

Perception and Attitudes towards Information and Communication Technology (Internet) for Purchase Decisions among Generation Cohorts

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Abstract

Online retailers are proliferating in huge numbers and they have observed a shift in the trend of consumers making buying decisions virtually over buying in brick and mortar retailers. There are various factors which is influencing this change of pattern. The generation cohort groups referred to as Gen X and Gen Y in the study refers to the group who belong to same age group, who share common beliefs, values, attitudes and who share common experiences during their life cycle. It is been considered as one of the basis for market segmentation (Kotler, 2000). Consumer continuously unlearns and learns based on his experiences in making purchase decisions. As technology advances and there are new ways of selling and buying, consumer evolves himself and the whole trend changes. The mind set of people born in different generations differs [19]. Though the internet purchases are slowly increasing, because of the media and negative publicity of a few bad experiences, consumers especially the Generation X category lack the trust and confidence to go a step ahead and shop online. To understand the deeper behaviour of consumers of different generations, this study makes an attempt to understand the perceptions and attitudes of different generation groups towards information and communication technology (ICT) for buying decisions. It becomes important for the online marketers to understand this diversified market segments so that they can respond with suitable strategies and can further capture the market share. The current paper is designed to yield results on awareness, perception, and attitude of different generations towards the information and communication technology for buying decisions. The study was carried out in Bangalore City with the sample size of 100 respondents using stratified sampling technique. The Hypothesis was proposed for the variables under study and tested. The data collected were analyzed using chi-square test and two population t test.

Keywords

Generation Cohorts, ICT, Perception, Attitude

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1. Introduction

With the advance of information and communication technology and the wider penetration of internet accessibilities provided by many service providers, there are stupendous changes seen in each and every aspect of present human life. The most important and valuable advantages of internet of all the benefits are the standard and amount of

information which is available to the consumer as per his requirements. It is the best solution provider for any kind of problem you are stuck with or any kind of information you are looking for, anytime. Information plays a very important role in the consumer decision making process and hence ICT has made a great impact on the whole buying decision

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process, right from the problem recognition to post purchase behaviour. There are different sets of consumers and the consumer segmentation process helps the marketer to stay focussed and target the segments appropriately. Of the many segments, generation cohort as a segment can be one of the method of dividing the market using demographics. The current study aims at understanding this generation cohort groups and their perceptions and attitudes towards ICT for buying decision process by setting hypothesis to study whether there is any difference in perceptions and attitudes among the generation groups. To meet this objective, the discussion started with the understanding of the concept of generation cohort and generational marketing, online consumer, followed by literature review. The next section speaks about the research methodology and data analysis, followed by the research findings and discussions with marketing implications.

1.1. Generation Cohort and Generational Marketing

Generational marketing is one of the marketing strategy in which the segmentation is made on the basis of generation cohort groups. The word cohort is defined as a group of individuals, who have experienced same events, within the same "time interval" [19], and they are usually connected by their birth time period. Cohort study is a technique designed to divide age, period, and cohort effects to examine how consumer behaves [22]. Generational marketing is not only about the product or messaging or modelling, rather it is about all of these aspects [18], in their paper on "Justification of generational cohort segmentation in South Africa" says generational cohort segmentation is reserved for countries whose defining moments meet some qualifying conditions. South Africa can segment consumers in terms of generational cohorts because the historic and political defining events the country experienced fulfil the requirements for cohort formation. In another study by Timothy Reisenwitz, Rajesh Iyer [27], on "A comparison of younger and older baby boomers: investigating the viability of cohort segmentation" says that cohort segmentation is a viable beginning for dividing consumers into groups, but that other demographic and/or psychographic methods need to be considered in subsequent segmentation efforts for baby boomers. Consideration of not only the age effect but also the cohort effect is important for marketing research, Kosei Fukuda [16]. Marketing to different generations has to be carried in a different way because of the fact that the generation cohorts differ in the way they behave, because of different attitudes, perception, lifestyle, belief and value system [8]. Consumers of the same generation go through the same external factors and events, and that these factors helped to shape their attitudes toward spending, Schewe and Meredith [24].

