

3.1 Introduction

From the literature review presented before it is clear that consumer behavior has changed significantly since the invention of online shopping in the 1990s (Lewis et al., 2014) and there is a need to study the consumer decision making in broader domain of choice characteristics and cognitive and personality factors. Present work studies the consumer decision: (a) extremeness seeking; (b) compromise decision; (c) deferral decision in context of online purchasing behavior. According to ASSOCHAM, India is one of the largest online market thus focus of Indian consumers may add significantly to current literature. This study targeted major cities like Kolkata, Delhi, Lucknow, and Kanpur because these cities have the highest number of internet user as per the (IAMAI, 2019) report.

3.2 Rationale for the study

The information revolution has changed the world and people who lives in it. The world is called a global village now and everybody is highly connected to every part of the world. Technology has integrated everything on one platform. We have the smart technology, smartphone, smart laptop, 4G internet speed, wi-fi connection, specific application, and website for everything easily accessible anytime and to anybody. This revolution and globalization have drastically changed the way we are living and leading our life. The most notable example is the movement of the physical market to the virtual market (E-commerce). Virtual platforms are an intangible form of market, lacking any option for physical verification (Haubl & Trifts, 2000). This shift toward e-commerce website has opened many opportunities for the market but at the same time raised many questions related to processes and factors influencing these processes in operation. Virtual reality shares certain qualities with physical reality (uncertainty, ambiguity, availability, and the possibility of variations in options and information to suit individual demands) and even exemplifies these. Marc Resnick (2001) suggested that the online environment could be a perfect platform to explore naturalistic decision making (NDM) processes. NDM is an area of study which explores the decision making in real life scenario. Considering the background mentioned above, it is apparent that the everyday choices from any small insignificant matter to any vital life-changing issue may get impacted due to the amount, variety and mode of information available to us. The decision-making science studies how environmental factors, decision option characteristics, and individual characteristics influence and determine the process of decision making and the decision being made. It's a widely accepted fact that we still need to know a lot more about the process and result of decision making; starting from the decision maker characteristics (personality, cognitive style, biases and attitudes), situational characteristics (time pressure, insufficient information, stakes, risks and competition), decision options (tangible/intangible, value, demand, features and availability/affordability) to the interaction of all of these.

3.3 Purpose of the study

Present study aims to “examine the role of choice characteristics, individual factors, and their interaction in extreme and deferral decision making”.

3.4 Sampling Design

Sampling design is the process to select an appropriate number of people who represent the population. The present study required a sample from the population who use e-commerce sites for shopping. Internet user in urban India was 64.84% in December 2017, and it was expected to reach 500 million by June 2018 as reported by the Internet and Mobile Association of India (IAMAI).

As per an ASSOCHAM-Resurgent joint study in 2017, 108 million consumers did online shopping in India. Therefore, for the purpose and objective of the present study, the researcher has to extract their sample from the 108 million Indian online consumers. To ensure the appropriateness and representativeness in the example, we used purposive quota sampling methods. For the representativeness of the sample, we chose the region from eastern to a western strip of India (Kolkata, Lucknow, Kanpur, Chandigarh, Delhi, and Delhi NCR). To draw the estimate of the sample, we used Raosoft sample size calculator (Raosoft, 2007).

Raosoft® Sample size calculator	
What margin of error can you accept? <small>5% is a common choice</small>	5 % <small>The margin of error is the amount of error that you can tolerate. If 90% of respondents answer yes, while 10% answer no, you may be able to tolerate a larger amount of error than if the respondents are split 50-50 or 45-55. Lower margin of error requires a larger sample size.</small>
What confidence level do you need? <small>Typical choices are 90%, 95%, or 99%</small>	95 % <small>The confidence level is the amount of uncertainty you can tolerate. Suppose that you have 20 yes-no questions in your survey. With a confidence level of 95%, you would expect that for one of the questions (1 in 20), the percentage of people who answer yes would be more than the margin of error away from the true answer. The true answer is the percentage you would get if you exhaustively interviewed everyone. Higher confidence level requires a larger sample size.</small>
What is the population size? <small>If you don't know, use 20000</small>	133900000 <small>How many people are there to choose your random sample from? The sample size doesn't change much for populations larger than 20,000.</small>
What is the response distribution? <small>Leave this as 50%</small>	50 % <small>For each question, what do you expect the results will be? If the sample is skewed highly one way or the other, the population probably is, too. If you don't know, use 50%, which gives the largest sample size. See below under More information if this is confusing.</small>
Your recommended sample size is	385 <small>This is the minimum recommended size of your survey. If you create a sample of this many people and get responses from everyone, you're more likely to get a correct answer than you would from a large sample where only a small percentage of the sample responds to your survey.</small>

