

Technology Acceptance Of Digitally Connected Consumers With Special Reference To Online Shoppers In Chennai City

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Abstract: Busy lifestyles and changing attitudes has brought about many transformations in the society, in the way people carry out their routines and satisfy their needs. Technologically savvy consumers can harness the benefits of online shopping that help save time, energy and money. But technology adoption, adaptation and its use with has not been easy for all citizens. It's effective utility to consumers in the online shopping platform depends on individual's cognitive ability and self-confidence to navigate, seek information, evaluate, decide and transact. Researchers predominantly use the early Technology Adoption and Technology Adaptation models to gauge the preparedness of consumers in the online shopping environment. This study proposes an "Online Shopping Ability" construct developed based on literature review. Online Shopping Ability is measured in four dimensions – Web Ease, Probe Product, Place Order and Self-Perception. The construct was empirically tested in Chennai and was found to have good reliability and validity.

Index Terms: Technology Adoption, Technology Adaptation, cognitive ability.

1 INTRODUCTION

The transformations in the Digital India mission in this Digital Era has empowered its citizens (Kaka et al., 2019). It is a boon to many in today's environment characterised by increasing population, nuclear families with more working women, heavy traffic, crowded market places, overflowing public transport, long working hours and travel times. Digital era, with the boon of internet connectivity at affordable and convenient modes is a blessing to the technologically savvy. Busy lifestyles and changing attitudes has brought about many transformations in the society, in the way people carry out their routines and satisfy their needs. India, now the sixth largest, is set to become the third largest Consumer Economy in the world and also the second largest e-commerce market by 2034 ("India poised to become third-largest consumer market: WEF", 2019; IBEF Report, 2018). Jindal (2016) observed that government initiatives, e-tailer impetus, growing internet infrastructure and positive attitude to e-shopping have been the growth drivers for the boom in online shopping sector. Online shopping is a form of e-commerce pertaining to Business-to-Consumers. It is the purchase of goods and services with the click of a mouse using internet connectivity on 'smart' devices like mobile phone, tablet, laptop or personal computer. Ease and convenience in shopping, product and price comparisons with facility to see the opinions of other users are few of the many benefits from online shopping to consumers. Lack of physical examination and risks of finance, product and privacy act as deterrents to online shopping (Gupta et al, 2013). Technologically savvy consumers can harness the benefits of this facility to shop online that helps them enjoy many benefits. But technology adoption, adaptation and its use with savviness with has not been easy for all citizens.

2 REVIEW OF LITERATURE

The ability to use technology for commercial purpose like online shopping requires certain skill sets. Many researchers have proposed theories to measure technology adoption, adaptation and cognitive ability to use it effectively. Davis (1989), adapting the Theory of Reasoned Action (TRA) of Ajzen and Fishbein (1980), purported the Technology Acceptance Model (TAM). The strength of an individual intent and perception about suitability of technological application for personal purpose, istudied by variables Perceived Usefulness (PU), the usefulness of technology for his purpose; and Perceived Ease of Use (PEOU) the easiness with which he can use technology. Rogers (1995) proposed the Diffusion of Innovations Theory (DOI). Adaptation of a technology by an entire society happens in staggered intervals depending on individual tendencies. Based on the period taken to adapt to the new technology, he categorises community members as 'early adopters' who spontaneously try out new technology, the masses comprised by 'early majority' and 'late majority'; and finally the 'laggards', the persons who will adapt to technology only when it has become a norm. Goodhue and Thompson's (1995) suggested and developed a Task-Technology Fit (TTF) that measures the level of technological utilisation for a particular task by the user. An individual uses his personal skill and traits for achieving efficient and effective use of technology for successful accomplishment of his task. Hence he suggested the use of his fitness tool for actual use of technology by an individual for carrying out a task. Venkatesh and Davis (2000) developed an extension of Davis's TAM, proposed and tested a Technology Acceptance Model 2 (TAM 2) based on user perceptions about technology. Study variables include influence of social circles, the cognitive process to carry out task using technology and the extent of task achievement. The model was tested in four organisations and found to have a good fit .User perceptions were sought at three time periods of a new technology introduction – prior to implementation, one month after and again three months after technology implementation. Parasuraman and Colby (2001), similar to Roger (1995), formulated a Technology Readiness Index (TRI) with 36 items in 4 dimensions and classified consumers into 5 segments as Explorers, Pioneers, Skeptics, Paranoids and Laggards. Venkatesh et al (2003) conducted an