Cohorts within the group are homogeneous and cohorts between the groups are heterogeneous [17]. Cohorts are a part of demographic segments, which can be targeted as focus groups. Though, there is no clear definition of generation cohorts, they are said to be grouped based on age and life experiences the cohort group has undergone. [12]

1.2. Concept of Online Consumer

Since long period of time consumer has been shopping and buying products and services offered in the brick and mortar retailers. The advancement of ICT has led to a new consumer segment called as "online consumer" (Racolta, Paina & Luca, 2010). Today, consumer is making buying decisions in a participatory digital culture [20]. There are several factors which are influencing this consumer behaviour and it becomes very important for a marketer to understand the consumer characteristics, their online buying intentions and their behaviours. Of the many factors influencing online consumption, age is one of them. The factor age which is demographic can be understood better applying the psychographics and grouped as generation cohort groups as mentioned above. Perception and attitude are some of the most important independent variables which plays a major role in developing the intentions [6], which are taken in the current study and hypothetically tested among generation cohorts.

2. Literature Review

Perception is the process by which an individual selects, organizes, and interprets information inputs to create a meaningful picture of the world (Armstrong *et al.*, 2010). It refers to the way in which something is regarded, understood, or interpreted, Roth, (1986). According to Roth, (1986) the term perception refers to a process in which information acquired from the environment via the sense organs is transformed into experiences of objects, events, sounds, tastes, touch, etc. Different consumers perceive a product offering differently based on their lifestyle, needs, desires and aspirations, Reekie and Brits (1997). Perception depends not only on physical stimuli, but also on the stimuli's relation to the surrounding environment and on conditions within the individual [17]. Thus, the perception of an individual towards a tangible product or service, or process is because of his beliefs, experiences, individual differentiations, influence of others and surrounding environment.

Attitude is the tendency of an individual to do something in a certain way based on his/her predisposition in mind and the experience [11]. It helps to indicate, a mental state of willingness, which has direct influence on an individual's reaction on relevant objects and situations. Attitude affects

intention and is closely related to behaviour because it is a composition of personalities and motivations [4]. It refers to the positive or negative feeling towards a particular subject of interest. Attitude can be formed from a person's past and present. Allport, Gordon [3] Key topics in the study of attitudes include attitude measurement, attitude change, consumer behavior, and attitude-behavior relationships [9].

Technology acceptance model- (TAM: Davis *et al.*, 1989), is the most widely tested models of technology acceptance, in which he uses Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) and formation of attitude as constructs in understanding the openness of consumers in adaption of technology. The technological advancement has changed the whole concept of consumer decision making process (Rachel Ashman, Michael R Solomon, Julia Wolny, 2015). Hiram Ting, Ernest Cyril de Run, Siew Ling Liew, (2016) in their paper on Intention to Use Instagram by Generation Cohorts: The Perspective of Developing Markets reports in their study that the consumers' predisposition and opinions of significant others are responsible for the intension to use the application. The study finds that the social strivers, whose age ranges from late 30's to early 50's rely on opinions of significant others more than the two younger cohorts, the main reason for this is that Social strivers are not as technology-savvy as the younger generations

2.1. Research Gap

Of the various literatures that have been studied, work has been in a particular direction. Despite several studies in ICT, and the interest in research among the researchers, there is a still lot of dearth in researches on changing consumer behaviour with the intervention of ICT. Consumer is learning and transforming and being well informed than ever before. While making purchase decisions, he has all the information in fingertips wherein he can evaluate and make a suitable purchase decisions. EKB decision making model has long been a core theory of consumer behaviour, but how relevant is it in today's digital world where consumer decision making is in participatory digital culture is an unexplored area for research [20].

Consumers' previous experiences with online purchases, or lack thereof, can be a significant influence of levels of risk perception by consumers and their purchasing decisions [7]. This study aims at understanding the different generations and their perceptions and attitude towards ICT and its tools available, for making purchase decisions.

2.1.1. Rationale for the Study

With the advancement of ICT, there is a gap in studying what is the kind of impact technology has made on the buying patterns of consumers. The study becomes more relevant

when the two generations are compared in terms of their perceptions and attitudes and whether marketers need to develop separate strategy for reaching these generation groups.

I. Objectives

- a. To study the awareness of ICT for buying decisions among 2 generation groups
- b. To analyze the Perceived Usefulness of ICT for buying decisions among 2 generation groups
- c. To evaluate the Perceived Ease Of Use of ICT for buying decisions among 2 generations groups
- d. To understand the attitude towards use of ICT for buying decisions among 2 generation groups

To reach the above objectives, the research questions under, are designed, in such a way that the data can be collected and analysed appropriately and the results obtained should be able to explain the objectives, set for the study. Accordingly, the following research questions and corresponding hypothesis were set for the study.

