smith, M. D., & Montgomery, A. (2010). The impact of shopbot use on prices and price dispersion: Evidence from online book retailing. *International journal of industrial organization*, 28(6), 579-590.
- [20] Victor, V., Joy Thoppan, J., Jeyakumar Nathan, R., & Farkas Maria, F. (2018). Factors influencing consumer behavior and prospective purchase decisions in a dynamic pricing environment—an exploratory factor analysis approach. *Social Sciences*, 7(9), 153.
- [21] Wan, Y., Tan, C. H., Goh, K. Y., Teo, H. H., Zhang, R., Tran, T., & Zhu, H. (2010). Comparison-Shopping and Related Recommender Intelligent Agents. *Journal of Electronic Commerce Research*, 11(3).
- [22] Yadav, A. (2017). Competency mapping for effective growth in retails. Competency, 5(1).
- [23] Zhang, J., & Jing, B. (2011, January). The impacts of shopbots on online consumer search. In 2011 44th Hawaii International Conference on System Sciences (pp. 1-10). IEEE.