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extensive study and proposed the Unified Theory of Acceptance and Use of Technology (UTAUT). The model explains the cognitive process of acceptance and usage of technology using four predictors namely, facilitating conditions, social influence, performance and effort expectancies ;and four moderators namely, age, gender, voluntariness and experience. Pavlou and Fygenson (2006) proposed an e-commerce model with variables – PU, PEOU, trust, product features, consumer skills, time and money resources. These input variables were sought in two stages of information gathering and purchasing. The model seeks to explain consumer's technology adoption and also his online purchase behaviour. Juvina (2006) in her doctoral thesis suggested a cognitive model to understand human response to technology. Both spatial thinking and web navigation ability is required to navigate webpages to input and seek information for selection using modern technological applications. Godoe, P. & Johansen, T.S., (2012) proposed a Technology Readiness and Acceptance Model (TRAM) incorporating aspects of Parasuram and Colby's TRI and Davis's TAM (Technology Acceptance Model) in actual use of technology. An individual's perceptions affects perceived usefulness and the actual usage of technology. Larasati et al. (2017) validated the use of TRAM in Indonesia. Verma and Jain (2015) suggested 'Need For Cognition' (NFC) , a six-factor construct, to measure ease of thinking-intensive operations including online shopping. The factors have item-statements to gauge the software and hardware proficiency of respondent consumers. Taherdoost (2018) explored on the most commonly used technology acceptance models. Venkatesh et al 's UTAUT, Davis's TAM and Roger's DOI are the most popularly used models. Khrais (2018),based on an empirical study in Saudi Arabia, proposed Technology Acceptance Factors, a model to define the technology acceptance of online shoppers. The factors that will affect user's intention to use the online medium for shopping are website access features facilitated by quality of internet connectivity, trust and security; user's wilful intention shaped by convenience of the system, efficiency and awareness about efficient use of system and his PU and PEOU. Dwivedi et al (2019), developed and established with a study on a large sample, a seven-construct model, a revised UTAUT model to explain the acceptance of new Information Technology and Information Systems. Findings indicated that a person's 'attitude' is central to technology usage and consumer behaviour.

3 RESEARCH GAP

In today's digital world with widespread computer technology usage for multiple purposes, technology adaptation and adoption is a necessity. It's effective utility to consumers, especially in the online shopping platform, the subject matter of this research study, depends on individual's cognitive ability and self-confidence to navigate, seek information, evaluate, decide and transact. However, researchers continue to use the early Technology Adoption and Technology Adaptation model to gauge the preparedness of consumers in the online shopping environment. Therefore, in this study, the researcher, has proposed a 'cognitive model' to gauge "Online Shopping Ability" with variables developed and determined based on literature review.

4 CONCEPTUAL FRAMEWORK

The researcher has proposed a scale for measuring the Online Shopping Ability of a consumer with access to technology and willingness to shop online. The tool takes input from respondent consumers about the step-by-step process in online shopping from the stage of navigating websites, browsing and probing in product features and finally placing orders. It also seeks inputs to gauge the self-perception of the individual's comfort and confidence in productive use of technology for online shopping process. Accordingly, Online Shopping Ability is measured in 4 dimensions – Web Ease, Probe Product, Place Order and Self-Perception (Figure 1). The level of Online Shopping Ability determines the satisfaction level from the Online Shopping Experience. The proposed scale contains statements to understand consumer's perception of their cognitive process while deciding to place an online purchase order. This is measured in four dimensions -

