A STUDY OF CONSUMER BEHAVIOUR BASED ON ONLINE PURCHASE PROCESS OFFERED BY E-COMMERCE WEBSITES TO MEASURE VALUE-PROPOSITION FOR BUYERS IN INDIA

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By

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Declaration

I, Syed Tabrez Hassan, declare that this thesis has been prepared solely by myself and that it has not been submitted, in whole or in part, in any previous application for a degree.

Except where states otherwise by reference or acknowledgment, the work presented is entirely my own.

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Certificate

I certify that Syed Tabrez Hassan has prepared his thesis entitled "A study of consumer behaviour based on online purchase process offered by e-commerce websites to measure value-proposition for buyers in India", for the award of PhD degree of the Lovely Professional University, under my guidance. He has carried out the work at the Mittal School of Business, Lovely Professional University.

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Abstract

The online shopping has become a new normal for buyers. The products offered are also so vast and full of assortments that sometime the e-commerce is the only option left to purchase. With the advent of time, the affordable internet devices, data plan and consumer awareness has fueled shopping behaviour. The reach has also increased to almost all given pin codes of India and with a fair return policy, the trust has increased manifolds. The payment mechanism offered is also safe and supports the payment after the delivery. Online sellers could use several utility enhancing buying combinations to increase favorable consumer attitudes and fulfil their utility needs. The study provides an overall view of the buyer's online buying and decision process. It includes overall calculation by respondents for several value-based combinations of online buying attributes which are studied together as opposed to done in steps as referred in past studies. Thus, through this study the tradeoffs are assessed which a buyer decides to maximize his utility among given choice of value propositions.

The research suggested the quantitative scores for the value related offerings and its influence as whole for the business as well. The Indian websites were selected based on multi-decision criteria for this study. These were the websites which were multi-product e-commerce and have established brand names among Indian buyers. The internal signals were studied through learning about their policies and the external signals were studied through suggestion of experts. The analysis of the major processes of shopping online is done and within these variables it tried to rank with score all the combinations offered by e-commerce websites. Further, the study is done to quantify the utility measures by appropriate data analysis tool and suggested the list of

combinations which are accepted has online buyers as value creating options. In a gist, the current study introduces a utilitarian perspective to the online website businesses and helps seller to comprehend the tradeoffs buyers make during the online buying decision.

Based on the output of the conjoint analysis and simulation, it is recommended by this study that buyers form online buying decisions in descending order of preference for return (convenience), delivery (i.e., delivery time period), selection (i.e., reviews, discounts etc) and payment. The research has some foremost practical applications for assessing consumer buying behavior online. Online sellers should acknowledge the fact that buyers' value propositions constitute a huge barrier to on-line transactions from managerial decision maker's perspective

Keywords – Value propositions, TOPSIS, selection process, payment process, delivery policy, return policy, utility measure

Acknowledgements

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CHAPTER 1

INTRODUCTION

1.1 Introduction:

An electronic commerce is described as a form of business that enables a firm to do business using the electronic internet network. It can be considered as an upgraded version of yesteryear's "catalogue shopping". As the technology has innovated, the same catalogue is upgraded to be viewed over the electronic device with the help of the internet. Thus, making "catalogue shopping" obsolete and paving the way for online shopping. Important factors for the e-commerce industry are accessibility of internet bandwidth, availability of device which is able to access the sellers' information, secure payment option, robust delivery, logistics and proper after-sales service to customers. These consist of a Product-Service continuum for the e-commerce industry. In the recent past, e-commerce is well received in India. It is changing the way we look at shopping. An opportunity to shop 24/7 from any place adds to its shopping experience. Also, the low-priced mobile handsets with internet availability act as a catalyst for online shopping companies.

The history of e-commerce started forty years ago and it is continuously growing day by day with the new technologies and innovations. The very first e-commerce was invented as well as pioneered by an English man, innovator and entrepreneur "Michel Aldrich" in the year 1979 in England. He interconnected a specific domestic television via telephone line to a computer which can process online transaction. The E-commerce before 1990s was referred to as Electronic Data Exchange for exchanging of work-related documents like purchase order and voice electronically. Subsequently, the growth of the new industry was termed as electronic commerce.

There are four main models of ecommerce are: business-to-business (B2B), business-to- consumer (B2C), consumers-to-business (C2B), Consumers-to-Consumers (C2C).

B2B model (Business-to-Business):

In this model, one business organisation directly sells to other businesses. It means that one company does business with other company just like manufacturer-based companies selling to distributor companies, wholesaler companies selling to end user retailer firms and so on. Alibaba which is the Chinese giant is an example of a B2B model.

B2C model (Business-to-Consumers):

In this model, business sells goods & services directly to customers by the internet. Companies who are under this, showcase their merchandise or services on their sites or mobile apps and users order directly through these mediums. Flipkart, Myntra, Jabong, etc are examples of the B2C model.

C2B model (Consumer-to-Business):

It facilitates the consumers themselves selling their products or available services to business organisations. For example, when consumers write a review which means that they give a useful idea to businesses for improvement which creates values for the business.

C2C model (Consumers-to-Consumers):

Under this model, the selling of products or services takes place between the users. Olx.com is an example of this model where consumers post a product for sale and other buyers offer bid to buy it.

With the accessible internet, business transaction moved towards online, buyers make cost calculation between available websites on internet and finally making buying decisions based on available offering factors as availability of product, price of product as well as indirect but important factors such as service, product varieties and cost of delivery. It is important for website vendors to assess the importance of these factors for available buyers if sellers want to decide on value propositions for them.

Online buyers seem to be motivated to the degree of convenience with which they can find merchandise on the website, the available product related information and the large assortment of products offered. Because of the relative ease of sellers setting up online shops, a lot of smaller online retailers have chosen the internet. However, with the advent of online sellers, they are facing issues demarcating their products or services offering from their rivals. A recent report from Ernst & Young added that a large percent of those buyers surveyed accept that brand value plays an important factor in their buying process on an online platform. Consequently, selling through brands that are well known, may be important for the online websites, however, the information search and cost related to it seem to be relatively low.

The world wide web was originally conceived for the exchange of data between decentralized electronic machines and has evolved into the internet. The ease of use of processes on the internet has facilitated the selection of this technology by buyers and sellers of products alike. With the information support of online search engines like Google and Yahoo, buyers can get merchandise information and generally make purchases with relatively less effort than through other sales channels. Similarly, with the lesser cost of online publishing, sellers can offer more merchandise information through this medium than most of the other channels. This results in better merchandise

information, on balance, being offered to buyers than ever before. One very important factor, trust, which always has been treated as a thrust for the relationship between online buyers and sellers, can provide buyers with more expectations related to seller relationships and goodwill. Few researchers also suggest that trust is a very important factor for assessing buyer behavior and business transactions. The significance of the trust factor is highlighted in online buying because of its perception related to high involvement of risk present and the uncertainty attached in the purchase process on online channels.

1.2 Industry Overview

The e-commerce has changed the way of doing transactions in India and it has seen high growth and it is estimated to cross the United States and may become the 2nd biggest online retail space in the world by the year 2034. If stating about the figures, the Indian e-commerce market was worth US$38.5 billion in the year 2017 and it is forecasted that by 2026, the Indian e-commerce space will grow to US$200 bn. The prediction says that the Indian e-commerce market has the potential to raise growth with 4 times (US$150 billion) by the end of the year 2022. This is because of increase in the internet, affordable smartphone and handsets, increased in digital-based strategy (user base more than 800 million by 2021) and revenue jumped from USD 39 bn in 2017 to USD 120 bn in the year 2020, moving ahead with an annual interest rate of more than 50% which is one of the largest among available industries.

Technology-wise, putting "e" before any process appeared to be one of the modern remedies for the technology success stories of progress and fast returns. E-business, e-sales, e-procurements, e-banking, e-CRM, e-CAD, etc are only a couple of examples.

Web, for example, is getting one of the most well-trusted media in transmitting different valuable information. Clients can locate any type of data within a lesser duration compared to regular methods that require more time. The online business has advanced this by transforming from a data device to a shopping medium too. Buyers who shop on the internet do so in light of the fact that they want comfort, decision, data, and utility worth. An organisation that decides to take an interest in electronic commerce must take a quick look at its data innovation abilities and information on the electronic market and the organization's proficiency. The specialists are the organizations who have reengineered their business to work viably in the electronic market. The passive followers are the organizations who have a nearness, however don't lead business in the electronic business market.

In India, the industry is having more market share captured by Amazon.com, which also owns the Indian website Junglee.com, the erstwhile book seller Flipkart.com, the online Snapdeal.com, and apparel retailer Jabong.com (now owned by Flipkart). Newly formed Paytm mall is now coming up with big investors. Many researchers agree on the fact that the internet business demonstrated its noteworthiness dependent on the fact that the time is very important factor. In the business transactions, time defines a significant role for both the buyers and purchasers. From the seller's point of view, with lesser time spent during any purchase, more transactions can be leveraged around the same time. From the buyer's point, they will save aside additional time during their purchase and transactions. Along these lines, internet-based business steps in and supports the conventional trade technique but here a single business exchange can cost the two parties a great deal of significant time. Within only a few minutes, a transaction can be finished by means of the online web effortlessly. The online business

started during the 1970's. The accessibility of money cards, logistics, conveyance and mail request lists started the shop-at-home idea.

Data wise, as stated by an online consultancy firm, "juxtconsult.com" adds that the number of users is more than 50 million who are actively involved on the internet in India, among which more than 75% are regular users. The study highlights that these users are in the bracket of 25 to 35 years of age. In addition to it, research on online purchase process in India suggests that Indian young market is the largest group of users. Indian users prefer logging into the net for information gathering compared with purchasing purposes (Singh & Khare, 2010). Online buying in India is growing faster and compared to the previous year the total number of buyers on the online platform has increased by more than 20 mn users. The Indian online market now presents lots of opportunities for vendors who are online. Knowing buyers' behaviour for using the internet as an added medium, help online sellers to design their offerings according to online buyers' preference. Studies also confirms that buyers' perception towards online buying is positively affected by website features, like, information availability, convenience, animation, ease of use and navigability (Ahn, Ryu, & Han, 2004), risk factors, consumer demographics (Kim & Park, 2005), and accessibility to the internet (Haque et al., 2007). Even though there are evidence of good rates of growth in sales, there are supporting studies to help that most of the buyers who search online websites with a purpose to shop something, but later on, abandon the shopping cart. Online users make frequent use of the online platform for information search related with the product. Another research firm, Jupiter Communications adds that more than 70% of web users search for products at least on a monthly basis (Shop.org, 2001). This good level of interactivity related to search online should also convert into equally high

numbers of buying. However, it is calculated that sellers across the online websites lost more than $6 bn which is attributed to failed or cancelled buying attempts in the year 2000 (Blank, 2000). The rate of conversion of the buyer's ratio who purchases from those who stay with a website, remains lesser, according to a Boston Consulting Group research study. The buyers are interested in pleasure-based shopping too, but sometimes the utilities from website offering value propositions are not adequate or not in proper combination to lead an online buyer to final purchase.

The socio-economics of internet customers are changing and organizations need to showcase their items to speak to these new clients. The quantity of families shopping online has expanded and now over half are female. Middle income group families are additionally utilizing the Internet, largely because of the costs, accessibility and comfort offered by shopping on the web. Organizations must know about the socio-economics of individuals who are shopping from them so as to viably showcase their items and make commercials that will speak to their objective market. Indeed, even with the development and advancement of the internet and web-based business, only one out of every odd nation has a host of web-based business like the U.S.A. The framework of online business differs broadly across nations and all are lagging with the United States at the forefront. U.S. based sites overwhelm the worldwide market in designs and deals. The primary purposes behind these distinctions are the conditions of different nations. Diverse law, political as well as social situations cause distinctive buying practices and mentalities with respect to a web-based business. A few nations' conventions and culture do not support the measure of business web availability that is found in the U.S. and surrounding nations, likewise, have an inclination with regards to purchasing things. This is known as the "country-of-origin" effect and means the

impression that one nation has of another nation will influence their perception of that nation's items and hence, their purchasing behaviour. As the utilization of the web to shop rises, retail showcases must keep on checking their business on the web and exploit ways that can expand transaction security and increase buyer trust. Comparing with previous studies, this current study highlights the existing literature on online buying behavior and tries to examine the influence of offered values for customer utility measures.

1.3 Advantage of Ecommerce in the economy

E-commerce, which truly signifies business transactions through the Internet, has been the world over since mid-90s. Until recently online business is gradually getting increasingly more interests from business gurus and entrepreneurs. One fundamental reason is that because of the important and meaningful business of some notable names on the Internet, e.g., eBay, Dell laptops and Yahoo. The income generated by these organizations which appear in the yearly reports, is probably the greatest factor why internet business is significant in the business sector these days. Online business showed its significance depends on the reality where the time is also seen as "resource". These days E-Commerce is a worldwide word. Despite the fact that it is ubiquitous however, we never understand its significance principally in light of the fact that it is known by various names. Individuals do site advancement, SEO, and numerous different things, yet the objective is the same, for example to get customers and sell the products or services of the organization. The internet is only a medium to execute on the web. The following points are some exceptional significance of internet business which makes it extensively apparent. The new sector adds to the business ecosystem

with the entire value chain of raw material to post purchase services as follows:

Exploitation of novel business idea: - Extensively, electronic media trade accentuates the emphasis on new business openings and to utilize well known expressions: "create business brands or "accomplish more with less".

Customers enablers: - E-commerce is giving power to the buyers to have an information about merchandises they buy, how products are made and how information is conveyed (progress from a process what is happening inside the business seller company to a faster and open procedure with buyers having extended decision control.)

Improved business transaction: - E-commerce tries to improve the execution of business transactions over different systems.

Effective Performance: - It supports increasingly practical execution, for example, enhanced quality, more consumer loyalty and better business relations.

Greater economic efficiency: - We can accomplish more trustworthy financial efficiency (lower cost) and increasingly fast trade (rapid, quickened, or continuous communication) with the assistance of electronic business.

Information execution: - It empowers the process of data transactions between two (or more) hosts, utilizing the associated processes. These processes can be a mix of "plain old phone framework", cabled TV, rented cable lines etc. The data transactions are

making better approaches for participating together and even new avenues of business.

Incorporating records of transaction: - E-commerce, similarly, keeps record of courses, procedures and tracks all data transactions. It additionally adds the process of buyers making electronic payments or instalments and merchandise delivery.

Increasing of Revenue- Business firms use the innovation process to either bring down operating expenses or increment in revenue income. E-commerce can generally build increased revenue income by making new markets for offered products, making new data-based items, and setting new assistance and communicate with clients. The online transactions can also empower firms to lessen working expenses by empowering better coordination in the business, creation and to merge activities which are less important overhead.

Reduction of channel friction: - E-commerce and its dependent process is to lower the "friction" in off-line transactions which is frequently portrayed in money-based perspective as transaction cost. It can erupt in offline practice from wrong market models and unnecessary processes of the buying exercises required to make an online transaction. Finally, the lesser degree of contact in online business will foster the smoother exchange between buyers, middle agents, if any, and merchants.

Facilitating of supporting business network - E-commerce is additionally affecting business .to business communications. It encourages the type of association where little adaptable firms depend on other supporting business, organizations for part supplies

and logistics firm to satisfy changing client's need effectively. Consequently, a start to finish relationship with the buying arrangement is an interesting objective that is likely to deal with the chain of infrastructures connecting users, skilled workers, service providers, wholesalers and even business rivals.