Figure 1: Sample size calculator

According to that, we needed at least 385 participants in our sample. Therefore, we had approached 1000 participants, and finally, 650 of them agreed to participate in our research. Out of these 650, 424 participants completed the whole data collection procedure (experiment and questionnaire). Almost 15% of participants did not return the survey, around 10% of participants did not complete the experiment, and some of them partially filled the questionnaire. After removing all the incomplete questionnaire, finally, 424 respondent's data were selected as a final sample, which indicates that the sample size is good enough and sufficient to estimate the population proportions with a 95 percent confidence level and allowable tolerable limit of 0.05.

Table – 3.4.1 Classification of Sample Size by Age

Age	
Valid	424
Missing	0
Mean age	26.86
Minimum age	18
Maximum age	72

Accordingly, we maintained the ratio of gender and different age of people. In our sample number of females is 199, and male is 233 with a different period.

Table – 3.4.2 – Classification of sample size by Gender

	Mean age	Frequency	Range	Percent	Valid percent	Cumulative percent
Female	25.67	191	41	45.0	45.0	45.0
Male	27.84	233	54	55.0	55.0	100.0
Total		424		100.0	100.0	

Indianized Definition of Generation

As we know that India has the world’s largest youth population of 356 million 10-24-yearolds (In the article 'India has world's largest youth population: UN report', 2014) and by 2020, India will become the world’s youngest country with 64 percent of its population in the working age group, says a report in The Hindu (shivakumar, 2013). Due to this boom of technology savvy consumer, the potential of internet penetration in India is expected to be huge. With this intriguing picture of the demographic shift and resulting huge changing consumer profile, present paper study to throw some light on generation wise study of decision making, and influence of individual difference and choice characteristic on consumer decision among different generations.

The typical classification of generation may not be an appropriate strategy and thus current study follows the different classification (for details, see Sharma & Maidullah, 2017).

- Generation X: Born in 1970s, who are 31 and above (Sometimes referred to as the “lost” generation)
- Generation Y, or Millennials: Born in 1980s, age now 21 to 30. Gen Y are known as incredibly sophisticated, technology wise, immune to most traditional marketing and sales pitches.
- Generation Z: Born after 1995, age now 18 to 20. Gen Z are growing up with a highly sophisticated media and computer environment and will be more Internet savvy and expert than their Gen Y forerunners.

Table 3.4.3 Classification of Sample Size by Cohort

Generation	Age range	N
Generation X:	31 to above	104
Generation Y:	21 to 30	222
Generation Z:	18 to 20	94

Table 3.4.4 Descriptive Analysis Between Gender and Age Group

Gender	Age group		
	Gen Z	Gen Y	Gen X
Female	49	105	37
	25.7%	55.0%	19.4%
Male	45	117	71
	19.3%	50.2%	30.5%

3.5 Research Design

The research design is a systematic plan to achieve the research objective and adequately to execute the hypothesis. The present study manipulates the demographic variables through selection and choice characteristics with experimental manipulation.