1. **Web Ease** - Ease of Web Browsing and Navigations containing 5 statements. This takes input about mental state while using technology and ability to use menu options. This will enable the smooth use of website features to navigate through web pages in the information seeking process.
2. **Probe Product** - Product Information Seeking contains 5 statements. Consumer's ability to probe for product information, features, reviews, recommendations for product selection are inputs here. This will help consumers to compare product and price features, examine suitability of product for personal consumption.
3. **Place Order** - Order placement with 5 items measures the ability of consumer to independently place an order online. This ability and proficiency will affect user's repeat order purchases and seeking this medium for product purchase needs.
4. **Self-Perception** –The 4-item scale measures the self-perception about personal ability and the satisfaction from the use of the online shopping platform. Online Shopping experience can be utility or enjoyment or both for consumers (Arnold and Reynolds, 2003; Martínez-López et al., 2014; Ahmed A. K.A., 2015). The attitude, satisfaction, and confidence in use of technology for shopping online will affect the consumer behaviour to use this medium for repeat purchases. This variable is a modification of 'self-efficacy' variable in Davis's TAM, adapted to suit the proposed model.

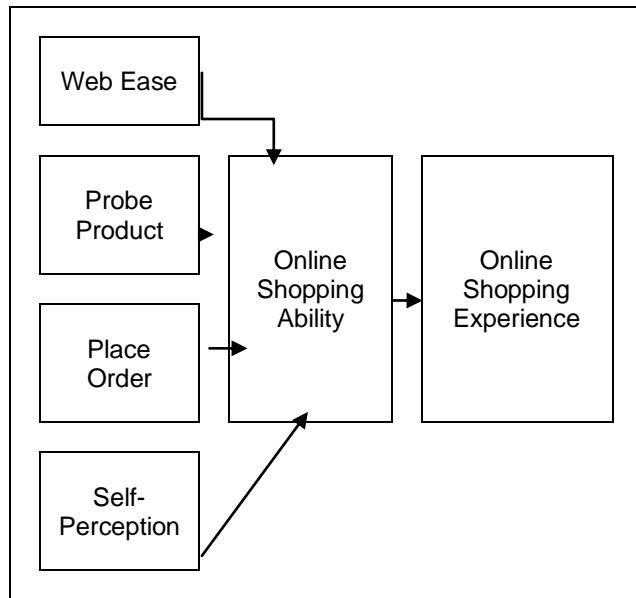


Figure 1: Conceptual Framework to measure Online Shopping Ability

5 RESEARCH METHODOLOGY

Objectives of the Study

1. To probe on ability of Indian consumers to use the online shopping platform
2. To examine the influence of demographical factors on Online Shopping Ability of consumers
3. To confirm the influence of Online Shopping Ability of consumers on Online Shopping Experience
4. To gauge the effectiveness of the developed scale for measuring Online Shopping Ability

Hypothesis for the Study

The following hypotheses were formulated for the purpose of statistical examination to meet the objectives of this study.

- H_0 (1) : There is no significant difference in Online Shopping Ability means among groups based on demographic variables (age, gender, education and monthly income)
- H_0 (2) : There is no significant difference in Online Shopping Ability means among groups based on Online Shopping Experience
- H_0 (3) : There is no association between Levels of Online Shopping Ability and Online Shopping Experience.

Research Design

A questionnaire was developed to measure the variables required to be examined for the purpose of the study. The researcher, based on literature review has originally developed each dimension with item scales on a 5-point Likert Scale. The reliability of the instrument was examined with a pilot study. Seventy-five printed questionnaires were given out, 52 usable responses were received. Convenience sampling technique was adopted.

Sample description

Sample consists of respondent consumers who had shopped

at least once, online. The samples were collected in Chennai city.

Scope of the study

The study focuses on verifying the conceptual framework developed for measuring online shopping ability of consumers. It checks the effectiveness of this ability by measuring consumer's online shopping experience.

Research Instrument Development

The research instrument contains 3 sections to get inputs for demographic details, Online Shopping Ability and Online Shopping Experience.

Section I

This section is designed as multiple choice questions for getting inputs about demographic background of respondents – age, gender, marital status, education, occupation, monthly family income. It also takes input about years of online shopping experience.