Facilitating organizational model: - It is a participative model that is on a very ground level unique in relation to the offline mode. It has a control association with the data-based exchanges. The increasing business types of techno-hierarchical structure include a reduction in administrative duties, aligned data streams and work structures

1.4. E-commerce business mechanism

Logistics normally suggest activities that happen within a common affiliation's breakpoints or procurement links insinuate partnership structures that coordinate or facilitate their exercises to carry on something to support. It's called distribution and supply chain planning which includes certain planned activities that deliver something for people to buy in particular and make consumers happy.

An inventory network is the associated arrangement of individuals, affiliations, resources, activities, and advances required in a thing or organization's manufacturing and offering. The store organize suggests a wide range of pragmatic domains within the affiliation. In comparison, daily logistics focuses its attention on tasks such as purchasing, allocating, storing, and controlling inventory. A stock system begins at the transportation of raw material as inbound logistics, from a supplier to a producer and finishes with the movement of the finished thing or organization to the final buyer.

Another important aspect, Supply Chain Management (SCM) controls, from the initial

creation to the definitive agreement, sourcing, procurement and management of supply. Deciding, creating and arranging, preparing, customer advantage all are a bit of the system as well. Fundamentally, it furthermore exemplifies the information structures so essential to screen these activities.
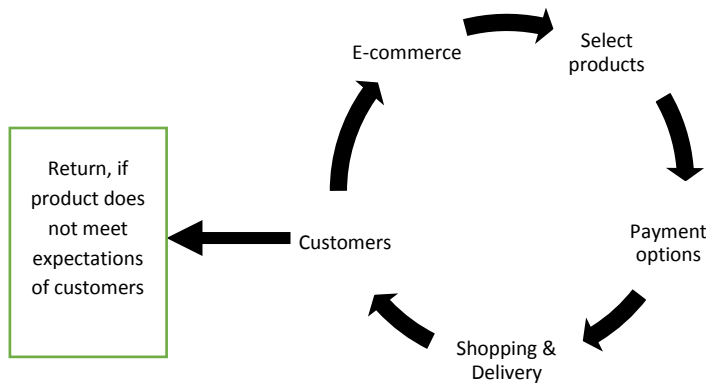
(Figure.1 Supply Chain Mechanism in e-commerce)

Selection mechanism:

The website offers wide assortments through basic interactivity using pictures and product specifications. Few websites offer different views of the product as well as AI-based product projections for real life attributes. As the landing page itself is not sufficient to summarise all product listing, most of the website has in built search engine to match with the buyer's choice of keywords. Few other features include:

i.   Deals of the day

ii.   Discounts for today

iii.   Customers' reviews

iv.   Website approved products etc

Payment mechanism in Online Shopping:

The user fulfils the payment process after he places an order. Some of the available payment option used largely by customers are follows:

Payment through Cards- The most versatile payment process chosen by users are payment by the card as follows:

i.   credit cards

ii.   debit-cum-ATM cards

iii.   prepaid cards (by the website)

iv.   gift/ loyalty cards (by the third party)

Payment through alternative methods- Few methods are:

i.   internet banking

ii.   payment on delivery (POD)

iii.   easy monthly instalment

Digital Wallet: These are preloaded digital wallet, offered by sometime the e-commerce companies themselves.

i.   Phone Pe (Flipkart)

ii.   Amazon Pay (Amazon)

iii.   Paytm Wallet (Paytm)

iv.   Jio Wallet etc

Delivery and Return mechanism

The delivery policy is an important legal document available on the website according

to the perspective of customers. Anyone vendor who wants to sell product through a website, they should publish it. It is a straightforward document. Every e-commerce company has their delivery policy according to their logistics plan. There are various ways of delivery, the company might have only one method of delivery or have many for examples:

i.   standard delivery,

ii.   express delivery,

iii.   next day delivery,

iv.   international delivery,

v.   premium delivery

Clients may have a decision among the options. The decision of choice may, nevertheless, is inspired by the delivery process and/or the sorts of items bought.

The return policies are based on products purchased and the type of offers or discounts associated with it. Generally, all website offers a cancellation and return policy.

1.5 Consumer behaviour on online purchase process

The buying process related with consumers is the study of how a buyer, buyer groups or B2B business firms choose, purchase, use and dispose of product, ideas, services or experiences to fulfil their needs and wants (Kotler and Keller, 2006). Online buying is a faster growing process which has been selected by increasingly large numbers of buyers. Shim et al. (2001) researched about buyers' behaviour toward online buying and suggested few factors that prominently influences buyers' attitude to use the website for search for information and thus supports their intention in using the online

sales channel for buying process.

Online buying behaviour is very much influenced by below important three factors. These are:

a. trust and risk factor towards online buying (Jun and Park, 2003; Comegys et al., 2009);

b. motivations for purchase, such as based on price, convenience and hedonic motivations (Dillon et al, 2004; Kim et al., 2003, Kukar-Kinney et al, 2010); and

c. search of information based on online process (Torkzadeh et al, 2002; Rose et al, 2011).

In comparison to conventional consumer buying behavior, online buying has few special dimensions, like, the vast use of tech-process for business exchanges, the distant far and non-personal atmosphere of online buying, and the hidden risk of using technology-based systems for business transactions. In a nutshell, buyers must voluntarily engage in the use of technology for interacting with the seller's website, the space wise and temporary separated distance between buyers and sellers increase apprehensions of online seller's mishandling the transaction. It also arises from the uncertainty associated with identity and products and there is a thought about the trustworthiness of the web service itself and the related web ecosystem that online sellers use to interact with buyers (e.g., the complex and open web system gives the apprehension that hackers or some unrelated parties may steal the costumer privacy and financial data). Overall, the above three concerns and differences, negatively affects buyer concerns about control over online buying, thereby results in increasing the fear about embracing of B2C model of online sales. In terms of online seller manipulation and risks associated, theories related to risk and trust in online sales are

employed. With respect to simplifying the broad matter into a more specific field, a segment of buyer behaviour was chosen in relation to an area of interest which is consumer psychology. This area of psychology handles the study of any buyer, individuals or buyer groups are associated with buying activities and its individual effect. It is generally a tough task to assess buyer's buying behaviour without prior knowledge of the way an individual process the information and decision making. Enormous research of buying psychology shows the important aspect of buyers that influences individual engagement in decisions. The stimulus that does enter the thought process is not processed in a standalone way. The meaning of the thrust cue is adjudged in different ways from buyer to buyer and is influenced by individual biases, needs and personal experiences.

Online buyers are ready to make an endeavour to order online in the process to avail savings on the listed price. The product prices are supposed to be lesser online and in turn, consequently, merchandise price is an important factor to purchase online (Karlsson et al, 2005). It has been also researched that there are twofold motivations of convenience as well as the comfort of faster search related with the price that make buyers search for the best available offers more effectively through the internet, that is a powerful stimulus to purchase through the internet (Joines et al, 2003). The purchase behaviour is also motivated by the value addition of information about price with time saving. This combination also acts as a major influencer for online buyers (Shim et al, 2003). Gathering price related information is taken as an influential part that affects buyers' online purchase decision making, buyers can feel more entitled as they search through online for the best available prices and discount offers (Wright and Jayawardhena, 2001).

Zhou, Dai & Zhang (2007) highlighted nine types of buying behaviours that affect the online purchase, experience about internet, demographics, buying orientation, normative beliefs, buying intention, personal characteristics, online experience, psychological image, and online buying experience. Buyers also prefer pleasure seeking, interactivity, and flexibility in online shopping. Their study suggest that instrumental and hedonic aspects are crucial in online buying. The online website and its characteristics of design are important in providing intrinsic shopping pleasure to the buyers (Childers et al,2001). The online buying behaviour includes factors like searching about information, browsing the website, finding the merchandise, comparing, selecting and assessing information as well as website interactivity and business exchange with the online vendor. The buyer's total perception and buying decisions are supported by design, emotions, atmosphere, events and other experiences faced during interaction with a given seller's website, factors meant to revive shopper goodwill and influence the final decision of the online transaction (Constantinides,2004). One of the perceived risks among online buyer is the payment method and security related with it (Sinha and Kim, 2012). Lower prices, ease of buying, large assortments, various payment options are the important influencing factors in online purchase decision (Saprikis et al, 2010).

The concern for how to cancel or return the products, the duration of waiting time to return a product, and the cost related with the reverse logistics of merchandise i.e., back to the online seller are often concerns associated with an online return policy (Yong et al, 2002). Online buyers spend time to browse around before finally buying through internet and that by exploring for more information, they are better confident of doing the best purchase (Teo, 2010). The apprehension of product delivery delay or not

getting it delivered at all or even lost in transit has a negative impact on online buying. Also, the flexible and convenient return policy for merchandises has a positive influence (Sinha and Kim, 2012).

Trust and perceived risk:

Trust on online channel is basically required distinctly in some uncertain buying circumstances, since it adequately implies expecting dangers and getting defenceless against online sellers. Therefore, trust of buyer could be defined as a function of the extent of risk presumed in the online buying. Trust is important in business negotiations as it minimises the risk of becoming a victim to manipulative behavior. This hold true to online buyer behavior also, where business exchanges may be associated to vendor's malpractice. Nonetheless, trust has been associated also with risk reduction against being taken hostile by online sellers. It is related with lesser perceived risk in buyer to seller transactions. However, previous study highlights on the connection between risk and the trust, the literature and empirical evidence based on trust, mainly focus on industrial associations. Trust in online selling activity reduces behavioral unreliability and related risks attached with the probability that an online seller might behave with mala fide intentions. When buyer trust more, they presume that those they trust, will act as expected, thus minimising the complications of the interaction. Buyers tend to believe that a trustworthy online seller will not engage in unsolicited practices. Thus, perceived risk is reduced by the trust factor.

1.6 Theoretical Model:

Web based shopping site makes the information on merchandise and the market, vastly accessible and also available, and builds value to the customers. It empowers customer to settle on proper buying choices. The online shopping business model augments conventional business connections (vertical/linear relationship) to novel business connections showed by "end to end" relationship. It is an important idea and procedure that has in a general sense have transformed the current form of human behaviour. Among the various important impacts on purchase behavior that scholars have studied, the factor of a desire for knowing something new while shopping has been a relevant theme. All these buying behaviours have the potential to consummate a satisfying purchase experiences, to provide a change of pace and comfort from old conventional method, and to please the buyer's aspiration for knowledge and the desire of being curious towards new shopping behaviour.

In addition, electronic trade is one of the important criteria of information technology and in the field of economy. For instance, structure and presence of conventional business has on a very basic level has changed. These progressions are reason for any choice in the economy. Presence of online markets and stores that have not consume any real space, allowing access and information in these business sectors, without venturing out from home is possible. We can select and request products that are put in an online shop at any place of the world through these alternatives have been caused that ecommerce is viewed as the miracle now in present era.

The model taken from the author Rao, T. R. (1969) in the paper titled, Consumer's purchase decision process: stochastic models. *Published in Journal of Marketing Research* gives a flow chart as:
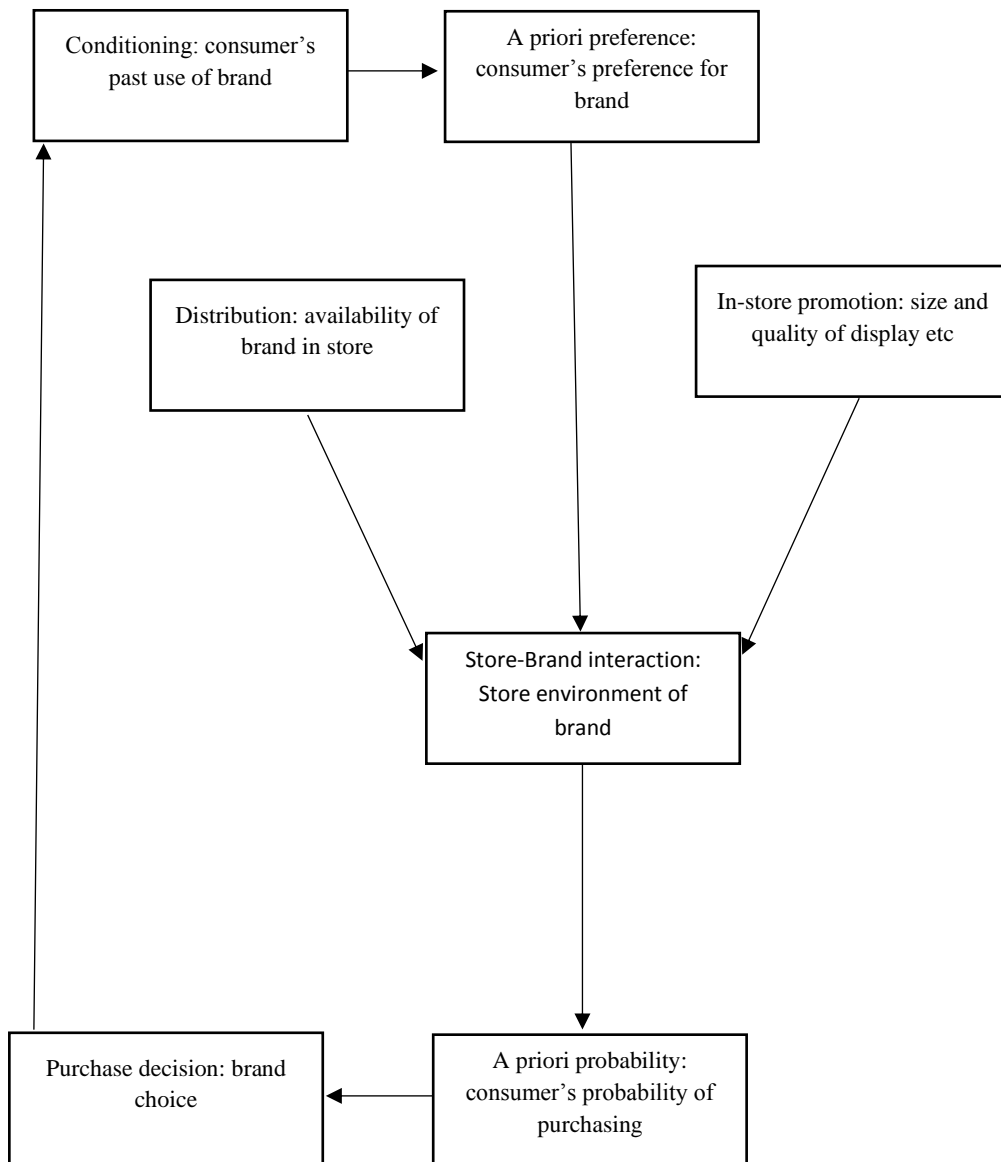
(Figure 2: Theoretical model for buying behaviour)

The above model highlights the preference, past usage, store environment, in store promotion and distribution collectively leads to the purchase decision process.

Kukar-Kinney et al, 2010 in the research titled, *The determinants of consumers' online shopping cart abandonment* suggested few inhibitors also.

Inhibitors During the Online Shopping Process	Emerging Inhibitors to Purchasing Online
Social Influences (online search) • Online shopping not available • (e.g., need to shop in a store for a gift on a registry) • Family/friends influence to shop together at a store • Lack of entertainment/boredom	
Lack of Availability (online search) • Of the product (e.g., sold out) • To online access • To the e-tail site • Of shipping to the geographic area (e.g., no international shipping)	**Organization and Research (online search)** • Need to organize items of interest in a single place • Desire to create a wish list or other summary list of items of interest
High Price (online consideration) • Item not on sale • Price of item(s) too high • Shipping costs too high • Handling fees too high • Applicable taxes too high	**Privacy & Security Issues (purchase decision)** • With the Internet in general • With specific e-tail sites • Privacy of specific purchases • Privacy of personal information • Security of financial information
Shopper's Financial Status (online evaluation) • The total cost is evaluated as too high • No access to accepted payment methods (e.g., Paypal, e-checks) • Limited availability of funds in preferred online payment account	**Technology Glitches & Issues (purchase decision)** • The Internet service provider, computer, or printer does not work • The website does not work • The payment system does not work • The online sale or promotion code does not work
Time Pressure (online evaluation) • Product is needed at time of purchase • Delivery too slow • The purchase process too slow	

(Figure 3: Inhibitors in the online purchase process)

The negative attributes are non-availability of online buying option, lack of availability and accessibility (It includes the area if not covered under delivery option), price factor, payment methods, privacy and security issues and time pressure and delivery.