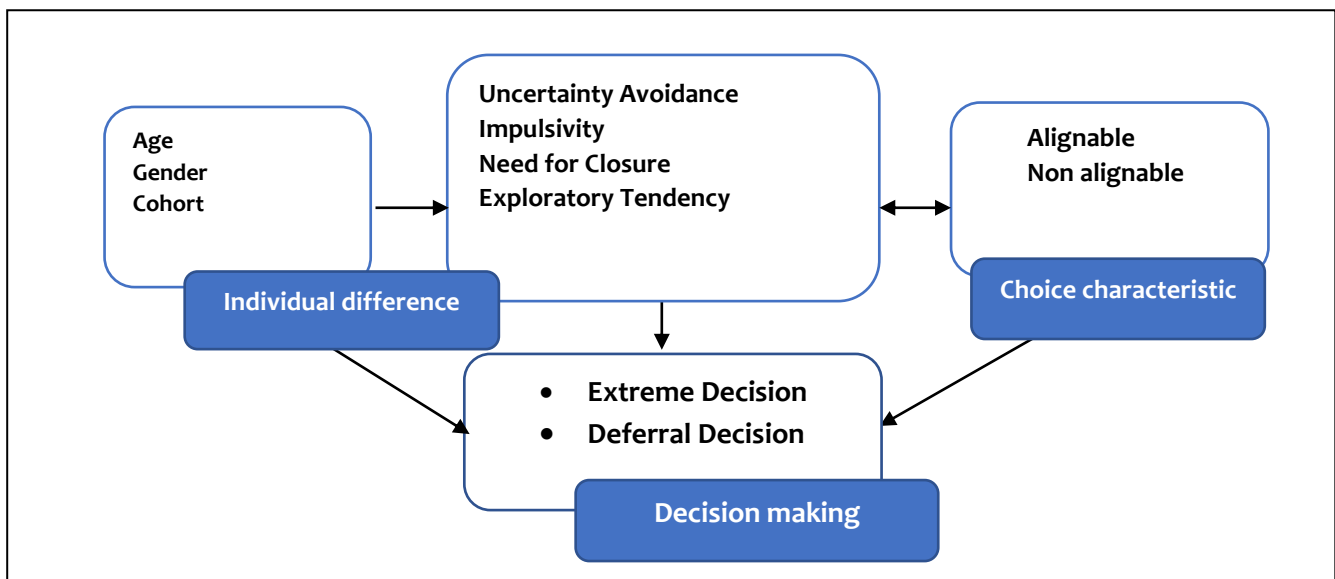


Figure 2: Reserch design

3.5.1 Operation Definition of Variable

Choice characteristics: One of the significant contributors in extreme effect in decision making and deferral decision making is the alignability and non-alignability of attributes across choices in a set.

a) **Alignable attributes**

Alignable attributes are characteristics which are shared by all the alternatives.

b) **Non-alignable attributes**

Non-alignable attributes are characteristics which are not shared by the other alternatives and are a unique component of choice.

c) Extremeness seeking

Extremeness seeking refers to subject choice migration toward both the low end and high-end alternative in a choice task, particularly when the assortment size of choice set is increased. The driver of extremeness seeking is usually considered to be preference uncertainty.

d) Extreme aversion/Compromise effect

To choose the middle category product is called the extreme aversion or compromise decision.

e) Deferral Decision

Deferral decision making is defined as an individual preference for not choosing any option or postponing it for some time.

3.6 Instrument Development

To satisfy the objectives and to achieve the hypothesis of the research, an instrument in the form of a standard structured questionnaire and web experiment was used. It meets research objectives through measurement of dependent and independent variables under study. To prepare the instrument, different variables have been identified from the literature survey. A description of the variable, type of measurement, and scale used to measure these variables is described in the below.

3.6.1 Tools

The study is conducted with the help of administering questionnaires, two experiments, and an interview.

3.6.2 Questionnaire

Following questionnaires are used to collect the data on personality dimensions and cognitive factors.

- a) Need for closure: (Webster & Kruganski, 1994).
- b) Exploratory Tendency: Raju and Venkatesan (1980).
- c) Uncertainty Avoidance: Intolerance of Uncertainty Scale (Buhr & Dugas, 2002).
- d) Impulsivity: Barratt Impulsiveness Scale (BIS-11; Patton et al., 1995).

a) Need for Closure Scale

The need for closure scale measures the person motivation concerning information processing and judgment (Brizi. A, 2016). The Need for Closure Scale introduced by Webster & Kruglanski in 1994 consists of 42 items divided into five facet scales: (1) preference for order (2) preference for predictability of future (3) decisiveness of judgments and choices, (4) ambiguity, and (5) closed-mindedness. This 42-item scale possesses high internal consistency (Cronbach's $\alpha = .8405$) as well as high test-retest reliability ($r = .8611$). The present study used the 41-item revised NFC scale (Webster & Kruglanski, 1994; revised by Roets & Van Hiel, 2007). Roets and Van Hiel (2007) revised 42 item scale in 41 because of the decisiveness factor. This 41-item scale also possesses high internal consistency (Cronbach's $\alpha = .90$) and good test-retest stability ($r = .87$). All items have been measured through a five-point scale (strongly agree to disagree strongly). The reliability of the scale for the current sample is (Cronbach alpha = .79).

b) Exploratory Tendency Behavioral Scale

The exploratory tendency scale measures the modifying stimulation from the environment. An exploratory tendency behavioral scale developed by Raju in 1980 consist of 39 items divided into seven factors namely, 1) repetitive behavior proneness 2) innovativeness 3) risk-taking 4) exploration through shopping 5) interpersonal communication 6) brand switching and 7) information seeking. All items have been measured through a five-point scale (strongly agree to disagree strongly). This 39 items scale has good internal consistency (Cronbach alpha = .78), as well as high test-retest reliability ($r = .8611$). Higher the score on the scale means - higher needs for stimulation, tend to seek more diversity in their information search activities and to buy decisions (Soares et al., 2008). The reliability of the scale for the current sample is (Cronbach alpha = .61).