Section II

The research instrument contains construct statements to get inputs of the variables under study, Online Shopping Ability and Online Shopping Experience. The construct for Online Shopping Ability contains four dimensions, namely,

1. Web Ease - has 5 statements.
2. Probe Product - contains 5 statements.
3. Place Order - with 5 items
4. Self-Perception - contains 4 items

The four dimensions are measured on a 5-point Likert scale (5 - Always, 4 - Often, 3 - Sometimes, 2 - Rarely and 1 - Never)

Section III

The construct for Online Shopping Experience contains three dimensions, namely,

1. Service Quality - Website Features contains 7 statements
2. Service Quality - E-tailer contains 7 statements
3. Grievances and Redressal with 4 item-statements

The three dimensions are measured on a 5-point Likert scale (5 - Very Satisfied, 4 - Satisfied, 3 - Neutral, 2 - Dissatisfied and 1 - Very Dissatisfied)

6 RESULTS AND DISCUSSIONS

Descriptive analysis

TABLE 1: SAMPLE PROFILE

Demographic Variable	Variable Description	Frequency	%
Age (in years)	≤18	5	10
	18 – 35	18	35
	35 – 50	19	36
	≥ 50	10	19
Total		52	100
Gender	Male	9	17
	Female	43	83
	Total	52	100
Marital Status	Single	32	61
	Married	20	39
	Total	52	100
Education	Up to class 12 / Diploma	16	31
	Graduate	19	37
	Post Graduate	8	15
	Professional	9	17
	Total	52	100
Occupation	Student	17	32
	Home Maker	14	27
	Business	4	8
	Employment	17	33
	Total	52	100
Monthly Income (in ₹)	25,000 – 50,000	7	14
	50,000 – 1,00,000	15	29
	1,00,000 – 1,50,000	11	21
	≥ 1,50,000	19	36
	Total	52	100

Source : Primary data

Based on Sample Description in Table 1, it is observed that –

- Majority of the respondents are in the age groups of 35-50 years (36%) and 18-35 year (35%)
- Most respondents are female (83%) and single (61%).
- Education level of respondents are mostly Graduates (37%) and up to Class 12 or Diploma (31%). Few respondents were Professionals (17%) and Post Graduates (15%)
- The occupation is Employment (33%), Students (32%) and Home Makers (27%). Few also were doing Business (8%)
- Most respondents were from the affluent class (36%) with monthly income greater than ₹1, 50,000. Middle Class respondents were 29% with monthly income of ₹ 50,000 to ₹ 1,00,000; 21% with ₹ 1,00,000 to ₹ 1,50,000 and 14% with ₹ 25,000 – ₹ 50,000

Reliability and Validity of Data

TABLE 2: RELIABILITY AND VALIDITY OF SAMPLE DATA

Factor Variable	No. of Items	Reliability Cronbach's Alpha	Normality		Homogeneity Levene's Statistic
			Skewness z-value	Kurtosis z-value	
Web Ease	5	0.806	0.08	-1.32	0.442
Probe Product	5	0.706	-1.64	0.92	1.528
Place Order	5	0.740	-1.43	-1.32	1.750
Self-Perception	4	0.771	-0.63	0.08	2.952
Online Shopping Ability	19	0.876	-1.06	0.46	2.643

The finding based on sample data collected through the questionnaire in the study is authenticated by tests for reliability and validity as shown in Table 2.

- 1. Reliability:** The Cronbach Alpha scores ($0.8 > \alpha \geq 0.7$) clearly show acceptable measure of internal consistency in the scaled items used for dimensions of Online Shopping Ability – Probe Product, Place Order and Self-Perception. The constructs show good reliability ($0.9 > \alpha \geq 0.8$) for Online Shopping Ability and Web Ease (Gliem and Gliem., 2003).
- 2. Normality :** The z-scores calculated are within the admissible metric ($-1.96 < z < +1.96$) implying that the sample was drawn from a normal population. The data fits into the bell-shape normal curve. Hence, for statistical analysis, parametric tests like T-test, ANOVA and Pearson's Correlation are used in this study.
- 3. Homogeneity:** The Levene's Statistic for all dimensions of Online Shopping Ability are above the significant level ($W > 0.05$). This indicates that the spread of the values across the sample mean is even. This assumption is also met in the sample data indicating the applicability of T-test and ANOVA for data analysis.