In order to accomplish the research objectives, the online purchase model is proposed that composes of an interaction model of pre-purchase search for information by customers (Klein, 1998) combined with the Ajzen's planned behavior theory (Ajzen, 1985, 1991). The interlinked model shows the crucial role of search of information in buyers' online purchase behavior in the situation of products that is differentiated based on the genre of information searched for, prior to buying. The model also proposes other important points such as prior experience as crucial antecedents of behaviour related to search. Ajzen's (1985, 1991) study adds the implementation of a conventional behavioral model by adding the opinion of perceived control behaviour. In addition to that, the basics of most consumer buying behaviour is supported by Engell-Blacwell-Miniard Model. The earlier Engell-Blackwell-Kollat (EBK) model suggested the buying decision as problem recognition-search-alternative evaluation-choice-purchase-outcomes. The Engel-Blackwell-Miniard model (EBM) presumption relates with the fact that the information data informed by the seller that the buyer recognises in the process of buying decision. The buying decision is then re-analysed in a post-purchase period to measure the satisfaction obtain through purchase. The EBM model also heavily focuses on the buying decision steps:

| Information input | → | Information processing | → | Purchase decision | → | Post-purchase evaluation |
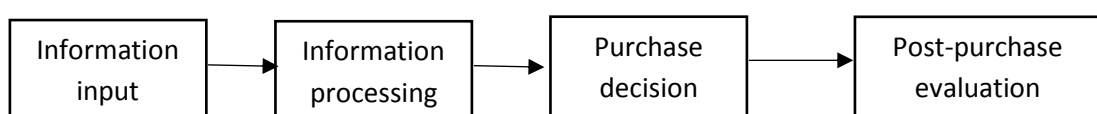
(Figure 4: EBM consumer buying model)

Above four interrelated factors are additionally divided into five different stages to account for the specific variables related to decision and external impacts of the decision process. These steps are identified as: the need recognition, the relevant search of information, evaluation of available alternatives, purchase process and post-purchase evaluation. This specific model considers "memory, information processing and consideration of both positive and negative purchase outcomes".

Pavlou, in 2014, studied online e-commerce on technology acceptance model (TAM) and added the latter's factor viz, perceived usefulness, perceived risk, and perceived ease of use. He suggested the online purchase process as three phase – "information retrieval – information transfer – product purchase".

3. Information retrieval • Browsing • Gathering Information • Making product and price comparison • Learning about products and services	2. Information transfer • Describing product preferences • Registering • Providing Feedback • Supplying private information	1. Product Purchase • Providing credit card information • Providing actual product preferences • Supplying payment and address information

(Figure 5: Pavlou's consumer buying model)

So, the online buying roughly takes into account the following process - first, online seller details about merchandise information on their online site, such as appearance, quality and usage. Buyers then complete their buying decisions based on product specification, their attachment to the displayed product and the review rating mentioning positive or negative attributes of seller. A buyer cannot have experience of touch-and-feel of the product until they receive it. Once the buyer gets the product, a final choice is made on whether to retain the product or return it to the vendor (Teo and

Yeong, 2003). Concerning about the factors that influence or negatively influence online buying, a business report by consultancy firm Ernst and Young studied that online users bought through this channel because of better product assortments, competitive pricing, and easiness of use, but were worried about delivery costs, lack of option to prior feeling the products, as well as, the security issue of bank card and personal data. Kalakota & Whinston (1997) researched that there are eight steps of consumers purchase activities, viz, product search, comparison, product selection, negotiation, placement of order, payment and after sales services. Online available services such as ease of product search, availability of specifications related to products, secure payment systems, delivery information about product and quick feedback to buyer queries make customers coming back for shopping (Turban et al, 2000).
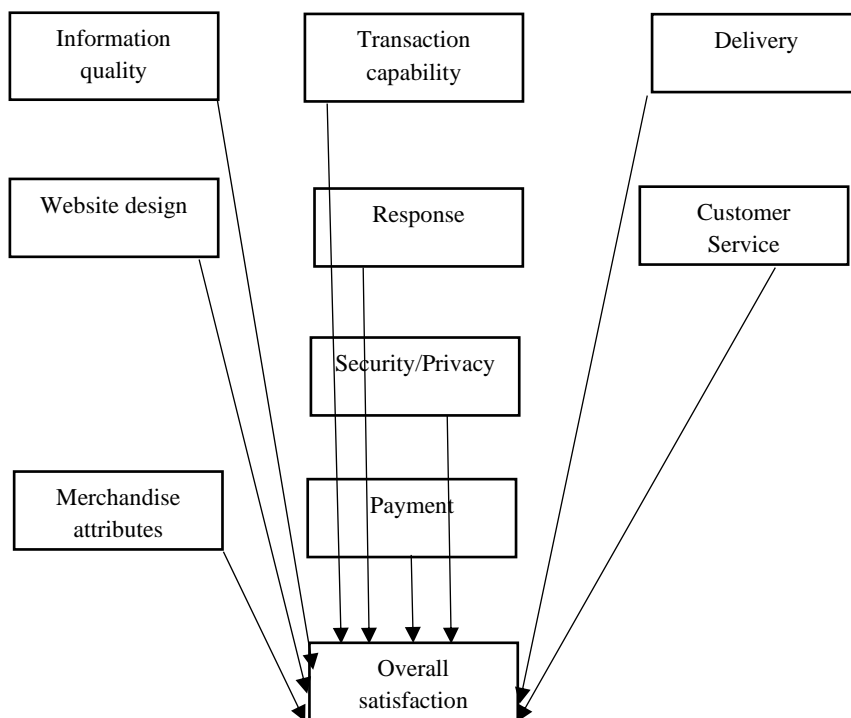
Figure 6: Purchase Decision Model proposed by Liu et al (2008))

Liu et al, in 2008, further added the buying process into following stages: searching information about product and alternatives evaluation stage, buying stage and post-purchase stage, and suggested a flow diagram of the utility process in the online purchase decisions. By analysing the past studies through literature, in this research the selected flow of online purchase is taken as

Selection Process – Payment Process – Delivery Process – Return Process

CHAPTER 2

LITERATURE REVIEW

2. Review of literature:

2.1 Online purchase behaviour

The advent of the online web has created a major change to the buying decisions and the way customers shop. A buyer is no longer dependent to wait for store opening or closing time or accessibility to a particular location. The various previous studies have shown the influencing factors which affect positively as well as negatively to the buying process.

Online purchase behaviour does not always follow old concept of buyer behaviour in the offline retail business environment. Thus, online sellers are suggested to focus on the antecedents of online decision behaviour among buyers as they are different from offline process (Lohse and Spiller, 1999). With a better knowledge of the buyer's online buying behaviour, online vendors will be able to deliver efficient and effective online buying experiences to add new buyers and retain the old ones. One theoretical model by Davis et al, 1989, named as "technology acceptance models (TAM)" and "online pre-purchase intentions models (Shim et al, 2001)" have been done in the past research. The theory of reasoned action propagates that buyer intention can be assessed from behaviour that relates directly in terms of target, action and context (Ajzen and Fishbein, 1980).

Kalakota and Whinston (1997) studied that there are eight steps of consumers purchase activities, viz, product search, product selection, comparison negotiation, placement of order, payment and after sales services. Online options such as easiness of product search, availability of specifications of product, secure payment systems, information

about delivery and quick feedbacks to buyers' queries make customers coming back for online buying (Turban et al, 2000).

As from the buyers' perspective online buying offers the buyer to search as well as compare available product with various online stores. The online channels offer chances for buyers to use the online shopping facilities better by enhancing the information about products, multi attribute comparisons and subsequently reduce the cost related with information search (Alba et al., 1997). For various online sellers, buying behaviour is affected by the brand name. In the online sales channel, trusted brand names are utilized by buyers as substitutes for product information when they decide to make online shopping (Ward & Lee, 2000). Online buying behaviour is the situation when a buyer is willing to become entailed in online business exchange. Online exchanges can be reviewed as a process in which the information process retrieval, transfer of information, and actual product buying are taken place (Pavlou, 2003). Online shopping orientations may be shown in different stages such as search of information, alternative evaluation, and selection of product. (Brown et al 2001). An organization that address to the needs of buyers, process their requests rapidly and support their purchase decision, creates value and wins customer loyalty (Singh et al, 2001).

2.2 Value proposition

Like, any offline behaviour the buyers are bound to search for the value in their overall online shopping experience. If people are adopting a new method, which in turn gives rise to a new industry altogether, the business organization has to be conforming with the expected value propositions by the buyers.

Fishbein, M. E., in 1967, through his famous paper "Readings in attitude theory and measurement", proposed that most of attitudes and behaviour is explained by Beliefs (Trust), Objects (Product, People Companies), attributes (value-addition) and benefits (positive outcomes that attributes might provide). David H, in 2011, in his HBR article "The Online Buying Process How Different Is It from The Offline Buying Process" added that three important stages of online shopping process are Awareness, Evaluation and Decision. Buying process is influenced by Factor of Trust and Factor of economic value. The Factor of education and Factor of Tech-savviness does not influence the purchase process (Mahmood et al, 2004).

Value proposition, in marketing, is defined as an innovation, service, or feature which objective is to make a service or product attractive to customers (Merriam Webster Dictionary, edition 2001) The factors of value proposition are perceived as a combination of product perception, customer service, shopping experience and consumer risk (Dillon & Reif, 2004). Trust is one of the most important factor and value based on trust are divided them into four groups: information about buyer, quality of product and price, service offered to the customer, and retail presence (Kim & Benbasat, 2003). Consumers are now buying without hesitation on online as the most important factor for buyers shop online is the convenience. The earlier suggested important factor for buying online was price, which has now evolved into convenience. (Oppenheim & Ward, 2006). The value also refers to perceived- size as well as perceived-reputation that online store builds among consumers. Based on these, the trust on online seller, buying-attitude and risk- perception acts like precedent to "willingness to buy" online. (Jarvenpaa et al, 1999). The quality of user-interface of website also plays a vital role, along with the quality of information available,

perceived security, perceived privacy. These lead to trust and e-customer loyalty (Eid, M. I., 2011).

The consumers of technical involvement products (like online buying websites) are influenced by three factors -first, attributes based on functional benefits, second is how the brand is perceived itself in users' mind while the third level talks about how brand delivers customer experience. These value factors help them distinguishing from its competitors by contributing to value creation (Ebrahim, 2013). The other literature adds that buyer satisfaction is the effect of a buyer's attitude towards the value received in an online purchase or relationship of value offered which is equal to expected quality of service attached to price and acquisition costs of customer. The researcher proposed a value model as service profit chain for a business model earlier defined by Heskett et al in 1994 was as buyer satisfaction give rise to buyer loyalty which further give rise to profitability. It was reframed as bi-directional model as customers satisfaction lead to loyalty and loyalty in turn also leads back to customer satisfaction. (Hallowell, R., 1996). There is also a concept of entertainment value in online purchase. It has been stated that despite buying merchandises in virtual carts, online buyers abandon them more often. The prime reasons are waiting for lower or sale price, concern of the cost of order and low entertainment value (as shopping experience) (Kukar-Kinney & Close, 2010). In online buying, value is also created by online merchandise choice, payment trust, vendor's trust and low logistics errors (Torkzadeh et al, 2002). Online buyers also perceive value creation through availability of decision customization and transaction customization in online buying option (Thirumalai, S et al, 2011). Value is also created by the type of device used for browsing and customization according to that. Mobile devices and related gadget are

being used instead of conventional electronic payments in a number of countries that is the result of rapid globalization over the last two years (Evans, D. S., & Schmalensee, R.,2009). A study conducted on Indonesian buyers highlighted the important factors as satisfaction, trust, loyalty, commitment for value propositions. These four factors are also highly correlated among themselves. (Pratminingsih, et al, 2013). The value addition is enhanced through payment mechanism offered by online sites. A study done earlier among Nigerian customers suggested that they like purchase without instant paying through account (which can be modern day's COD). Extra discount and option of debit card/bank transfer are the other important factors. There were caution in spending and website security is an issue. Most preferred method was Direct payment among Nigerians (Adeyeye, M.,2008).

A report by Price Waterhouse Cooper (PWC), in 2014, suggests that online purchase process is defined as internal and external process. Internals are compliance framework, cyber security, regulatory structure, organization scaling. External ones are product strategy, market strategy, customer's digital experience, payment and transaction. Further study conducted on New Zealand users shown decisions of website reliability, website design, website security and privacy issues are important to most buyers (Shergill & Chen, 2005). Communication, Distribution and Accessibility are perceived value utilities for online buying process. The occasional online buyers and offline buyers were not prominently separated on their decisions for purchase convenience. In addition, a related pattern exists among offline buyers, occasional online shoppers, and frequent online buyers in that they preferred convenience in buying more increasingly as their online buying frequency increased (Li et al, 1999). In retail parlance, consumers are more prone to buy where they have bought before.