c) Intolerance of Uncertainty Scale

The intolerance for uncertainty scale measures of intolerance of uncertainty (Buhr & Dugas, 2002; Freeston et al., 1994; Norton, 2005; Sexton & Dugas, 2009). This was first described by Freeston, Rhéaume, Letarte, Dugas, and Ladouceur (1994) as being a key construct related to worry and worry related problem. Present study used Buhr & Dugas, 2002, 27-item Intolerance of Uncertainty Scale (IUS) divided into four factors 1) Desire for Predictability 2) Uncertainty Paralysis 3) Uncertainty Distress 4) Inflexible Uncertainty Beliefs. The scale has been investigated and validated (Buhr & Dugas, 2002; Freeston et al., 1994, Norton, 2005; Sexton & Dugas, 2009). This 27 items Intolerance of uncertainty scale has shown excellent internal consistency (Cronbach's $\alpha = .91$) and good 5-week test-retest reliability ($r = .74$, respectively). The reliability of the scale for the current sample is (Cronbach alpha = .91).

d) Impulsivity Scale

The impulsivity scale measures the personality construct of impulsiveness. Impulsivity scale was introduced by Barrat in 1959. The present study has use BIS-11, 30 items self-report questionnaire designed to measure impulsiveness (Barratt, (1995) revised by Patton et al. (1995). This version is an updated version of BIS 10, has divided into three factors 1) attentional, 2) motor and 3) non-planning impulsiveness. Attention Impulsiveness is defined (attention and cognitive Instability dimensions) as an inability to focus attention. Motor Impulsiveness (motor and perseverance dimensions) describe as acting without thinking, and Non-Planning Impulsiveness (self-control and cognitive complexity dimensions) define as a lack of forethought (Barratt, 1985). This 30 BIS-11 has good internal consistency (Cronbach alpha = .78), as well as high test-retest reliability ($r = .8611$). All items are answered on a 4-point scale (Rarely/Never, Occasionally, Often, and almost always/Always). Items are scored 1, 2, 3, and 4; 4 indicates the most impulsive response. BIS-11 total scores range between 52 and 71 should be thought of as within normal limits for impulsiveness. Scores lower than 52 usually are representative of an individual that is either extremely over-controlled (Knyazev & Slobodskaya, 2006) or who have not honestly completed the questionnaire (Helfritz et al., 2006). Higher the score on the scale means high impulsive behavior. The reliability of the scale for the current sample is (Cronbach alpha = .71).

3.6.3 Experiment

As discussed before, E-commerce websites give an advantage of studying the decision-making process is similar to a real-world scenario with the possibility of the desired manipulation. Two online platforms were created to do the intended experiment. Two different products (hotel and mobile phone) were chosen for the analysis. The reason for selecting these products was that both the products are of everyday uses, are sold through e-commerce websites in reality, and both are the products for which the preferred mode of purchase commonly is a physical market, not the online market. Both experimental interfaces were created with the Xampp software. The frontend is HTML CSS JAVASCRIPT and Backend is PHP MySQL. The first experiment (hotel choice) was a forced choice experiment, where the participant has to choose a hotel from the

available option (participant was not given any opportunity to 'not choose' explicitly). The second experiment (mobile choice) is created with the non-forced choice option, where participants were explicitly instructed that they can terminate the experiment whenever they want, without choosing an option.

a) Extreme Effect Experiment

Hotel or accommodation is a vital aspect of the service industry. It is highly associated with uncertainty and ambiguity because it is intangible, perishable, and heterogeneous. The results from our field study (Sharma & Maidullah, 2016) also indicated that most people do not prefer hotel booking online. Considering these findings, the experiment was designed using hotel accommodation as a choice task.

b) Deferral Decision Making Experiment

The common perception is that mobile phones have replaced many other gadgets and are being used for different purposes. However, past researches and our field study (Sharma & Maidullah, 2016) indicates that most people prefer only information search for electronic on online platforms. Therefore, the experiment was designed using mobile as a choice task.

3.7 Data Collection

3.7.1 Data Collection Procedure

The sampling was done with purposive quota sampling and academic institutions were contact. After taking permission from the competent authority of the institute, individuals were approached. First, the researcher has requested the participant verbally that he/she need their participation for the successful completion of her thesis work. If the participant willingly agreed to participate, then only researcher fixed the scheduled and venue according to participant available time. To start the data collection participants gave written consent.