II. Research questions

- a. Whether different generations, differ in their awareness towards ICT for buying decisions
- b. Whether two different generations differ in their perceived usefulness (PU) towards ICT for buying decisions?
- c. Whether two generations differ in their Perceived ease of use (PEOU) towards ICT for buying behaviour?
- d. Whether two generations differ in their attitude towards ICT for buying decisions?

2.1.2. Hypothesis

- a) H0: Generation cohort (Gen X and Gen Y) and awareness of ICT is independent from each other
H1: Generation cohort (Gen X and Gen Y) and awareness of ICT is not independent from each other
- b) H0: Generation cohort (Gen X and Gen Y) do not differ in their PU of ICT for buying decisions.
H1: Generation cohort (Gen X and Gen Y) differ in their PU of ICT for buying decisions.
- c) H0: Generation cohort (Gen X and Gen Y) do not differ in their PEOU of ICT for buying decisions.
H1: Generation cohort (Gen X and Gen Y) differ in their PEOU of ICT for buying decisions.
- d) H0: Generation cohort (Gen X and Gen Y) do not differ in their attitude towards ICT for buying decisions.

H1: Generation cohort (Gen X and Gen Y) differ in their attitude towards ICT for buying decisions

2.2. Research Methodology

The research methodology adopted in this study on perception and attitude towards ICT for buying decisions among Generation cohorts is as follows:

It was a combination of exploratory, descriptive, and analytical research. Exploratory because the research gathered preliminary information to formulate the problem and suggest the hypothesis for the study. Descriptive research because the objective of research was to describe the characteristics of the variables which were under the study and analytical research because had hypothesis testing and the variables were analysed using statistical inferences, based on the set hypothesis.

Stratified random sampling, which is one of the probability sampling methods was adopted so that there is equal chance of occurrence for all the samples under considerations. The population was divided into two strata based on age group and then picked randomly. The sample size for the study was 100. Since there is no empirical evidence for classifying generation cohort groups, an arbitrary classification was made for the study. [50 samples of age group 20-35 (25 Male, 25- Female) was considered as Generation Y] and [50 sample of age group 36-55 (25 Male, 25- Female) was considered as Generation X] The study gave equal preference for male and female to avoid any gender bias. Though the sample for infinite population according to Krejcie and Morgan, 1970 is 384, the time constraint restricted the sample size to 100, considering the Central Limit theorem of normality of data. The samples were picked from Bangalore city.

To collect data from generation cohorts, a structured questionnaire was prepared using dimensions Perceived Usefulness (PU), Perceived Ease of Use (PEOU), and Attitude. The questionnaire with 21 items on a 5 point Likert scale was designed with the help of constructs Perceived Usefulness (PU), Perceived Ease of Use (PEOU), Attitude (Att) which was adopted from (TAM: Davis, 1980) was administered to 100 respondents and data was collected. The questionnaire was explained to the respondents before administering to them. Details of the purpose and intent of the research was elaborated and data was collected personally by meeting them so that all the questionnaire were completed.

Hypothesis was set for the study and the data was collected

to test the hypothesis which included nominal and ordinal data. SPSS 20 was used to test the proposed hypothesis. To check the consistency of the questionnaire, Chronbach’s alpha test was administered. To test the hypothesis using nominal data, Chi-Square test was used. Since the study had samples from two different population i.e., Generation Y and Generation X, independent sample t test was used for the study. The results are as under.

3. Results

3.1. Reliability Test

As a initial step in the analysis, reliability test was conducted to test whether the items in the questionnaire designed can generate the required data. The scale was tested for reliability using SPSS 20 and it gave the value 0.870, which is greater than 0.7 and hence the scale cleared the reliability test and can be said that the questionnaire meets the purpose of data required and hence the data collected using this questionnaire can be relied upon.

Table 1. Reliability Test.

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.862	.870	21

Source: Primary data

3.2. Hypothesis Test Results

The proposed hypothesis were tested using the data collected and analysed using chi-square test, two sample independent t test and the following results were obtained.

3.2.1. Hypothesis 1

H0: Generation cohorts (Gen X & Gen Y) and awareness of ICT is independent from each other

H1: Generation cohorts (Gen X & Gen Y) and awareness of ICT is not independent from each other

Table 2. Age*awareness Cross Tab.