Switching of retail store may lead to switching of brands also. Purchase ticket size also get affected by change in store (Rao, 1969). One of the values in online shopping is the pricing and online selling companies and the consumers can gain prominently from adequate discount offers by purchasing more (Parlar & Wang, 1994). The shopping experience depends on consumer risk as an important factor. Risk factor can take the customers away from buying online (Jarvenpaa & Todd, 1996). There is also importance of return policy as full return policy bears a strategic role in online value creation (Padmanabhan et al, 1997). The trust perceived in online buying as "the willingness of a consumer to expose himself/herself". The reviews of early buyers help in consumers' purchase also (Lim et al, 2006). A favourable return policy on online website affects customer's purchasing decision (Wood, S. L., 2001). The negative attributes are non-availability of online buying option, lack of availability and accessibility (It includes the area if not covered under delivery option), price factor, payment methods, privacy and security issues and time pressure (Kukar et al, 2010). Also, consumers' intention to buy through website is having negative association with their assumed transaction cost. This cost is related with uncertainty related to online store, dependence on online sellers and number of times purchase process happens (Teo & Yu, 2005). The trust factor also depends upon online sellers "integrity" for online shopping and one key factor within this concept was "whether cancellation and return are troublesome" (Xiao & Benbasat, 2007). The risk factors, trust factors, security and safety of online channel, service offered to the customer, return of merchandise, and final process of consummating the transaction affects the online busing decision among consumers (Comegys et al, 2009) Online buying process is

motivated by perceived-usefulness, & perceived ease-of-use, information processing, trust propensity, perceived risk and enjoyment (Rose S. et al, 2011)

Online shopping value is created by buying intentions, utility and also derived shopping pleasure as a value (Overby et al, 2006). Online security, product involvement and privacy are also important factors in online shopping value proposition (Lian et al, 2008). It is further added by features like available goods, search experience, and brand attributes (Brown et al, 2003). A study conducted on Finland consumers added that value is created as per utilitarian value, hedonic (pleasure seeking) value, social value. Further, financial savings, convenient in usage, self-esteem, status, exploration & entertainment defines the purchase behaviour online (Rintamaki, T., et al, 2006). Apart from all positive things, resonating focus & favourable point of difference is where value is added (Anderson et al 2006). Based on early studies it was proposed that in buying process, pre and post purchase value, multiple cognitive tasks (eg, preference or evaluation) are critical factors (Parasuraman, A., 1997). In process of online buying value lies in choice of products, payment, vendor trust, internet logistics errors (Keeney, R. L. 1999). Value is delivered by shopping experience, transaction, price, network speed and vendor quality (Liao Z et al, 2001). Higher customer satisfaction is achieved by higher assumed control during online transaction, more challenges and arousal, greater presence and time saving all correspond to greater online process (Novak et al 2000). The service quality of a online seller is based on information availability and content, easiness of use and usability and privacy as well as security offered (Zeithaml, et al, 2002). Buyers' brand preference is based on connection based on emotional cues, online shopping experience, good service nature, and trust (Christodoulides et al, 2006)

Shopping experience, familiarity and brand trust leads to satisfaction. E-satisfaction has been explained as the satisfaction of online buyers with respect to their prior shopping experience with a given online seller (Ha & Perks, 2005). A smiling photo of people on website has positive effect on brand preference. They added that putting photos of people to online websites is not remedy for improving trust of customers– unless you own a website that is not to be trusted (Riegelsberger, J., et al, 2003) Brand names are another important factor which creates trust when fewer information or attributes is online available. Sensitivity toward price is higher online, but this is attributed to promotions on online channels are acting as stronger cues of price discounts (Degeratu et al, 2000). The information, specifically close acquaintance with brands availability and buying online and its previous experience, influence risk perceptions associated with buying online as well as intentions to buy online (Park & Stoel, 2005). Design of shopping web site, trust, reliability, responsiveness, and personalization are influencing the shopping behaviour (Lee & Lin, 2005). Few terms like warranty, advertising and return policy are value creating factors. Further a full return policy favors the purchase intention compares to an incomplete return policy. Fair return related policy adds as a moderating variable while purchases intention (Pei et al, 2014). The importance of return policies ae equally important in purchase decisions and established a relationship between quality of design and item's price. It was found that when the merchandise quality is better, the buyer's satisfaction will go up and the chances of return will decrease (Mukhopadhyay & Setaputra, 2007). Attractive product policy for return is one of the most important tools to attract online users. Reverse logistics management is equally important for a retail store (Rogers & Tibben-Lembke, 1999). In B2B, consumers face transaction value uncertainty and

realize their transaction value only after purchase. (Su, X., 2009) Pricing policy and return policy acts as one of uncertainties for users of B2B model in online shopping (Marvel & Peck, 1995)

Online buying is a complicated process that can be processed into further sub-parts such as navigation on website, search for information, business transactions and buyer interactions. Consumers are not likely to judge each sub-part specifically during a landing page of online shopping site, but will judge the service as a whole as a full process and result outcome (Riel, et al, 2001). Success factors for internet website are information available on website, use of system, service quality, playfulness, and quality of website design (Liu & Arnett, 2000). The consumer engagement is important and virtual community for websites are important for achieving that. It gives a sense of contentment among users (Kuo, Y. F., 2003). The customer loyalty in online shopping is defined as 8-C model as choice, care, customization, convenience, contact interactivity, community, cultivation and character (Srinivasan S. S., et al, 2002). The payment mechanism and the speed of transaction affects the buying behaviour. Modes of payment in online purchase as credit cards, debit cards, COD, netbanking, mobile money, reward points, prepaid cards which can create value addition (Shiva, 2015). Also, in Italy, despite high degree of trustworthiness, deferred payment on delivery and payment through postal orders are uncommon, while the prepayment options like credit cards, even with the lesser trust, are used so most opted payment system (Mangiaracina & Perego, 2009). Omni channel as well as logistics, adds customer value through three general ways: effectiveness, efficiency, and differentiation or relevancy (Fairchild, A. M., 2014). Website user's interface, information related with product, information about service, security and website awareness affects the value perception among

inline buyers (Park & Kim, 2003). Value is based on added services like return policies and suggested that favourable return policy leads to higher trust. Also, a third-party certification leads to high reputation of e-commerce site (Chang et al, 2013). Consumers view the easiness of return as one of the major influencers for the purchase decision and are very likely to bank with such flexible policy (Mukhopadhyay et al, 2004)

2.3 Methods used:

Hwang & Yoon (1981) suggested that the basis of TOPSIS lies in positioning of options is based on the most limited good ways from the positive ideal solution and the farthest from the negative ideal solution. Hsu-Shih et al (2007) researched on augmentation of a multi-attribute decision making strategy, to a collective choice condition. Majid Behzadian et al (2012) had given research on best in class review of "Technique for Order Preference by Similarity to Ideal Solution (TOPSIS)" applications. Loiacono, et al, in 2007, developed a WebQual scale for comprehensive evaluating the online shopping sites with WebQual scale. Parasuraman, Zeithaml & Malhotra, in 2005, further developed ESQUAL scale for e-service quality. Yoon & Hwan, in 1995, proposed a multi-attribute decision making model for classification. They suggested the Technique for Order of Preference by Similarity to Ideal Solution (TOPSIS) process for the criteria evaluation. Chen, C. T., in 2000, shown the usage of Topsis for group decision with use of various attributes. Nilashi & Ibrahim, in 2014, studied customer centric intentions to shop in online websites using TOPSIS. They found important factors are technology factor, product factor and shopping factor. Sun & Lin, in 2009, researched on calculating the competitive advantages of online buying

websites. Koufaris, M., in 2002, studied Technology Acceptance Model on e-commerce and suggested that involvement with listed product, navigation of web skills, challenges of new technology, and use of value-added search process all have a prominent effect on the online buyer. Bhardwaj & Khosla, in 2017, done a review of text mining techniques and suggested the use of it in text analysis. Shoeb & Ahmed, in 2017, suggested the process of sentiment analysis for tweets using R software. Zhang, Z., in 2008, suggested and applied text mining for ecommerce opinions and reviews. Interviews are mostly cited as a data gathering tool in qualitative research. In-depth interviews are generally utilized as a research technique to collect information about participants' views, experiences, and beliefs which concerns to a particular research question or interest attached with a given topic (Lambert and Loiselle, 2007). This process involves the process of in-depth interviews or sometime in group, in which respondents are chosen because they serve a common purpose, but not necessarily represents and being well informed on a given topic. Respondents in this type of research are chosen on the basis that they have something to express on the topic, almost in the age-range, have similar social traits and would be agreeable in sharing to the interviewer and other respondents (Richardson & Rabiee, 2001). A selection of topics are prepared by the interviewer to act as a guideline to direct the process of interview and reflect the interviewee's personal knowledge of the topic (Bridges et al, 2008).

Green, Goldberg & Montemayor, in 1981, suggested conjoint analysis as utility measure tool. Bouyssou & Pirlot, in 2016, through their research applied utility measurement through conjoint analysis method. Lee, M., in 2015, did attributes

measurement for online fashion store (China). The tool suggested was conjoint analysis for utility measurement.

2.4 Research Gap

The literature suggests that the online buying behaviour is dependent on important factors like trust, product perception, pricing, consumer risk, website interface, information available on website, transaction costs, vendor's trust, logistic support and errors, available payment mechanisms, accessibility and return policy. There is research conducted upon inter relation of above qualitative factors with intention to online purchase. There are suggestive results which supports the interrelation of factors with buying behaviour and customer loyalty. This research is based on the quantitative study. Present research is aimed at taking help from the previous qualitative studies, select the variables and try to gauge the effect of value-combinations. The research is aimed to measure the utility of different available value-added options for customers with above suggested literature findings

Summary of Literature review:

1	2004	Consumer Risk Associated, Customer Service, Shopping Experience, Perception related to product,	T. W. Dillon, and H. L. Reif , year 2004
2	2003	Identified important factors related with trust, organized them into four groups: information regarding personal, quality of product and price, service offered to the customer, and store presence.	D Kim., and Benbasat I. year 2003
3	1999	Value refers to perceived-reputation ,perceived- size, and it builds trust in an online store. Buying-attitude and Risk-perception acts like precedent to "willingness to buy".	Jarvenpaa S. L., Tractinsky N., & Saarinen L. year 1999
4	2011	User website interface quality, quality related to information, Perceived privacy and security are the factors for customer	Eid, M. I. , year 2011

		satisfaction and trust and e-customer loyalty	
5	2008	Value addition through payment mechanism among Nigerian customers are like Purchase without instant paying through account, extra discount Debit card/bank transfer - checks into extra spending but security is an issue. Most preferred method was Direct payment among Nigerians.	Adeyeye, M. 2008
6	2009	The payments fintech industry is going through a period of disruption. Mobile gadgets and related technologies are being preferred instead of conventional electronic payments in most of countries that is the result of changes in business models, and accepted globalization over the last few years.	Evans, D. S., & Schmalensee, R. ,2009

7	2013	Satisfaction, Trust, Loyalty, Commitment	Pratminingsih S. A., Lipuringtyas C., & Rimenta, T. 2013
8	1967	Most of attitudes and behaviour is explained by Beliefs (Trust), Objects (Product, People Companies), attributes (value-addition) and benefits (positive outcomes that attributes might provide). They are explained by Fishbein Model.	Fishbein, M. E., 1967
9	2013	Consumers of technical involvement products are influenced by three factors -first, attributes related with functional usage and benefits, second is how the brand positions itself in users' mind while the next level talks about how brand adds experience to the consumer. These value factors help them distinguishing from its rivals by contributing to value creation.	Ebrahim, R. S. 2013

10	1996	Service profit chain for a business model as defined by Heskett et al in 1994 was as Customer satisfaction --> customer loyalty -> profitability. Model was redefined as Customer satisfaction <--> customer loyalty <--> profitability.	Hallowell, R. , 1996
11	2015	Credit Cards, Debit cards, COD, Netbanking, Mobile Money, Reward points, PrePaid Cards	Shiva, R. 2015
12	2014	Online purchase process is defined as internal and external process. Internals are compliance framework, Cyber Security, Regulatory structure, Organisation scaling. External ones are Product Strategy, Market strategy, customer's digital experience &Payments and transactions.	eCommerce in India : Accelerating growth, 2014

13	2010	Concept of entertainment value in online purchase. They stated that despite buying merchandises in virtual carts, online buyers abandon them more often. Prime reasons are -waiting for lower or sale price, concern of the cost of order and low entertainment value (as shopping experience)	Kukar-Kinney, M., & Close, A. G. 2010
14	2005	Studied New Zealand shoppers and found that the buyers have little contrasting judgments of design of online website and sellers reliability but similar judgments of security of website and privacy concerns, which shows that security & privacy issues are influencing factors to most buyers	Shergill, G. S., & Chen, Z. 2005
15	1999	Perceived Channel Utilities for online buying process are - Communication, Distribution and Accessibility	Li H., Kuo, C., & Rusell M. G. 1999

16	1969	Consumers are more prone to buy where they have bought before. Switching of retail store may lead to switching of brands also. Purchase ticket size also get affected.	Rao, T. R. ,1969
17	1994	Sellers on website and online shopper can gain prominently from quantity discount offers by ordering large quantity.	Parlar, M., & Wang, Q. ,1994
18	1995	Pricing policy and Return Policy as one of uncertainties of B2B model	Marvel H. P., & Peck J. 1995
19	1996	Shopping experience depends on Consumer risk as an important factor	Jarvenpaa, S. L., & Todd, P. A. 1996
20	1997	"Full Return Policy" bears a strategic role	Padmanabhan, V., & Png, I. P. 1997
21	1998	Online shopping "Trusting" factors are based on intentions, like, chances of late delivery or no delivery at all, poor	McKnight D. H., Cummings L. L., & Chervany N. L. 1998

		merchandise quality, and bad after sales service.	
22	2001	Lenient return policy affects customer's purchasing decision	Wood, S. L. 2001
23	2006	Trust in online shopping as "the willingness of a consumer to expose himself/herself". Reviews of early buyers help.	Lim, K. H., Sia, C. L., Lee, M. K., & Benbasat, I. 2006
24	2007	"Integrity" as antecedents of trust for online shopping and one key factor within this concept was "whether cancellation and return is troublesome"	Xiao, B., & Benbasat, I., 2007
25	2009	Consumers' intention to buy through website is having negative association with buyer's assumed transaction cost. The cost of transaction is related with uncertainty in online store, dependability on online stores & frequency of buying.	Teo, T. S., & Yu, Y. 2005

26	2007	Female place notably more significance on assurance than men. Combining all factors of online shopping risks, females are more risk averse than men.	Zhou, L., Dai, L., & Zhang, D. 2007
27	2008	Gender has an influence on online shopping	Sebastianelli, R., Tamimi, N., & Rajan, M. 2008
28	2002	Product Choice on website, Payment mechanism, Seller Trust, online logistic errors	Torkzadeh, G., & Dhillon, G. 2002
29	2011	Decision Customization, Transaction Customization	Thirumalai, S., & Sinha, K. K. 2011
30	2009	Risk Factors, Trust Factors, Secure online channel, customer Service provided, return mechanism of merchandise, and finalising the transaction	Comegys C., Hannula, M. & Vaisanen J. 2009

31	2011	Perceived usefulness of buying, Perceived ease-of-use, Information processing, ,	Rose S., Hair, N, & Clark M. 2011

		Perceived risk associated, Enjoyment while shopping	
32	2001	Awareness, Evaluation, Decision	David Hurley, 2001
33	2004	Factor based on Trust, Factor of economic value, Factor of education - doesn't affect, Factor of Tech-savvy - doesn't affect	Mahmood M. A., Bagchi K. & Ford, T. C. 2004
34	2001	(in marketing) a novel innovation, service, or feature whose objective is to make a product attractive to customers.	Merriam Webster Dictionary
35	2006	Buying intentions, Utility vs Pleasure as value	Overby J. W., & Lee, E. J. 2006
36	2008	Web Security, Privacy, Product Involvement	Lian J. W., & Lin T. M. 2008
37	2004	Channel collaboration and Supply Chain as Value	Tuominen, M., 2004

38	2003	Goods, search, experience, and credence attributes	Brown, M., Pope, N., & Voges, K. 2003
39	2006	Utilitarian Value, Hedonic (Pleasure seeking) Value, Social Value (Added: Social value varies depending on days of week), Monetary Savings, Convenience, Status, Self Esteem, Entertainment, Exploration	Rintamäki T., Kanto, A. Kuusela, H. & Spence, M. T. 2006
40	2006	All benefits, Favourable point of difference and Resonating focus	Anderson J. C., Narus J. A., & Rossum, W. . 2006
41	1997	Pre and Post Purchase Value, Multiple cognitive tasks (eg, preference or evaluation)	Parasuraman, A. ,1997
42	1999	Internet based product choice, mechanism of payment, seller vendor trust, shopping & travel, and shipping errors.	Keeney, R. L. 1999

43	1997	Value-based theory is significantly important for firm's existence	Slater, S. F. 1997
45	2001	Shopping experience, Transaction, Price, Network speed, Vendor quality	Liao, Z., & Cheung, M. T. 2001
46	2007	Comprehensive scale for evaluating the online shopping sites as WebQual	Loiacono E. T., Watson R. T., & Goodhue D. L. 2007
47	2000	Higher customised or control during online interaction, better shopping arousal	Novak, T. P., Hoffman, D. L., & Yung, Y. F. 2000

3.2 Methods/Scale/Brands

48	2005	Development of ESQUAL scale	Parasuraman, A., Zeithaml, V. A., & Malhotra, A. 2005
50	2002	Development of ESQUAL scale, Quality of a website service is dependent on information & content, security, usability and privacy.	Zeithaml, V. A., Parasuraman, A., & Malhotra, A. 2002
51	1995	Use of TOPSIS as multi criteria decision model	Yoon, K. P., & Hwang, C. L. 1995.