Measurement of Online Shopping Ability

Online Shopping Ability of consumers was gauged in four dimensions namely Web Ease, Probe Product, Place Order and Self Perception (Table 3)

TABLE 3: MEAN AND STANDARD DEVIATION OF DIMENSIONS OF ONLINE SHOPPING ABILITY

Dimensions of Digital Ability	Mean	SD
Dimension 1 : Web Ease	3.54	0.796
Easy and enjoyable experience	4.06	0.752
Feel calm, in control & confident even in new websites.	3.44	1.162
Aware of all parties who can access my login information.	2.67	1.200
Understand and navigate through online menu options	3.85	0.937
Conversant with using 'Help', 'Search' & 'Customer Support' features.	3.69	1.181
Dimension 2: Probe Product	3.87	0.672
Access interested product options in various websites	4.02	0.874
Browse for online reviews, best price and product features	4.19	0.742
Navigate through hyperlinks to probe product information.	3.42	1.036
Understand interpret and assess information in websites.	3.90	1.034
Use control & zooming options in to 'virtually' view product.	3.81	1.205
Dimension 3: Place Order	4.35	0.570
Aware of steps for online order placements.	4.54	0.699
Choose a after product comparisons from different websites.	4.08	0.947
Manage my online shopping carts (add/ remove items).	4.56	0.725
Choose from multiple options for payment and delivery time & place.	4.29	0.825
Place online orders independently.	4.29	0.848
Dimension 4: Self-Perception	3.89	0.715
Technically savvy to do online transactions.	3.79	1.016
Browsing improves shopping effectiveness.	3.85	0.916
No apprehensions/ doubts a after confirming online order.	3.73	0.992
Happy a after placing online order.	4.19	0.768
ONLINE SHOPPING ABILITY	3.91	0.560

TABLE 4: FRIEDMAN'S TEST FOR SIGNIFICANT DIFFERENCE IN MEAN RANKS OF DIMENSIONS OF ONLINE SHOPPING ABILITY

Dimensions of Online Shopping Ability	Mean Rank	χ^2	P-value
Web Ease	1.81	48.295	<0.001**
Probe Product	2.33		
Place Order	3.45		
Self-Perception	2.41		

The order of importance based on Mean Scores (Table 3) of items under each scale are observed as below-

Dimension 1: Web Ease

The most important items are 'Easy and Enjoyable Experience' (4.06), 'Understand and navigate through online menu options' (3.85) and 'Conversant with using 'Help', 'Search' & 'Customer Support' features' (3.69). The aspect with least importance is 'Aware of all parties who can access my login information' (2.67)

Dimension 2: Probe Product

Most respondents found it easy to 'Browse for online reviews, best price and product features' (4.19) and 'Access interested product options in various websites' (4.02). But the more difficult aspects are 'Navigate through hyperlinks to probe product information' (3.42), 'Use control & zooming options in to 'virtually' view product (3.81) and 'Understand interpret and assess information in websites.' (3.90)

Dimension 3: Place Order

This factor shows high mean values (greater than 4 with maximum value of 5) in all items. Respondents found it easiest to 'Manage my online shopping carts (add / remove items)' (4.56) and 'Aware of steps for online order placements' (4.54). The item with least ease is 'Choose after product comparisons from different websites.' (4.08).

Dimension 4: Self-Perception

The highest mean value is for 'Happy after placing online order' (4.19). The least is 'Noapprehensions / doubts after confirming online order' (3.73) and 'Technically savvy to do online transactions' (3.79).

Table 4 shows that there is highly significant difference at 1% level in mean ranks using Friedman's test ($P < 0.001$) with respect to the relative importance of dimensions of Online Shopping Ability. The order of importance is Place Order (3.45), Self-Perception (2.41), Probe Product (2.33) and Web Ease (1.81)

Classification Based on Online Shopping Ability

TABLE 5: LEVEL OF ONLINE SHOPPING ABILITY

Low	11	21.2
Moderate	27	51.9
High	14	26.9
Total	52	100.0

Based on Quartiles, respondent online consumers were classified as showing Low (<Q1), Moderate (Q1 to Q2) and High (>Q3) degrees of Online Shopping Ability. Most respondents show a moderate degree of Online Shopping Ability (51.9%) as shown in Table 5.