Agecat * Awareness Crosstabulation					
		Awareness			Total
		No	yes		
Gen Cohorts	Gen Y	Count	6	44	50
		Std. Residual	-2.2	1.4	
	Gen X	Count	23	27	50
		Std. Residual	2.2	-1.4	
Total		Count	29	71	100

Source: Primary data

Table 3. Chi-Square Test.

Chi-Square Tests					
	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	14.036 ^a	1	.000		
Continuity Correction ^b	12.433	1	.000		
Likelihood Ratio	14.743	1	.000		
Fisher's Exact Test				.000	.000
N of Valid Cases	100				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 14.50.
 b. Computed only for a 2x2 table

Source: Primary data

Interpretation: From the above table it is clear that, since the P value is less than 0.05, the null hypothesis is rejected. i.e., we accept that generation cohort groups (Gen X and Gen Y) and awareness of ICT for buying decisions are not independent from each other and that there is significant relation between them.

3.2.2. Hypothesis 2

H0: Generation cohorts (Gen X & Gen Y) do not differ in their PU of ICT for buying decisions.

H1: Generation cohorts (Gen X & Gen Y) differ in their PU of ICT for buying decisions.

Table 4. Group Statistics of Perceived Usefulness.

Group Statistics					
	Gen Cohorts	N	Mean	Std. Deviation	Std. Error Mean
PU	Gen Y	50	26.8400	3.38882	.47925
	Gen X	50	24.9200	3.57908	.50616

Source: Primary data

Table 5. Independent sample t test.

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower		Upper
PU	Equal variances assumed	.146	.704	2.754	98	.007	1.92000	.69705	.53673	3.30327
	Equal variances not assumed			2.754	97.709	.007	1.92000	.69705	.53668	3.30332

Source: Primary data

Interpretation: From the above table it is clear that, since the p value 0.007 is less than 0.05, we reject the null hypothesis i.e., Generation cohorts (Gen X & Gen Y) do not differ in their PU of ICT for buying decisions and hence conclude that two generation cohort groups differ in their PU of ICT for buying decisions

3.2.3. Hypothesis 3

H0: Generation cohorts (Gen X & Gen Y) do not differ in their PEOU of ICT for buying decisions.

H1: Generation cohorts (Gen X & Gen Y) differ in their PEOU of ICT for buying decisions.

Table 6. Group Statistics of Perceived Ease Of Use.

Group Statistics					
	Gen Cohorts	N	Mean	Std. Deviation	Std. Error Mean
PEOU	Gen Y	50	22.3600	2.87679	.40684
	Gen X	50	20.8200	2.64722	.37437

Source: Primary data

Table 7. Independent sample t test.

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower		Upper
PEOU	Equal variances assumed	2.460	.120	2.785	98	.006	1.54000	.55288	.44283	2.63717
	Equal variances not assumed			2.785	97.330	.006	1.54000	.55288	.44274	2.63726

Source: Primary data

Interpretation: From the above table it is clear that, since the p value 0.006 is less than 0.05, we reject the null hypothesis i.e., Generation cohorts (Gen X & Gen Y) do not differ in their PEOU of ICT for buying decisions. And hence conclude that two generation cohort groups differ in their PEOU of ICT for buying decisions

3.2.4. Hypothesis 4

H0: Generation cohorts (Gen X & Gen Y) do not differ in their attitude towards ICT for buying decisions.

H1: Generation cohorts (Gen X & Gen Y) differ in their attitude towards ICT for buying decisions

Table 8. Group Statistics of Attitude.

Group Statistics					
	Gen Cohorts	N	Mean	Std. Deviation	Std. Error Mean
ATT	Gen Y	50	29.7200	3.79064	.53608
	Gen X	50	26.0200	4.04308	.57178

Source: Primary data

Table 9. Independent sample t test.

Independent Samples Test											
		Levene's Test for Equality of Variances		t-test for Equality of Means							
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference		
										Lower	Upper
ATT	Equal variances assumed	.192	.663	4.721	98	.000	3.70000	.78378	2.14462	5.25538	
	Equal variances not assumed			4.721	97.595	.000	3.70000	.78378	2.14453	5.25547	

Source: Primary data

Interpretation: From the above table it is clear that, since the p value 0.006 is less than 0.05, we reject the null hypothesis i.e. Generation cohorts (Gen X & Gen Y) do not differ in their attitude towards ICT for buying decisions and hence conclude that two generation cohort groups (Gen X and Gen Y) differ in their PEOU of ICT for buying decisions.