52	1997	Topsis and its use for decision making under (group) various attributes	Chen, C. T., 2000
53	2013	Customer intentions to shop in B2C websites measured using TOPSIS. Important factors are Technology Factor, Product Factor, Shopping Factor	Nilashi M., & Ibrahim O. B., 2014
54	2009	Research done on Taiwan Yahoo, PChome, Unimall, ebay in Taiwan and studied that influence of efficiency, practical and ease of use components on competitive advantages of online websites	Sun, C. C., & Lin, G. T. 2009
55	2002	Researched on Product selection, Web design skills and use of value-added search process all have a significant impact	Koufaris, M. 2002
57	2005	Experience, Familiarity and Brand Trust leads to Satisfaction	Ha, H. Y., & Perks, H. 2005

59	2003	Smiling photo of people on website has positive effect on brand preference	Riegelsberger J., Sasse M. A., & McCarthy J. D. 2003
61	2000	Studied about online buying behaviour and suggested that brand image is valuable only when this information is available online. Sensitivity with price is higher in online buying.	Degeratu A. M., Rangaswamy A., & Wu, J. 2000
64	2005	Research shows that information, specially brand knowledge offered online and prior experience of buying online influences risk associated with buying online, as well as attitude towards buying online	Park, J., & Stoel, L. 2005
65	2005	Site design, Reliability , Online Trust , Customization, Responsiveness	Lee, G. G., & Lin, H. F. 2005
66	2014	Introduced retuen policies as Signal Theory such as warranty, advertising and return policy.	Pei Z., Paswan A., & Yan R. 2014

		Further a Full return policy favours the purchase intention compare to a partial return policy.	
67	2014	Fair return policy add as an moderating variable while purchase intention.	Pei Z., Paswan A., & Yan R. 2014
68	2007	This research establishes the correlations between quality of design and product price, and the website's return policy.	Mukhopadhyay S. K., & Setaputra R. 2007
69	2009	In the studied model, its been showed that consumers face valuation uncertainty and realize their valuations only after completion of purchase. Using Newsvendor model. Also introduced "hassle" cost	Su, X. 2009
70	1999	Attractive & clear return policy is important tools to attract buyers. Reverse logistics management is also important	Rogers D. S., & Tibben,-Lembke, R. S. 1999
71	2003	Virtual community websites are important	Kuo, Y. F. 2003

72	2000	Online success in were identified: as information and service quality, (2) system use, (3) shopping experience and (4) system web design quality	Liu C., & Arnett, K. P.
73	2001	Consumers are not likely to judge each sub-part specifically during a landing page of online shopping site, but will judge the service as a whole as a full process and result outcome	Van Riel A. C., Liljander V., & Jurriens P.
74	2002	Personalisation or customisation, website interactivity, community, care, convenience, cultivation, character and choice- 8Cs of customer loyalty	Srinivasana, S. S., Anderson, R., & Ponnavolu, K
75	2009	Deferred payment on delivery and payment through postal orders are uncommon, while the prepayment options like credit cards, even with the lesser trust, are used so most opted payment system	Mangiaracina R., & Perego A.

76	2014	Omni Channel, logistics also creates value addition through three generic ways: efficiency, effectiveness, and differentiation or relevancy.	Fairchild, A. M.
77	2003	User web Interface, Information, Service based Information, Security, Site Awareness	Park, C. H., & Kim, Y. G
78	2013	Favourable return policy leads to higher trust. Also, a third party certification leads to high reputation of e-commerce site	Chang, M. K., Cheung, W., & Tang, M.
79	2017	Review of text mining techniques	Bhardwaj, P., & Khosla, P. 2017
80	2017	Sentiment Analysis for tweets	Shoeb, M., & Ahmed, J. 2017
81	2008	Text mining for ecommerce opinions and reviews	Zhang, Z. 2008

82	1981	Conjoint Analysis as utility measure tool	Green P. E., Goldberg, S. M., & Montemayor M. 1981
83	2016	Utility measurement as conjoint analysis	Bouyssou, D., & Pirlot, M. 2016
84	2015	Attributes measurement for online fashion store (China)	Oh, K., & Lee, M. 2015

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Research methodology

There are various websites available for online purchase, viz, Paytm mall, Flipkart, Amazon, ebay, Shopclues, Snapdeal, Myntra, Jabong, Homeshop18, Indiatimes etc. This research was conducted for multi-brand online e-commerce websites. The research first aimed towards studying about the top five e-commerce website. This selection was based on method of multi criteria decision making model (TOPSIS). For the analysis purpose of the top five ranks of e-commerce websites, the scale based on the e-servqual attributes by Parasuraman and Zeithamal was used. After the selection of websites, these websites were analyzed for value creating keywords which influences the online purchase decision. This analysis was based on two basis - internal and external buying signals. The internal signals were assessed by analyzing the consumer policies which were offered by websites which affect the buying decision and act like value creating activities. Further, the internal signals were analyzed using text mining and the most-frequent value creating words were listed. For external signals, the in-depth interview was conducted. Here, the aim was to explore the interactivity part offered by online websites for purchase decision on the website landing page. These value keywords, which were pre-mapped under the suggested online purchase process (viz, selection process, payment process, delivery and return), were obtained by the transcript and were further used for scale development. The orthogonal plan under conjoint analysis is used to finalize the questionnaire and administered for the quantitative measurements of buying preferences. The value creating activities were selected together in combinations for assessing the utility measures for the consumers as offered by the websites.

3.2 Need of the study:

The consumer buying behaviour is always a complex but a fascinating thing to be discovered by industry. The determinants like social factor, demographic factors, education, attitudes and beliefs, income etc affects the buying behaviour but it does affect in significantly varying degrees on the mode of shopping. The buying behaviour is not always same and depends on the channel of buying, convenience offered, ease of buying, trust and security (Turban et al, 2000)

With internet penetration and affordable accessing devices, the online buying is becoming a new norm for buyers. It has reached to tier II and tier III cities also. Moreover, the business organizations also want to research that how value creation can attract new customers and retain the older ones from switching to the competitors' website. There is qualitative research on factors affecting online buying behaviour, but there is limited research based on quantitative study. This research aims to analyses the value dimension of e-commerce websites. Further the study analyses about the combinations offered by websites as a choice for customers decision making process. The study will also be conducted upon measuring the quantitative utilities offered by above combinations to know the buyer's preference.

3.2 Objective of the Study:

As, online purchase process is a complex cognitive process and it entails the consumer buying behavior in virtual world. It is important to assess the enablers of online purchase process and study about decisions made in each stage by consumers.

By analyzing the past studies through literature, the online purchase process as a flow diagram can be depicted as

Selection Process – Payment Process – Delivery Process – Return Process

After studying the various policies, the important value creating variables under each factor (selection, payment, delivery, return) is taken and analyzed on the different offered combination which affects more customers to shop on their website as well as repeat purchases. It is summed up as following:

1. To study about website preference to know about top 5 e-commerce website among online buyer.

2. To analyze the value creating keywords from the websites which enables the online purchase process under selection, payment, delivery and return.

3. To study about utility measures, for the value combinations provided by e-commerce websites.

3.3 Sample Size:

This study is dedicated to Indian demographics, so for calculating it referred data of Indian population and percentage of internet penetration. Then the assessment was done that how much of these internet users are online shoppers also. As per few tentative data, 108 million* online shoppers are in India. So, taking the formula for calculating sample size for large population, we utilized service of Survey Monkey website and also of Raosoft website and both has returned a size of 385. The study is conducted on sample size of 400.

For primary data the questionnaire was sent to respondents using e-mail and google forms. The sample was taken based on convenience sampling method. A convenience sample is a type of non-probability sampling method where the sample is taken from a group of people easy to contact or to reach. The respondents were clustered based on four geographical regions and further, based on data obtained by TRAI website for regional internet penetration, the number of respondents were contacted proportionately. Using the electronic medium for data somehow ensures that the respondent is little tech savvy and can be assumed that they have experience or awareness of online shopping. For additional primary data for developing the scale, an in-depth interview was also conducted. The various combinations observed by group's qualitative studies, inputs were then developed into questionnaire and measurement of utility using conjoint analysis was done.

*http://www.gadgetsnow.com/tech-news/Online-shopping-in-India-to-grow-by-78-in-2016-Assocham/articleshow/51491949.cms

http://www.internetlivestats.com/internet-users-by-country/

3.5 Research Tools

3.5.1 Multi Criteria Decision Making using TOPSIS

The process is an extension of analytical hierarchical process and developed by Yoon and Hwang in1995. This strategy depends on a natural and straightforward thought, which is that the ideal perfect arrangement, having the greatest advantage, is obtained by choosing the best option which is a farthest distant from the most unacceptable other option, having negligible advantages (Shih et al, 2007). The perfect arrangement ought to have a position of 1 (one), while the most exceedingly terrible option ought to have a position moving toward 0 (zero) (Kang et al, 2015). As perfect shopping sites are not plausible and every option would have some middle of the road positioning between the perfect arrangement boundaries. Despite supreme precision of rankings, correlation of number of various sites under a similar arrangement of choice criteria permits exact weighting of relative sites appropriateness and subsequently ideal site determination.

Multi-criteria decision (MCDM) guides to settling on the judgment of the best possible option from among a given arrangement of choice options regarding numerous, generally clashing criteria. The fundamental strides in multi-criteria dynamic are mentioned below. Generally, the procedure for the TOPSIS calculation begins with shaping the decision matrix showing the satisfaction (quantitative) of every standard with every other option. Next, the grid is standardized with an ideal normalizing plan, and the qualities are multiplied by the criteria weights (Oprocovic et al, 2004). Accordingly, the positive-ideal and negative-ideal arrangements are determined, and the separation of every option in contrast to these arrangements is determined with a

distance measure. Lastly, the choices are positioned dependent on their relative closeness to the ideal solution.

So, based on above, the steps involved in the website ranking for this study:

Step 1: First stage is to compute the decision matrix, then normalized it. The normalized value r_{ij} is depicted as:

$$r_{ij} = \chi_{ij} \sqrt{\{\sum \chi^2_{ij}\}} \quad i = 1,2,3......m \text{ and } j = 1,2,3...n$$

Step 2: Then the weighted standardized matrix is obtained. The weighted standardized worth v_{ij} is calculated as:

$$V_{ij} = r_{ij} \times W_j \quad i = 1,2,3......m \text{ and } j = 1,2,3...n$$

Where Wj is the weight of the jth attribute and $\sum W_j = 1$

Step 3: After that the estimation of the ideal (A*) and negative ideal (A−) solutions is done.

$A^* = \{(\max V_{ij} \mid j \in C_b), (\min V_{ij} \mid j \in C_c)\} = \{V_j^* \mid j=1,2,3...m\}$
$A^- = \{(\min V_{ij} \mid j \in C_b), (\max V_{ij} \mid j \in C_c)\} = \{V_j^- \mid j=1,2,3...m\}$

Step 4: Then the calculation for the separation measures using the multi-dimensional based euclidean distance. The measures of separation are as follows:

$Si^* = \sqrt{\{\sum (V_{ij} - V_j^*)^2\}}, j = 1,2,3...m$
$S_i^- = \sqrt{\{\sum (V_{ij} - V_j^-)^2\}}, j = 1,2,3...m$

Step 5: Utilizing above condition, the general nearness of the option A_i with respect to A* is defined as follows:

$$RC_i^* = (S_i^-)/ (S_i^* + S_i^-),$$

j= 1,2,3...m

Step 6: Finally, the rank is decided with the respective order.

3.5.2 Text Mining Analysis

Text analysis finds it significance and got more importance in R data analysis software. There are few tremendous assortments of dedicated text analysis packages, from low-level string tasks to cutting edge content demonstrating systems. The study is conducted in five general steps: bringing in data as import text, string tasks, pre-processing the data, making a document term matrix (DTM), and separating and weighting the above said matrix of documents (Welbers et al, 2017). However, this analysis first breaks text content into simple parts and helps in finding the frequent terms. Research and many literatures show that the frequencies of repeated terms itself contain enough observation for various types of analysis (Grimmer & Stewart, 2013). The analysis is done in four text analysis stages and these methods have become accepted in qualitative research (Boumans & Trilling, 2016) and that can be studied with a document matrix as an input.

Importing data as text:

Text information can be imported in a different variety of document extension options. R locally has inbuilt reading customary level content documents, for example, CSV and TXT.

String operations

The important necessities of a structure for analysis of text is the capacity to control and understand digitalized texts. They are shown as a succession of characters, named as strings. In R, strings are articles depicting "character" category type, which are vectors collection of strings. The most widely recognized string tasks are joining, parting, and separating portions of strings and the utilization of regular articulations to find or change.

Pre-processing

All the text document (full messages) must be tokenized into smaller and more explicit content. These preliminary advances are normally referred to as "pre-processing".

Tokenization.

The method toward parting a text into token is called tokenization. This is critical for evaluation, since full content is too explicit to even think about performing any important analysis with. Generally, token is word, on the grounds that these are the most widely recognized semantically significant segments of writings. In R, the "string" library package is frequently utilized for sentence and word tokens.

Normalization

The procedure of normalization comprehensively signifies the change of words into a more readable structure. This can be significant if for a specific analysis a system needs to recognize when more than one word have (almost) a similar importance, regardless of whether they are composed somewhat in an unexpected way. A simple yet significant normalization technique is to convert all words in lower case.

Removing stop words

Normal words, for example, "the", "and", "is" etc in the English dictionary are rarely significant in vocabulary or add any specific informational about the polarization of a text. Removing these stop words out has the advantage of decreasing the size of the text information, reducing operational burden, and in few cases improving the accuracy. To adjust and delete these stop words, they are compared to predefined arrangements of "stop words" in the software and erased. There are several libraries in R which can do the same

Document-term matrix

This is one of the most recognized formats for presenting a text data corpus. A document term matrix (DTM) is a framework wherein rows are represented by documents, columns are represented by frequency terms, and cells show how frequently each term repeated in each report. The plus point of this method of data representation is that it allows the information to be investigated with matrix algebra and vectors. It helps in easily moving from text data to numbers. Besides, with the

utilization of unique matrix positions, a text data in a DTM design is very memory efficient and can be investigated with highly optimized operations.

Analysis

For an outline of text-analysis approaches three methodologies are recognized: counting and dictionary, supervised and unsupervised learning. They position these methodologies, in a specific order, on a measurement from generally deductive to generally inductive. Deductive, in this situation, alludes to the utilization of a from the earlier characterized coding plan. As it were, the specialists know in advance what they are searching for, and just look to automate this investigation

3.5.3 In-depth interview technique:

In-depth interview is a data collection process used to collect input and feedbacks from chosen respondents. These in-depth interviews are mostly used as a data gathering and input tool in qualitative type of research. They are widely used as a methodology to capture information about respondents' views, experiences and beliefs related with a particular research problem or interest topic (Lambert and Loiselle, 2007). This technique involves the use of in-depth interviews in which respondents are chosen because they belong to a common purpose, but not necessarily represents the sole topic our being exemplary knowledgeable on a given interview topic. Respondents in this type of technique are chosen on the fact that they would have some important dimension to add to the topic, are within the same age range, have similar social traits and would be agreeable enough talking to the interview taker and other participants (Richardson & Rabiee, 2001). A selection of topics is generated by the interviewer to

act as a guide for the research process and reflect the respondents' personal inputs of the topic in discussion (Bridges et al, 2008).

Every individual in the interview is motivated to take part in a conversation which is pre-arranged by a researcher and is guided for a specific purpose. These interviews are commonly used to check common consensus and collect input data from respondents about topics, administrations, and highlights qualitative inputs. Every member is picked based on lead user, expert in the field, past researchers with the related topic etc. Before conducting the interview, the facilitator will plan a conversation manual for ensuring the members transcript the points which are important to the analysts. An individual interview will last around as per flexible timing and will once in a while be seen by the researchers and individuals from a more extensive analysis.