Correlation Analysis of Dimensions of Online Shopping Ability

TABLE 6: PEARSON CORRELATION COEFFICIENT BETWEEN DIMENSIONS OF ONLINE SHOPPING ABILITY

Dimensions of Digital Ability	WebEase	ProbeProduct	PlaceOrder	SelfPerception
WebEase	1.000	0.641**	0.509**	0.448**
ProbeProduct		1.000	0.659**	0.510**
PlaceOrder			1.000	0.521**
Self-Perception				1.000

Note: ** Denotes significant at 1% level

The statistics in Table 6 clearly show that all dimensions of Online Shopping ability have reasonably strong correlation and is highly significant at 1% level. A technically savvy consumer shows online shopping ability in all aspects. The correlation between WebEase and SelfPercepis relatively lower when compared to other dimensions. This indicates that consumers' perception about their web browsing and navigation skills are not absolutely accurate.

Test of Hypotheses

This study presents hypotheses to conduct tests using ANOVA and t-test to draw inferences relating to influences on Online Shopping Ability of Indian Online Shoppers.

H₀ (1)	: There is no significant difference in Online Shopping Ability means among groups based on demographic variables (age, gender, education and monthly income)
H₀ (2)	: There is no significant difference in Online Shopping Ability means among groups based on Online Shopping Experience

TABLE 7: T TEST/ ANOVA FOR SIGNIFICANT INFLUENCE OF DEMOGRAPHIC VARIABLES AND ONLINE SHOPPING EXPERIENCE IN THE EXERCISE OF ONLINE SHOPPING ABILITY

Demographic Variables	Category	Mean	SD	t value / F value	P value
Age Group (in years)	< 18 yrs	3.67	0.40	0.650	0.587
	18 - 35 yrs	4.03	0.48		
	35 - 50 yrs	3.85	0.47		
	> 50 yrs	3.94	0.87		
Gender	Male	0.88	4.00	0.253	0.617
	Female	0.48	3.90		
Education	upto class 12 / Diploma	3.66	0.34	1.701	0.179
	Graduate	4.02	0.68		
	Post Graduate	3.95	0.51		
	Professional	4.10	0.56		
Monthly Income (in Rupees)	25,000 - 50,000	4.00	0.46	0.274	0.844
	50,000 - 1,00,000	3.82	0.49		
	1,00,000 - 1,50,000	3.87	0.54		
	> 1,50,000	3.98	0.68		
Online Shopping Experience (in years)	< 1	3.26	0.00	0.711	0.550
	1 to 2	3.99	0.50		
	2 - 4	3.84	0.59		
	> 4	3.97	0.59		

It can be inferred from Table 7 that neither demographic variables nor past online shopping experience has influence on Online Shopping Ability of consumers. The null hypothesis H₀ (1) and H₀ (2) are not rejected.

Online Shopping Experience- Measurement and Classification

TABLE 8: MEAN AND STANDARD DEVIATION OF DIMENSIONS OF ONLINE SHOPPING EXPERIENCE

	Mean	SD
Service Quality - Website Features		
User-friendly design for website navigation	4.31	0.81
Facilitates easy comparisons – of product assortments, features, price, credit rating	4.19	0.74
Personalization feature in websites (notifications based on past purchase history)	4.12	0.81
Helpful 'Search' & 'FAQ' menus	3.92	0.93
Able to 'virtually' examine product	3.79	0.98
Convenient payment options	4.23	0.88
Prompt order progress communications & tracking facility	4.27	0.80
Service Quality – E-tailer		
Communicates product availability for order placement.	4.15	0.70
Convenient delivery options.	4.29	0.70
Prompt delivery as requested / communicated.	4.23	0.83
Facilitates inspection of goods on delivery.	3.58	1.13
Protective and neatly packaged goods.	4.12	0.90
Right products are received as per specifications.	3.77	0.98
After-sales service.	3.35	1.10
Grievances and Redressal		
Consumer support to address grievances (relating to faulty goods, service quality, etc.)	3.98	0.94
Clear returns policy	3.92	0.93
Ease of returns & refund.	3.79	1.09
Timely resolution to grievances	3.44	1.09