After signing the consent form the data collection procedure started. First, the researcher administered the deferral decision-making experiment. Consecutively interviewed the participants related to their first decision and after few seconds executed the second extreme decision-making experiment and interview. After successful completion of the experiments and interviews, Questionnaires were administered in the form of hard copy or Google link according to their choice. The interview after both the experiments includes question like: 1) which attribute is essential for making this decision? 2) Which attribute was there in the experiments? 3) Why did you choose this option? 4) How did you decide for this option? And 5) what other information should have been there?

3.7.2 Experiment Instructions

Before starting the experiment, the researcher had provided the instructions to the participants who are available below.

a) Extreme decision-making experiment

At the start of the experiment, participants were given the following instruction:

“Assume that you are booking a hotel room from the present backpacker website. To start this experiment, you have to enter your name, and additionally, you have to select the price range from the available price category and number of hotels per page you want to see. You will be then presented with a sequence of the hotel as per your selection in the above filters. The page appears on your screen will allow you to look at the attribute of the hotels and also to read its

features. You can spend as much time on each page before deciding what to do. You can see each page as many times as you want, and you can also proceed to the next page and then come back to the previous page. You have the option to change the price range and number of view option as many times as you want. You will be then able to choose one of the available hotels, to select the hotel option you have to click on the price button. After that one pop up will appears in your screen for your final submission. Here, you have the opportunities to submit your final selection. Here you have completed the experiment with the hotel booking decision”.

b) Deferral Decision-Making Experiment

At the start of the experiment, participants were given the following instruction:

“Assume that you are purchasing a mobile phone from the present mobile bazaar website. You have to enter your name to start the experiment. You will then be presented with a sequence of 9 pages which have 72 mobile phones, in total (a page is merely a collection of mobiles). Each page has a minimum of four mobile phones or maximum of 12 mobile phones. When a page appears on your screen, you will have the opportunity to look at the image (box-like rectangular frame with description) for each mobile phone in that page and also to read a short description of its features. You will then be able to choose one of the available mobiles, to select the option or click to the next button or else end the experiment.

You may spend as much time as you want at each page before deciding what to do. You will see each page as many times as you want, and when you proceed to the next page, you will be able to go back to the previous page.

While you see the pages, you have to select mobile which you would consider purchasing. You have to choose at least four mobile and add it to the shopping cart. However, there is no upper limit after adding your temporal selective four mobiles to your shopping cart. You will be again able to choose one of the available options to select the “go to final page” or to select “end experiments.” In “go to final page” only your selected mobile four or more than four will appear (box-like rectangular frame with description). Again, here you may spend as much time you want to spend. You will select your final option from this page and then click on the submit button to make a purchase decision or else you will select the end experiment to click on it to make no purchase decision. Here you have completed the experiment with the purchase or no purchase decision”.

3.7.3 Data Processing

Data processing is a procedure to convert raw data into meaning and usable data. Thus, the researcher can use effectively to measure the hypothesis, to achieve the objective, and to draw a related conclusion. Therefore, data processing involves various methods such as validation, sorting, classification, aggregation, summarization, analysis, and reporting. Validation – ensuring that the collected data is correct and relevant. Sorting – arranging data in some sequence and different sets. Classification – separation of data into various categories. Aggregation – combining multiple pieces of data. Summarization – reducing detail data to its main points. Analysis –the collection, organization, analysis, interpretation, and presentation of data. Reporting – list detail or summary data or computed information. The present study uses all the above process to convert their collected raw data into usable data. For data assurance and validity, we use a consent form. Which provide information that all the participants are willing to participate in our research, and the information provided by them are also valid and authentic because the majority of the participants were from the academic’s background. We also sort our data into a different level with multiple combinations and then coded according to our hypothesis and objective.

3.7.4 Data Cleaning and Editing

After completion of the above process, the next step in the process followed is data cleaning. In this stage, all detectable errors and omission have been examined, and the necessary actions have been taken. Data cleaning is a quantitative process which involves an explorative data analysis process. Researcher checked missing data, normality linearity, and outlier of the data. We used SPSS data analysis software to check all the missing value, nature of data for further analysis, and all the extreme value. In the present data, we checked missing data with the help of frequency analysis and ran the explore analysis for outlier and normality of the data. Present data does not have any missing value and outlier.

3.7.5 Data Analysis

The data is analyzed with the help of SPSS data analysis software and the interview records are analyzed by NVIVO software.