This method is valuable in to get more inside and out data on perceptions, bits of knowledge, perspectives, encounters, or convictions. Interviews are helpful for get-together emotional points of view from key respondents. This, as other subjective techniques, are valuable in giving understandings of information gathered through qualitative information.

In depth interviews are utilized in conventional research technique to collect feelings of lead users and their perspectives about specific common topics or ideas. Any organization may use this process to assimilate client lead user analysis on important item or administration before they decide to launch the idea into quality improvements. In this particular situation, an interview can be utilized to check out ideas and thoughts and also assess on whether the thought will be preferred or used by the intended lead user.

3.5.4 Conjoint Analysis:

This is a method that provides decision makers with a know-how of what quality is about their service or product that influences a buyer's choice. It is an analytical process, used to determine buyers' preferences for the dissimilar features that consists a product or service. The theoretical background on conjoint analysis was created in math and was used in business in the early 1970s by researcher Paul Green. This analysis is built on the concept that customers assess products by measuring the worth of its distinct but related factors of offering. The basic conjoint model used in the research is

$$Y = X_1 + X_2 + X_3 + \ldots + X_n$$

Here Y means the total utility of the buyer's preferences for the given product or service and Xi represents part-worth utility for the combinations (Hair et al., 2006).

Products or services are made up of a varied assortment of attributes viz, brand, ingredients, price etc. The knowledge of features' importance and the perceived value supports the managerial implication for STP (segmentation, targeting, positioning), improve their marketing decisions and change offered services with the best value of features available in the sellers' budget (Chen et al, 2010). The central concept of this analysis is the idea of product utility as a variable that shows how necessary an object or the combination of attributes is important in the perception of the buyers' mind. The value of a service or product is measured from the value of its part-worth utility. Conjoint analysis studies buyers' awareness to ratings of offered product, choices or rankings, to evaluate the part-worth of the several stages of each feature of a product

or the combination. A common method for knowing buyer's utility function is the "part-worth" model. It evaluates the part-worth utility that study consumers place on respectively distinct level of features. This is mainly suitable for qualitative attributes like brand name, services offered etc.

The step by step workflow of the complete system is mentioned below:

• Deciding the attributes which motivate and get highlighted them as a customer.

• Applying the orthogonal plan array from "Conjoint" library in "R" for choosing the best attribute combinations.

• Developing the questionnaire based on these combinations and collecting the data.

• Finally, analyzing and interpreting the findings of the collected dataset

CHAPTER 4

DATA ANALYSIS

4.1 Analysis of data:

This research firstly aimed at selecting the most preferred online shopping websites and then analyze the online purchase process. For further help a comprehensive list of websites from the publication of digit.in was referred and multi-product online website was taken.

The list comprises of following:

- Flipkart

- Ebay

- Snapdeal

- Homeshop18

- Amazon

- Shopclues

- Indiatimes

For measuring the online websites service quality, Parasuraman and Zeithamal, in 2005, developed a set of questionnaires called E-S-Qual. It is an acronym for electronic service quality. It was suggested that if online shopping websites are to be accepted by buyers, sellers must shift the focus of e-business to e-commerce and the business transactions to e-service. They assessed that while handling with people-technology interactions, it implies that buyer evaluation of new technologies is a complex process. This scale has advantage over its predecessor SERVQUAL which was more oriented

towards measurement of offline service quality. The scale has 22 items under four factors (Annexure 1). These are efficiency of online website, availability, promise fulfilled and privacy.

A questionnaire is administered among respondents where they were asked to rate above websites between 1 to 5 (1- least agree, 5- strictly agree) against all the items of scale. The survey was conducted among hundred respondents to gauge the website preference based on service expectations.

The calculation was done based on taking mean of all items under a variable. This was fed for obtaining a decision matrix for the input for multi criteria decision making process.

Based on Principal component analysis done on ESQUAL, the factors extracted as multi dimensions were taken for measurements of attributes. These factors are Efficiency, Availability, Promise Fulfilled and Privacy. Every factor has few items under its heading. The scores are input on Likert scale by respondents. The score of all items are summed up to calculate the factor wise score. The mean of all respondents is calculated first for each listed e-commerce website.

After that, the matrix normalization process is done. The mathematical formula is used as suggested by author. For normalizing the entries, it is divided by root of sum of squares. After that each row is divided by this root sum to get a standardized decision matrix.

The preliminary decision matrix for calculation obtained as below:

	Paytm	Amazon	Snapdeal	ebay	shopclues	flipkart	homeshop18	indiatimes
Efficiency	5.22	6.225	5.99	6.05	5.91	6.445	4.015	4.54
Availability	5.01	5.83	5.83	4.77	4.55	6.205	3.24	3.1
Promise fulfilled	5.57	5.88	5.736	5.55	5.006	5.003	4.82	2.493
Privacy	4.10	5	4.86	5.21	6.275	5.94	4.885	4.43

(Table1. Decision matrix for multi decision criteria)

Then the weights obtained from response is multiplied to each row's value. The mult -iplication is done by converting the weights into percentage relative importance. We ighted matrix is obtained from first objective's data analysis. The average of all resp ondents' choice as the numeric value for one construct. Further, average of all variab les is taken based on available variables within a factor. The final weighted matrix o btained was as follows:

	paytm	amazon	snapdeal	ebay	shopclue	flipkart	homeshop18	indiatimes
Efficiency	0.32	0.392	0.378	0.382	0.372	0.406	0.253	0.286
Availability	0.35	0.417	0.417	0.342	0.326	0.444	0.232	0.222
Promise fulfilled	0.38	0.407	0.397	0.384	0.346	0.346	0.333	0.173
Privacy	0.28	0.344	0.335	0.359	0.432	0.409	0.336	0.305

	Weights	% relative importance
Efficiency	5.8	0.25
Availability	4.77	0.20
Promise fulfilled	5.9	0.25
Privacy	6.7	0.30

The in-built library in R called "topsis" assess the input matrix and suggests the rank with the mathematical score for each option.

Run command:

library(topsis)

Warning message:

package 'topsis' was built under R version 3.2.5

a<-read.csv(file.choose(),header=FALSE)

w<-c(0.25,0.20,0.25,0.3)

i<-c("+","+","+","+")

topsis(a,w,i)

Error in topsis(a, w, i) : 'decision' must be a matrix or data frame

 b<-as.matrix(a) #*data file "a" converted into matrix format*

 b

      V1   V2   V3   V4

[1,] 0.3289988 0.3585983 0.3856101 0.2827244

[2,] 0.3923405 0.4172910 0.4068279 0.3443658

[3,] 0.3775293 0.4172910 0.3969109 0.3347236

[4,] 0.3816260 0.3417778 0.3839957 0.3591736

[5,] 0.3724871 0.3256731 0.3464034 0.4321791

[6,] 0.4062064 0.4441322 0.3461727 0.4091066

[7,] 0.2530518 0.2319079 0.3334882 0.3364454

[8,] 0.2861407 0.2218872 0.1725098 0.3051081

> topsis(b,w,i)

alt.row   score rank

1   1 0.5575600   6

2   2 0.7575650   2

3   3 0.7241168   3

4   4 0.6958914   5

5   5 0.7054657   4

6   6 0.8311044   1

7   7 0.3956415   7

8   8 0.1057193   8

For analysis in R, above matrix was transposed and loaded as matrix as the data file. According to result the choice of ecommerce website based on scores of multi dimension criteria is as

Flipkart > Amazon > Snapdeal > Shopclues > ebay > Paytm > Homeshop18 > Indiatimes

The score wise ranks were attributed as

1. Flipkart - 0.831
2. Amazon – 0.757
3. Snapdeal – 0.724
4. Shopclues – 0.705
5. Ebay - 0.695

For further study these top five e-commerce websites for taken forward.

4.2 Text Mining for keywords

The first-hand analysis of the top 5 e-commerce websites were started by analyzing their service policies on the web. Different website has different approach for the buyer-seller connect. The previous study highlighted the importance of trustworthiness. The trust is the impression of confidence in the online seller's reliability and integrity (Belanger et al, 2002). The buyer must have trust in the ability of the seller and their technology related ecosystem. Past research has ascertained and emphasized many factors of trustworthiness, such as benevolence, ability and integrity (Lee & Turban, 2000). Security related to information refers to the integrity, authentication and confidentiality of the online transaction and data security (Turban et al., 2006). To counter the lack of trust in the context of online sellers, it is advisable for online websites to provide stated and authenticated policies. The analysis of policy and customer support pages on every website shows the affinity of the e-commerce website and by analyzing the keywords it gives a hint towards value provided for buyers. Mavlanova et al in their study referred it as internal signals. Internal signals generate as a result of the online vendor's internal decisions to project a particular image, or communicate a particular organization business policy. These cues or signals deliver evidence of the seller's guarantee. Examples of these signals include the display of the privacy policy or return policy (Mavlanova et al, 2016). The oft-repeated policy or keywords also hint towards how e-commerce website want to lead buyers to perceive their available services. In principle, policies fill the information gap between the consumer and the seller by providing a complete picture of the seller's information practice (McDonald and Cranor 2009).

Various policies shown on retail business justify the reason of minimizing the gap of information between a buyer and seller. By highlighting these policies, sellers indicate to buyers about a signal that some regulations exist on the website that refer to problems related to service and include information regarding the transactions and its security. Also, these include information sharing rules, if any, and rules concerning delivery of product. A good policy signals include return policy, privacy policy and security policy. These policy signals and cues enhances the impression of quality in the buyer's mind (Gregg & Walczak, 2008). However, only the presence of these signals does not confirm that buyers are influenced by them. These cues have to be influential and should be noticed by the buyers (Mavlanova et al, 2016).

For analyzing this purpose with selected website, secondary data were collected by visiting these five websites. The wordings of their customer-oriented policies were taken into account and made as a text corpus as a file. These were done by saving relevant information as text on notepad and run text mining. The software used was R-Software with libraries installed as "tm", "readr" and "Snowballc" for further assistance.

 First the analysis of the individual website was done to find the relevant words. Then text corpus of all information available were run using the text mining. It was to ascertain to know the relevant words and frequencies of certain words regarding with e-commerce websites' policies.

Output command:

> library(tm)

> library(readr)

```
> library(SnowballC)

> a<-read_file("amazon.txt")

> a1<-VectorSource(a)

> a2<-Corpus(a1)

> a3<-tm_map(a2,removePunctuation)

> a4<-tm_map(a3,removeNumbers)

> a5<-tm_map(a4,tolower)

> a6<-tm_map(a5,PlainTextDocument)

> a7<-DocumentTermMatrix(a6)

> a8<-TermDocumentMatrix(a6)

> View(a8)

Error in View : cannot coerce class "c("TermDocumentMatrix", "simple_triplet_matri

x")" to a data.frame

> a9<-as.matrix(a8)

> write.csv(a9,"amazon1.csv")
```

As per above syntax, initially a txt file of Amazon's policies was run for text mining a

-nd the obtained output with signal words of high frequencies were as follows

For Amazon:

items/item	replacement	return
bank	eligible	refund
free	account	fulfilled
payment	pickup	refunds
returned	replaced	

Few prominent keywords found here is related with product (item/items), payment and return. In the same way, the above command is re-run for different websites. Only the import of read files were changed and rest run command and libraries are same as above.

For ebay:

rules	enjoyable	privacy
item	support	safe
members	listing	Cancellation
information	intention	

For Snapdeal:

information	sale	service
terms	policy	payment
services	order	purchase
products/item	personal	security
content	privacy	delivery

For Shopclues:

order	delivery	secure
product	products	shipping
cluesbucks	amount	
payment	refund	

For Flipkart:

information	content	privacy
products	transaction	service
payment	delivery	return
personal	replacement	protection
services	refund	
terms	available	

After all individual analysis, one final text mining was conducted by copying all information of websites into one text data. Using above run command in R-Studio the text mining and tabulated data are as below:

For overall combined:

products	policy	security
services	personal	delivery
available	privacy	privacy
personal	transaction	security
information	protection	protection
payment	consent	replacement
refund	return	

Amazon	eBay	Flipkart	Shopclues	Snapdeal	Overall
		Table2.Text mining: Combined table of words			
items/item	rules	information	order	information	products
replacement	item	products	product	terms	services
return	members	payment	cluesbucks	services	payment
bank	information	personal	payment	products/item	policy
eligible	privacy	services	delivery	content	personal
refund	enjoyable	terms	products	sale	content
free	support	content	amount	policy	delivery
account	listing	transaction	refund	order	available
fulfilled	intention	delivery	secure	personal	privacy
payment	safe	replacement	shipping	privacy	service
pickup	cancellation	refund		service	transaction
refunds		available		payment	replacement
returned		privacy		purchase	account
replaced		service		security	refund
		return		delivery	return
		protection			customer
					protection
					consent
					security
					information

As per literature, in the process of online buying, value lies in choice of products, payment, vendor trust, internet logistics errors (Keeney, R. L. 1999). Chen et al,2003, stated that the purchase process starts with evaluation and merchandise offered. The availability of products gives consumer a reason to explore their buying behaviour. Online services such as ease of search of product, availability of product specifications is also a determinant for selection of merchandise (Turban et al,2000). The personal information, product quality and price acts like a precedent for product selection for online buying (Kim & Benbasat, 2003). The reviews of early buyers help in consumers' purchase also (Lim et al, 2006).

Simple and convenient online payment and flexible payment methods are the key variable in convenience factor (Jiang et al, 2012). The value addition is also enhanced through payment mechanism offered by online sites. Extra discount and option of debit card/bank transfer are the other important factors (Adeyeye, M.,2008). Delivery related charges are few of the possible factor that a large number of buyers are still reluctant to use the online shopping. Apart from it, few more reasons include problems related to privacy and security (Miyazaki & Fernandez, 2001). In online shopping, the need for prompt delivery system, proper information system and low operations cost related to logistics are valuable factor (Huang et al, 2009). There is also importance of return policy as full return policy bears a strategic role in online value creation (Padmanabhan et al, 1997). Buyers observe the easiness of return as one of the major motivators for the purchase decision and are very likely to be influenced by such policy (Mukhopadhyay et al, 2004). The above text mining gives the polarity of sentiments of websites towards our chosen construct. The output for combined text data were mapped our findings of keywords against purchase process, viz, selection, payment,

delivery and return. The overall Further, the sentiment polarity of "Overall" column

can be summarized into variables as

Selection Process:

Products	
Services	
Availability	Selection
Personal	
Information	

Payment process:

Payment	
Policy	
Personal	
Privacy	
Transaction	Payment
Protection	
Consent	
Security	

Delivery Process:

Delivery	Delivery
Privacy	
Security	
Protection	

Return process:

Replacement	Return
Refund	
Return	

The purpose of emphasizing on internal and external signal or cue is that it gives a direction for scale development for final study. The internal signals shape the online website design and navigation process. The internal cues also ascertain that the external signals are aligned with websites' intent. These cues influence the interactivity part at the front end of seller's website. The process of utility measurement is studied around those cues which are highlighted by the online websites. After, the cumulative study of keywords, the structured combinations are developed by help of in-depth interviews involving panel members.