TABLE 9: LEVEL OF ONLINE SHOPPING EXPERIENCE

Level of Customer Shopping Experience	Frequency	Percentage
Low	13	25.0
Moderate	26	50.0
High	13	25.0
Total	52	100.0

Table 8 shows the quantified data relating to overall Online Shopping Experience of the sample respondents. Using their online shopping ability, respondent consumers derive satisfaction of their needs through online shopping. Online shopping experience thus is a factor of the overall service quality experienced by consumers both from the e-tailer and website ; and mode of addressing grievances by the e-tailer. Further, based on Quartiles, respondent online consumers were classified as showing Low (<Q1), Moderate (Q1 to Q2) and High (>Q3) degrees of Online Shopping Ability. Most respondents (50%) show a moderate degree of satisfactory Online Shopping Experience (Table 9)

Effect of Online Shopping Ability on Online Shopping Experience

H0 (3): There is no association between Levels of Online Shopping Ability and Online Shopping Experience

TABLE 10: CHI-SQUARE FOR ASSOCIATION BETWEEN LEVELS OF ONLINE SHOPPING ABILITY AND ONLINE SHOPPING EXPERIENCE

Level of Online Shopping Ability	Level of Online Shopping Experience				Chi-square	P-value
	Low	Moderate	High	Total		
Low	3 (27.3%) [23.1%]	8 (72.7%) [30.8%]	0 (0.0%) [0.0%]	11 (100.0%) [21.2%]	15.523	0.004**
Moderate	10 (37.0%) [76.9%]	12 (44.4%) [46.2%]	5 (18.5%) [38.5%]	27 (100.0%) [51.9%]		
High	0 (0.0%) [0.0%]	6 (42.9%) [23.1%]	8 (57.1%) [61.5%]	14 (100.0%) [26.9%]		
Total	13 (25.0%) [100.0%]	26 (50.0%) [100.0%]	13 (25.0%) [100.0%]	52 (100.0%) [100.0%]		

Note: 1. The value within () refers to Row Percentage
2. The value within [] refers to Column Percentage
3. ** Denotes significant at 1% level

The null hypothesis H0 (3) is rejected at 1% level of significance based on Chi-square statistic in Table 10. It is therefore inferred that the level of Online Shopping Ability significantly impacts satisfactory Online Shopping Experience. The following inferences are made from row and column percentages in Table 10 -

- All high ability consumer had moderate to high levels of Online Shopping Experience. Most (57.1%) had high satisfaction from the Online Shopping Experience.
- With moderate Online Shopping Ability, most had low (37%) or moderate (44.4%) level of Online Shopping

Experience.

- Consumers with Low levels of Online Shopping Ability get low (27.3%) or moderate (72.7%) levels of satisfaction from the Online Shopping Experience.
- Consumers with low Ability never have highly satisfactory Online Shopping Experience.
- Similarly, consumers with high Online Shopping Ability never experience low level of Online Shopping Experience.

Correlation Analysis on Dimensions of Online Shopping Ability and Online Shopping Experience

TABLE 11: PEARSON CORRELATION COEFFICIENT ON DIMENSIONS OF ONLINE SHOPPING ABILITY AND ONLINE SHOPPING EXPERIENCE

Dimensions of Online Shopping Ability	Online Shopping Experience (Pearson's R)	Degree of Relationship (R ²)
WebEase	0.533**	0.284
ProbeProduct	0.587**	0.345
PlaceOrder	0.406**	0.165
SelfPerception	0.528**	0.279
Online Shopping Ability	0.635**	0.403

It is evident from Table 11 that there is a good positive correlation between Online Shopping Ability and its dimensions with Online Shopping Experience. This result is highly significant at 1% level. There is moderate positive correlation between Online Shopping Experience and Place Order (0.406). For all other dimensions and overall Online Shopping Ability with Online Shopping Experience, there is high degree of positive correlation. The extent of relationship with Online Shopping Experience is defined by the R2 value. It is 28.4% with Web Ease, 34.5% with Probe Product, 16.5% with Place Order, 27.9% Self-Perception and the highest for Online Shopping Ability with 40.3%

7 MAJOR FINDINGS

Online Shopping Ability of Consumers is a strong influencer that will affect the widespread use of this mode of shopping in this digital era. The researcher has developed a scale for measuring the Online Shopping Ability and conducted an initial reliability study to evaluate the accuracy of this tool for measurement for the purpose of conducting an exploratory study with a larger sample size.