Table 10. Summary of findings of hypothesis tests.

Variables	Calculated	DF	Probability	Hypothesis	Results
Awareness	14.036 ^a	1	0.000	Null- hypothesis is rejected	There is association between generation cohorts and awareness to ICT for buying decisions
PU	2.754	98	0.007	Null-hypothesis is rejected	There is significant difference between Perceived usefulness of ICT for buying decisions among generation cohorts
PEOU	2.785	98	0.006	null-hypothesis is rejected	There is significant difference between Perceived ease of use of ICT for buying decisions among generation cohorts
ATT	4.721	98	0.000	null-hypothesis is rejected	There is significant difference between attitudes towards use of ICT for buying decisions among generation cohorts.

Source: Primary data

4. Findings and Discussions

The hypothesis tests generated the following results and their relevance was discussed as follows:

4.1. Awareness

Awareness is one of the most important factors in determining whether the individual will give a thought and intends to show interest in any aspect. In the context of development of ICT and its application in e-commerce, especially in B-C markets, it becomes important to the marketers to first understand whether the consumers are aware that consumer products can be purchased over the web, anytime, from anywhere. One of the objectives of this study was to study whether awareness and generation cohorts

(Gen X and Gen Y) are independent from each other. The hypothesis proved that, the awareness and generation cohorts are not independent from each other. There is a difference among the generation groups with respect to awareness towards internet for purchasing. This tells that, the marketers should work on educating and spreading the knowledge about how consumers can use technology for making any type of purchases, which may lead e-marketers to further penetration. The marketers may also explore further about whether Generation X or Generation Y needs more awareness about using internet for purchases.

4.2. Perception

The marketers should understand whether there is any generational difference in the perception towards internet for

making purchase decisions. One of the objectives of the study was to determine the PU and PEOU of internet for making purchase decisions among generation cohort groups (Gen Y and Gen X). The results proved that there was significant difference between Perceived usefulness of ICT for buying decisions among generation cohorts and there was significant difference between Perceived ease of use of ICT for buying decisions among generation cohorts. This tells that marketers should change the strategies in reaching the different generation group and further should explore on the reasons for their perceptions and try to build positive perceptions.

4.3. Attitude

Another objective of the study was to examine the attitude of generation cohorts (Gen X and Gen Y) and the hypothesis proved that there is difference in attitude towards ICT for purchase decisions among generation cohort groups. This also gives the marketer the indication that two generation cannot be targeted in the same manner. The marketer should work on strategies so that there is positive attitude built towards using internet for making purchases.

5. Conclusion

The study was conducted to understand the perceptions and attitudes of generation cohort groups' i.e, Generation X and Generation Y with respect to people born during different time interval. The study was conducted by collecting primary data with the help of structured questionnaire, by explaining them about the study. A sample of 100 was selected randomly and the questionnaire was administered. Based on the analysis of the data, the null hypothesis was rejected. Based on the analysis it was concluded that, there is significant difference in awareness, perception and attitude among the two generation groups, towards using internet for making purchases.

There is a scope for further research in understanding the factors influencing the perception and attitudes using Principal component analysis and the Technology Acceptance Model (TAM), given by Davis et al (1995), can be applied and tested among the two generation groups using Confirmatory Factor Analysis and understand the people's mindset accordingly.

6. Marketing Implication

The generation cohort study is being talk of the town in many developed countries and its relevance and advantage is less explored in India. India has a huge population of 1.34 billion (est.Jul 2016) which includes 40.91%in the age category of 36-55 years, which is a big number. If the generation cohort differs in their approach towards buying decision process

with the intervention of technology, it becomes really important for marketers to understand what is the actual gap in the generational context so that the marketers can accordingly adopt strategies to increase the online revenue as there is a positive trend in adoption of technology for searching information, evaluating alternatives, making purchases online and posting reviews. One of the behavioural segmentation in consumer markets is based on the buyer roles, such as Initiator, influencer, Decider, Buyer and User (Kotler, 2000). The generation Y segment can act as initiator and influencer for Generation X' ers in adoption of ICT for shopping and buying online.

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