Table3: Summary of key words under buying variables

Selection Process	Payment Process	Delivery Process	Return Process
products	payment	delivery	replacement
services	policy	privacy	refund
available	personal	security	return
personal	privacy	protection	
information	transaction		
	protection		
	consent		
	security		

4.3 In-depth interview:

Online buying essentially combines a series of frequent steps by the buyer (clicking on a weblink, on a search button, entering a few key words in a search and entering return) and appropriate reactions by the online site, all mutually interdependent. Thus, the decision cues obtained from text mining is further mapped to the direct words which are shown to the buyers by the website to attract them. As the text mining has already hinted towards the broad cues, the next step is to analyze website specific keywords which maps with keywords obtained by text mining. In-depth interview is a data collection process used to collect input and feedbacks from chosen respondents. These in-depth interviews are mostly used as a data gathering and input tool in qualitative type of research. They are widely used as a methodology to capture information about respondents' views, experiences and beliefs related with a particular research problem or interest topic (Lambert and Loiselle, 2007). A selection of topics is prepared by the interviewer to act as a guideline to direct the process of interview and reflect the interviewee's personal knowledge of the topic (Bridges et al, 2008). The numbers as per few experts are recommended and suggest anywhere from 5 to 50 participants as adequate (Dworkin, 2012, Morse, 2000).

The experts were requested to spend some time on above e-commerce websites. A semi-structured process was briefed to them. The aim was to explore the interactivity part offered by online websites for purchase decision. Interactivity has also been the focus of studies as its impact on involvement and interest as a whole (Huang, 2003).

The respondents were directed to the online website's landing page. They were then given some time to consider what they desired to use their browsing for. It was

suggested that they may use the option to search for a desired product they were thinking of buying, or browse, or both, and simulate a buying process so that they can experience every step during a purchase process. Parasuraman et al, in 2005, suggested framework which distinguishes between hard signal cues (the design and technical elements of a website) and the perceptions they influence to the minds of buyers. Also, the research revealed that the strong signals or cues can affect a variety of perception towards different dimensions and attributes. For example, some buyers may look for faster delivery of products, whereas some buyers may prefer to wait if they can pay lower logistics cost.

In the transcript stage, participants shared of their browsing as a shopping experience. They tabulated a list of key words which is highlighted in course of their browsing. The participants were requested to go through above websites one by one and write down the specific points which motivate and get highlighted to them as a customer. The a priori broad cue was already given to them viz, products, services, information, payment, privacy, delivery, return etc.

Table4: Summary of interview transcript

Dimension	Description
Selection process (Products, Information available, Personal etc	Today's deals
	Recommended for you
	Recently viewed items
	Refurbished
	Super savers
	Trending offers
	Bestselling products
	Reviews and ratings
	Suggestive Search

Payment process (Payment options, security, privacy etc)	Net banking
	CC
	EMI
	COD
	PhonePe
	BHIM UPI
	Wallets
	E-Gift cards

Delivery process (Delivery methods, protection etc)	1-2 days delivery
	Same Day 140 per item extra

	Ekart delivery hubs
	Quality checks
	Express delivery with charge
	Next day deliver
	Premium

Return Process (Replacement. Refund etc)	Within 14 days of delivery
	Free Pick up
	Amazon drop off
	Ekart Reverse Logistics
	7 days easy return
	online cancellation

4.4 Scale development:

The further literatures were referred for finalizing the "interactivity" part which exactly customers see and interact on website during his entire purchase process. Aim was to select the final important interactive keywords among the results obtained in the in-depth interviews. Theoretically, these are anchored upon the internal signals and external signals but in a way that they "talk" to online buyers in influencing ways. The aim was to explore the interactivity part offered by online websites for purchase decision. Interactivity has also been the focus of studies considering its impact on involvement and interest (Huang, 2003).

As per study done by McDonald and Cranor, in 2009, website policies fill the information gap between the consumer and the seller by providing a complete picture of the seller's information practice. Mavlanova et al, 2016, added that these policies act like signal and bifurcated it in external signals and internal signals. These keywords act like a base on which the external signals are made. So, a text mining result like, product, security, privacy, refund etc. shapes up the buying cues for the front-end of website. For the scale development exercise, the study has to probe more cues on interactivity part. These are not the exact words which buyers interact while navigating on website. Online website uses further navigations and cue signals which "talks" to the online buyer in simplified ways. It may be depicted as "Today's deal", "Recommended for you", "Trending", "Discount if you pay online" etc.

The further literatures were referred for finalizing the "interactivity" part which exactly customers see and interact on website during his entire purchase process. Theoretically,

these are anchored upon the internal signals and external signals but in a way that they "talk" to online buyers in influencing ways.

The customer review backs up the seller-specific promises and is an important factor for formation of initial consumers' trust (Stouthuysen et al, 2017). Customer reviews act like electronic word of mouth and creates product as well as brand reputation (Amblee & Bui, 2014). Online customer reviews have positive impact on buyers' intention to buy online. It also has positive impact on customers trust (Elwalda et al, 2016).

Consumers' purchase likelihood and perceived savings will be higher following a discount presentation (Kim & Kramer, 2006). Discounts offered by online seller increase buyers' involvement and interaction with those websites (Rakesh & Khare, 2012). In the study, it was found that buyers who would not buy the suggested products at the given prices might be convinced to buy at the discount offerings (Jiang et al, 2015).

Pechtl, in 2010, suggested that three important aspects can be attributed in the utilitarian angle of online buying: large assortments, convenience and better deals. A reduction in assortment affects both shopping frequency and purchase quantity among online buyers (Borle et al, 2005). Also, large assortments lead to cross-category purchase among online buyers (Hong et al, 2016). Increasing assortment size benefits consumers and marketers and increasing assortment size has a positive influence on the likelihood of buyers to make a buying decision (Gao & Simonson, 2015).

Product information acts like one of the risk-relievers among online buyers while they make online purchase decision (Griffin & Viehland, 2010). Easiness of research in collecting information related to products, is also one of the factors that affect buyers to purchase online (Harn et al, 2006). The convenience factor is created by available product specification as evaluation convenience (Jiang et al, 2013).

Buyer perception towards a payment mechanism were found to be influential on buyers' perceptions in both online and offline shopping (Seeto et al, 2014). Online sellers must invest on software to enhance best online security as it is the basic necessity now. Apart from prepaid methods like credit/debit cards (Teo et al 2002, Liu et al, 2008) one such payment challenge viewed mostly is cash on delivery (COD) mode of payment as a trusty and secure way to reduce this apprehension (Tandon et al 2017, Guo et al, 2012). Whereas the payment options in traditional brick and mortar stores are usually limited to cash vs. card, the way consumers can pay online is more diverse including deferred payment options (Zhang & Li, 2006). Given a choice, consumers may choose to minimize or defer pain of payment proactively via the payment method selection (Deufel, 2018). Researchers have highlighted the importance of return policies and a easy, lenient, monetary convenience are few of them (Seo, 2015, Mukhopadhyay, 2005, Jiang, 2005). Interestingly, a study found that longer return related periods, increase the acceptance effect for products and lead to buyers cancelling or delaying return decisions (Janakiraman & Ordonez, 2012). The websites guideline was taken as further reference mapped with the literature finding to quantify the return periods. For example, in bid to reduce high level of returns, Myntra offers customers additional discounts on purchases if they choose not to return the products they ordered. The move is similar to that of another Walmart-owned

ecommerce firm, US based Jet.com, where buyers would get a discount if they opt out of free returns.

Selection process	Literature review
Reviews available	Stouthuysen (2017), Elwalda (2016), Amblee (2011)
Discounts	Carlson (2018), Jiang et al (2015), Rakesh & Khare (2012)
Large assortments	Pechtl (2003), Borle et al (2005), Hong (2016), Gao & Simonson (2015)
Well explained specifications	Jiang et al (2013), Harn et al (2006), Griffin & Viehland (2010)

Payment options	Literature review
COD	Tandon et al (2017), Guo et al (2012), Seeto et al (2014)
EMI	Deufel (2018), Zhang & Li (2006)
Prepaid	Teo et al (2002), Liu et al (2008), Noriega et al (2004)

Delivery	Literature review
<3 days premium	Cherrett (2017), Chang & Wang (2012)
3-7 days	Kleinmann (2012), Hsiao (2009)

7-10days	Hsiao (2009)
>10 days	Koyuncu (2004), Huang (2007)

Return process	Literature review
2 weeks and above	Janakiraman (2015)
Within 1 week	Mukhopadhyay (2005), Seo (2005)
No return	Website policies

For running the quantitative measurements, the scale variables are following:

Selection process	Payment options	Delivery	Return
Reviews available	COD	<3 days premium	2 weeks and more
Discounts	EMI	3-7 days	Within 1 week
Large assortments	Prepaid	7-10 days	No return
Well explained specifications		>10 days	

As per the mathematical calculation, there will be 4x3x4x3 = 144 items in the scale, but to obtained the manageable numbers of item the above combination is coded in the "CONJOINT" library package and the orthogonal plan array for the combination was generated.

Run command:

install.packages('conjoint')

library(conjoint)

experiment<-expand.grid(

selection<-c("reviews available","discounts","large assortments","well explained specifications"),

 payment<-c("COD","EMI","prepaid"),

 delivery<-c("<3 days premium","3-7 days",">7 days"),

 return<-c("2 weeks or more" ,"within 1 week", "no return")

design<-caFactorialDesign(data=experiment,type="orthogonal")

design

write.csv(design, "test3.csv")

	Selection	Payment	Delivery	Return
4	well explained specifications	COD	< 3 days prem	2 weeks or more
21	reviews available	prepaid	3-7 days	2 weeks or more
26	discounts	COD	7-10 days	2 weeks or more
43	large assortments	EMI	>10 days	2 weeks or more
51	large assortments	COD	< 3 days prem	within 1 week
58	discounts	prepaid	< 3 days prem	within 1 week
63	large assortments	COD	3-7 days	within 1 week
66	discounts	EMI	3-7 days	within 1 week
73	reviews available	COD	7-10 days	within 1 week
80	well explained specifications	EMI	7-10 days	within 1 week
85	reviews available	COD	>10 days	within 1 week
96	well explained specifications	prepaid	>10 days	within 1 week
101	reviews available	EMI	< 3 days prem	no return
112	Well explained specifications	COD	3-7 days	no return
131	large assortments	prepaid	7-10 days	no return
134	discounts	COD	>10 days	no return

The orthogonal combination served as the scale for response. The respondents were

suggested to score their preferences from low 1 to high 16 (Schaupp & Belanger, 2005)

Data Coding:

Profile ID	Selection	Payment	Delivery	Return	Code for Selection	Code for Payment	Code for Delivery	Code for Return
1	well explained specifications	COD	< 3 days prem	2 weeks or more	4	1	1	1
2	reviews available	prepaid	3-7 days	2 weeks or more	1	3	2	1
3	discounts	COD	7-10 days	2 weeks or more	2	1	3	1
4	large assortments	EMI	>10 days	2 weeks or more	3	2	4	1

5	large assortments	COD	< 3 days prem	within 1 week	4	1	1	2
6	discounts	prepaid	< 3 days prem	within 1 week	2	3	1	2
7	large assortments	COD	3-7 days	within 1 week	3	1	2	2
8	discounts	EMI	3-7 days	within 1 week	2	2	2	2
9	reviews available	COD	7-10 days	within 1 week	1	1	3	2
10	well explained specifications	EMI	7-10 days	within 1 week	4	2	3	2
11	reviews available	COD	>10 days	within 1 week	1	1	4	2
12	well explained specifications	prepaid	>10 days	within 1 week	4	3	4	2
13	reviews available	EMI	< 3 days prem	no return	1	2	1	3
14	well explained specifications	COD	3-7 days	no return	4	1	2	3

15	large assortments	prepaid	7-10 days	no return	3	3	3	3
16	discounts	COD	>10 days	no return	2	1	4	3

Column no 6,7,8 and 9 are fed into the R programming for data analysis.

For simplicity, the four attributes identified have been configured with levels across the profiles. Once the data is loaded, conjoint function is called by passing three inputs:

(dataset: preference) Survey responses from participants with ratings across each of the profile created

(dataset: profiles) Profiles created based on levels of variables with coding

(dataframe: levels.df) Levels across the four attributes

Functions used in library("conjoint")

caModel(y=preference[1,],x=profile)

caUtilities(y=preference,x=profile,z=level): – This function calculates utilities of attribute's levels

Conjoint()

caImportance(y=preference,x=profile)

Output:

The output run command as follows

library("conjoint")

x<-as.data.frame(X1tprof)

y<-as.data.frame(X1tprefm)

z<-as.data.frame(X1tlevn)

yy<-as.data.frame(X1tprefm_Copy)

caModel(y=y[1,], x=x)

caUtilities(y=y[1,], x=x, z=z)

caPartUtilities(y=y, x=x, z=z)

Conjoint(y=y, x=x, z=z)

caImportance(y=yy, x=x)

CHAPTER-5

RESEARCH FINDINGS

5.1 Research findings

The findings obtained through the application of conjoint analysis using library("conjoint") in R software. The outputs were calculated as part-worth utilities and relative importance.

The output obtained as:

Call:

lm(formula = frml)

Residuals:

 Min   1Q   Median   3Q   Max

-3,5681 -1,5144   0,0569   1,1775   4,1644

Coefficients:				
	Estimate	Std. Error	t value	Pr(>|t|)
intercept	7.0331	0.1895	37.113	< 2E-6
factor(x$selection)1	1.4944	0.2983	5.0090	1.96E-06
factor(x$selection)2	1.2756	0.2983	4.2760	3.91E-05
factor(x$selection)3	-0.0275	0.3523	-0.0780	0.937919
factor(x$payment)1	0.6117	0.2327	2.6290	0.009712
factor(x$payment)2	0.741	0.2685	2.7600	0.00671
factor(x$delivery)1	-1.3581	0.3136	-4.330	3.16E-05
factor(x$delivery)2	2.6819	0.2983	8.9900	5.18E-15

factor(x$delivery)3	1.5256	0.2983	5.1140	1.25E-06
factor(x$return)1	0.9702	0.2685	3.6140	0.000446
factor(x$return)2	3.2783	0.2327	14.0910	0.00E+00

Residual standard error: 1.936

Multiple R-squared: 0.8389,   Adjusted R-squared: 0.8251

The average importance was shown as:

[1] "Average importance of factors (attributes):"