- Based on literature review, the researcher has developed a model scale to measure Online Shopping Ability of a Consumer with dimensions – Ease of Web Browsing and Navigation, Product Selection, Order Placement and Self-Perception about online shopping ability.
- The following findings from statistical analysis using SPSS come to light –
- Aspects in which respondents showed greatest degree of Ability are identified based on Items with high mean scores. They are - 'Manage my online shopping carts (add / remove items)' (4.56), 'Aware of steps for online order placements' (4.54) 'Browse for online reviews, best price and product features' (4.19), 'Happy after placing online order' (4.19). and 'Easy

and Enjoyable Experience' (4.06)

- Aspects in which respondents showed least Ability are identified based on Items with low mean scores. They are - 'Aware of all parties who can access my login information' (2.67), 'Navigate through hyperlinks to probe product information' (3.42), 'No apprehensions / doubts after confirming online order' (3.73), 'Technically savvy to do online transactions' (3.79) and 'Choose after product comparisons from different websites.' (4.08)
- Dimension in which respondents showed greatest Ability is Order Placement (mean rank = 3.45). The least proficiency is in Web Browsing and Navigation (mean rank = 1.81)
- Most respondents (51.9%) possess a moderate level of Online Shopping Ability
- There is a reasonably strong positive correlation between all the dimensions of Online Shopping Ability. Technologically savvy consumers are good at all dimensions of online shopping ability.
- Least correlation is between 'Ease of Web Browsing and Navigation' and 'Self-Perception about online shopping ability'. This indicates that online consumers are not able to have accurate perception of their web skills.
- Online Shopping Ability does not depend on a person's demographic background of age, gender, education, monthly and income.
- Online Shopping Ability also not affected by a consumer's previous online shopping experience

The construct for Online Shopping Experience, developed by the researcher based on literature review, is used to measure the impact level of consumer using his Online Shopping Ability to purchase online. The following inferences come to light from the statistical analysis -

- Based on quartiles, 50% of respondents had experienced a moderate degree of satisfaction from Online Shopping Experience.
- Level of Online Shopping Ability impacts satisfaction from Online Shopping Experience. There is a highly significant positive correlation between Online Shopping Ability and all its dimensions with Online Shopping Ability.
- There is a good positive correlation between Online Shopping Ability and its dimensions with Online Shopping Experience.
- High positive correlations are observed for Online Shopping Experience with Web Ease, Probe Product, Place Order, Self-Perception and the highest for Online Shopping Ability
- There exists moderate positive correlation between Place Order and Online Shopping Experience.
- The degree of relationship between Online Shopping Ability and Online Shopping Experience is 40.3%

8 CONCLUSION

Mere ability to place online orders does not ensure satisfactory Online Shopping Experience. The most important aspects are product selection, ease of web browsing and navigation and lastly, the self-perception and confidence to transact online. The strong relationship between overall Online Shopping

Ability with Online Shopping Experience is established by the results in the study. Findings are based on good degree of reliability and validity based on basic statistical assumptions of reliability, normality and homogeneity. The constructs used in the study aptly establishes that Online Shopping Ability of Consumers positively impact the degree of Consumer Satisfaction from Online Shopping Experience. The construct is viable to be used for further exploratory studies.

9 LIMITATIONS AND SCOPE FOR FUTURE STUDY

Findings are based on perceptions of consumers for which data was collected from 52 respondents using convenient sampling technique in Chennai. They are also based on perceptions of consumers that could be subject to respondent bias. Hence the following limitations arise, giving scope for future studies -

1. A similar study can be conducted using a larger sample encompassing a more diverse demography across other geographical locations
2. Further studies can also focus on refining the item-statements and/or including other dimensions in the scale developed for measuring Online Shopping Ability

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