[1] 22.90 11.18 28.12 37.80

The first factor shown an average importance of 22.90%, subsequently second, third and fourth shown respectively as 11.18%, 28.12% and 37.80%. The factors of this study were selection, payment, delivery and return. The return factor shows a highest importance with 37.80% and payment shows relatively low importance a 11.18%. The return process is also attributed to post-purchase behaviour and a trust about getting the products exchanged or in certain situation cancelled also brings about lots of trust building between buyers and sellers.
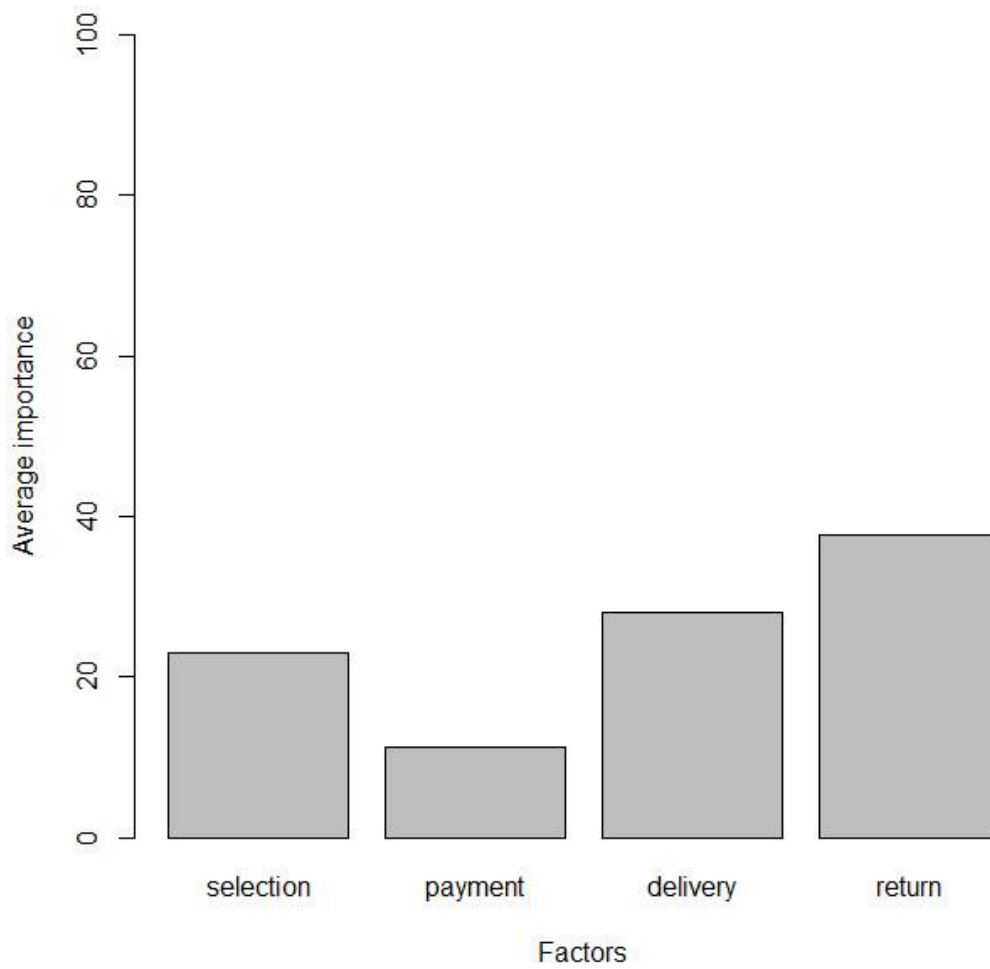
The part worth utilities for return is as:

levels	utils
2 weeks or more	0.9702
within 1 week	3.2783
no return	-4.2485

The total quantitative scores are calculated as zero-sum for every factors. The return factor had highest importance. It supports the literature views from Mukhopadhyay (2005), Seo (2005), and Janakiraman (2015). Within this factor the attribute, within 1 week is having highest utility as 3.2783, followed by 2 weeks or more as 0.9702 and no return as -4.2485. The minus symbol shows that it is perceived as least valuable as standalone attribute. The most favourable condition with return is within 1 week. This in tune with the study that found the longer return periods, increase the acceptance effect for products and lead to buyers delaying return decisions or may be eventually cancelling it. (Janakiraman & Ordonez, 2012).
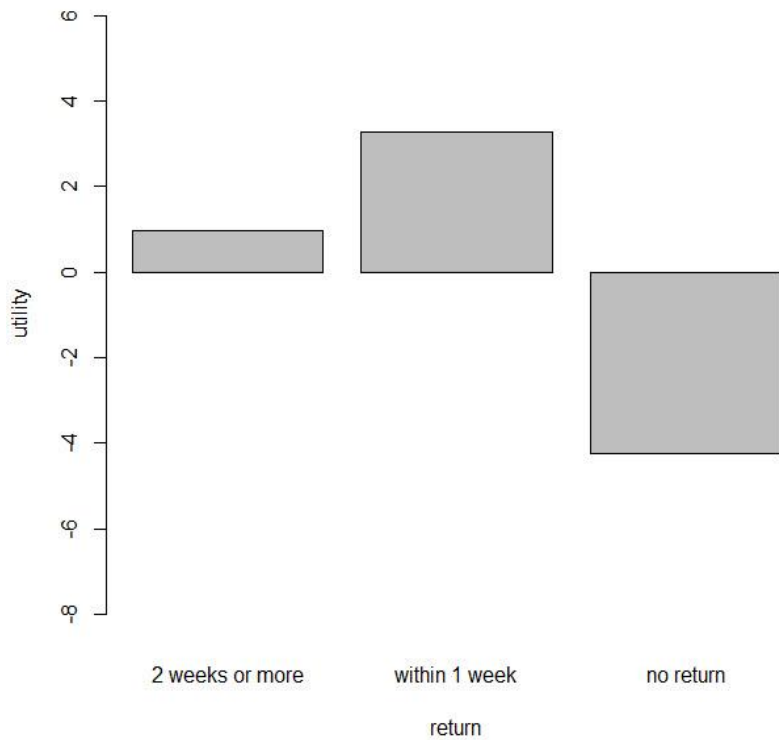
(Utility of attributes of return factor)

The second most important factor is selection. It supports the findings from Jiang et al (2013), Harn et al (2006) and Griffin & Viehland (2010). Its individual attributes are shown as, reviews available with a utility of 1.4944, discounts with utility of 1.2756, large assortments with a utility -0.0275 and well explained specification as -2.7425. The reviews and discounts are perceived as important factor with positive value. The purchase decision is highly motivated by customer reviews and discounts offered by the website. It is almost neutral with large assortments provided by the online website. The specifications of product do not bear any important utility in product selection decision while online buying.
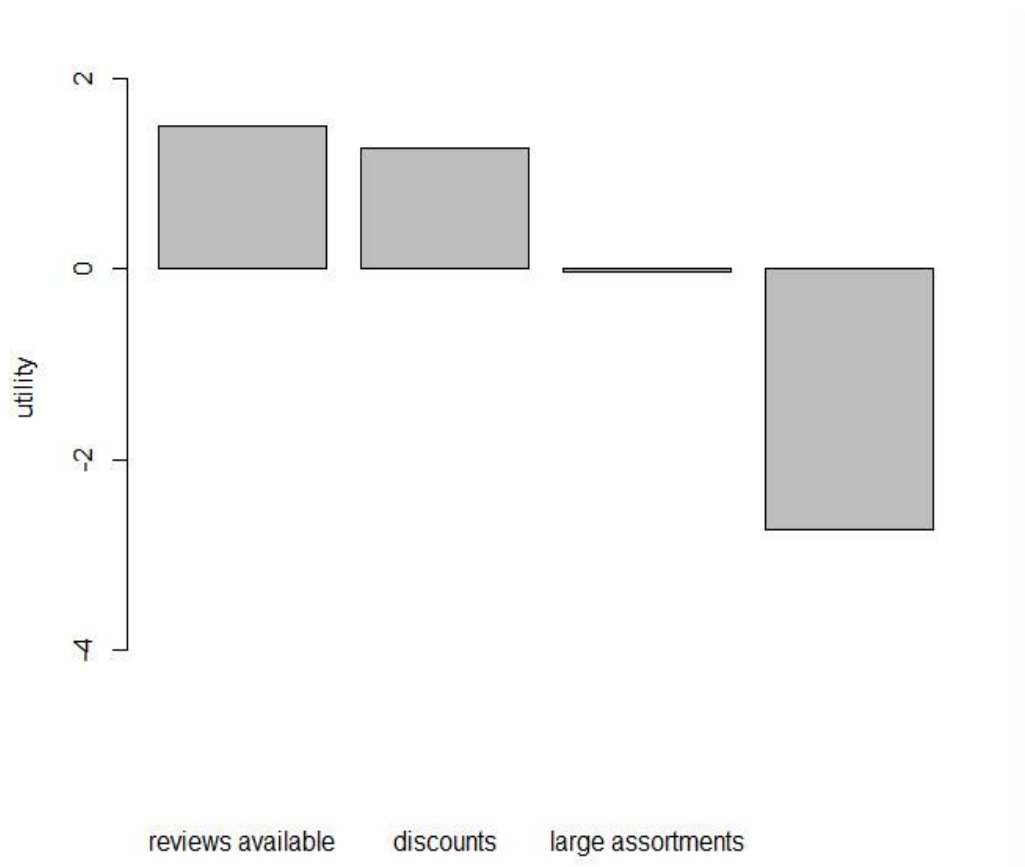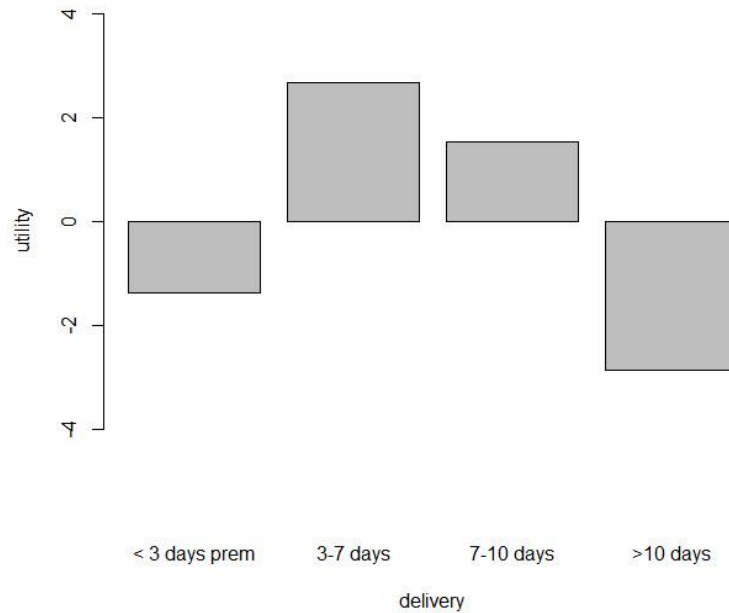

(Utility of attributes of selection factor)

The part worth utility of selection factors is:

levels	utils
reviews available	1.4944
discounts	1.2756
large assortments	-0.0275
well explained specifications	-2.7425

Next importance contribution is of factor of delivery. It is supported by the literature of Koyuncu (2004), Huang (2007) and Hsiao (2009). Its attributes with utilities are shown as 3-7 days with 2.6819, 7-10 days with 1.5256, < 3days premium with -1.3581 and >10 days with -2.8494. The study finds that too much days of waiting for delivery is not preferred and the study adds that the premium with lesser day delivery is acceptable more than free but more than 10-day of delivery value combination.

When offered a premium but faster delivery, the consumers are little value conscious as the free delivery but 3-7 days delivery period shows a highest utility among buyers. Buyers are little acceptable with 7-10 days delivery period but not more than 10 days delivery. For certain clusters of consumers, the premium delivery can work also, given that the rest of attributes combined with it balances the total utility for these online buyers. In few cases, for example, where the product is newly launched, premium delivery can be utilized by the online sellers.
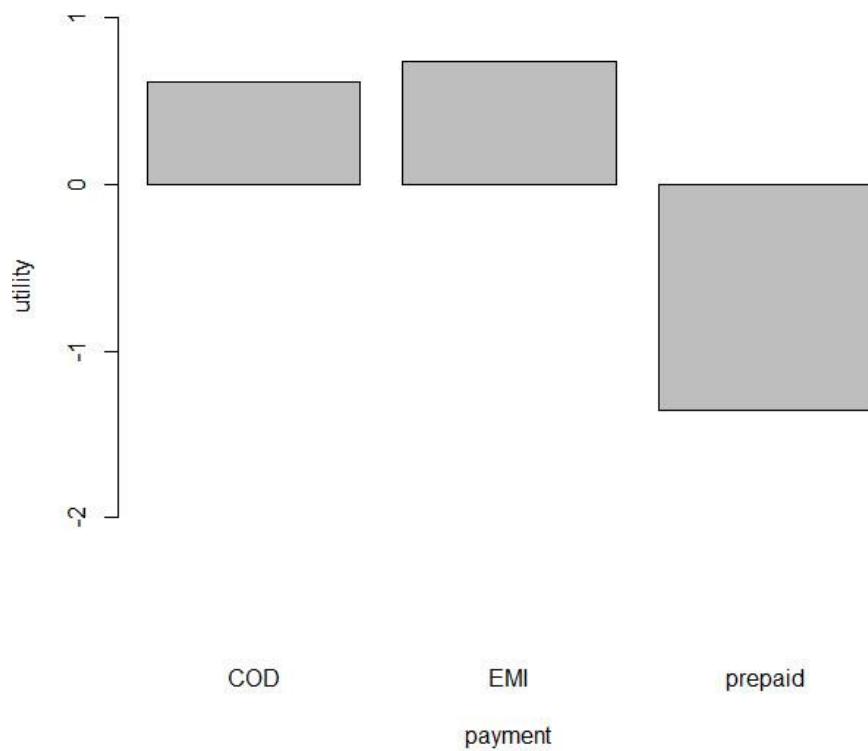
(Utility of attributes of delivery factor)

The utilities under delivery factor is:

levels	utils
< 3 days prem	-1.3581
3-7 days	2.6819
7-10 days	1.5256
>10 days	-2.8494

Payment factor of purchase decision shows relatively low importance. One reason for it may be that the deferred payment option available at most of online websites. This supports the research from Tandon et al (2017), Guo et al (2012) and Seeto et al (2014). Buyers can either pay after the product has been physically received by them or they

may directly choose an installment option for payment. It may also be attributed to the trust factor and the steps taken by Government and financial institutions to make payment secure through security socket layers. Among this factor, the EMI is preferred one with utility of 0.741, followed by payment on delivery 0.6117 and prepaid payment has utility of -1.3527. The EMI and payment on delivery shows almost same utility.

(Utility of attributes of payment factor)

Total part worth utilities for all factors:

	levels	utils
1	intercept	7.0331
2	reviews available	1.4944
3	discounts	1.2756
4	large assortments	-0.0275
5	well explained specifications	-2.7425
6	COD	0.6117
7	EMI	0.741
8	prepaid	-1.3527
9	< 3 days prem	-1.3581
10	3-7 days	2.6819
11	7-10 days	1.5256
12	>10 days	-2.8494
13	2 weeks or more	0.9702
14	within 1 week	3.2783
15	no return	-4.2485

Every factor displays a utility range. A high range value means that by varying the concerning attribute a meaningful change of the total utility can occur. Here, the range is maximum for return factor. It is calculated as difference of highest and lowest utility,

keeping the plus or minus symbol intact. The range for return is 7.5268, delivery range is 5.5313, selection utility range is 4.2369 and payment utility ranged with 2.0937.

5.2 Calculation of utility measures:

As per most ideal value and least ideal value model, the highest utility of attributes is clubbed together to simulate a most ideal consumer value addition. Similarly, for least ideal model, the lowest utility of attributes is clubbed together to find a least valued combination. But, this may not by viable from industry point of view as it may show those combination which are deemed as too good to be true.

In part-worth utility model, the utility is calculated for the orthogonal plan. The summation is done for utilities of attributes obtained earlier.

Plan no.	Selection	Payment	Delivery	Return	PWU
4	well explained specifications	COD	< 3 days	2 week or more	-2.5187
21	reviews available	prepaid	3-7 days	2 week or more	3.7938
26	discounts	COD	7-10 days	2 week or more	4.3831
43	large assortments	EMI	>10 days	2 week or more	-1.1657
51	large assortments	COD	< 3 days	within 1 week	2.5044

58	discounts	prepaid	< 3 days	within 1 week	1.8431
63	large assortments	COD	3-7 days	within 1 week	6.5444
66	discounts	EMI	3-7 days	within 1 week	7.9768
73	reviews available	COD	7-10 days	within 1 week	6.91
80	well explained specifications	EMI	7-10 days	within 1 week	2.6731
85	reviews available	COD	>10 days	within 1 week	2.535
96	well explained specifications	prepaid	>10 days	within 1 week	-3.6663
101	reviews available	EMI	< 3 days	no return	-3.3712
112	well explained specifications	COD	3-7 days	no return	-3.6974
131	large assortments	prepaid	7-10 days	no return	-4.1031
134	discounts	COD	>10 days	no return	-5.2106

The table guides us that the rank associated with the planogram which we shared with the respondents.

The combination with best utility is

Discounts + EMI + 3-7 days delivery + within 1 week return option

The most ideal model would be

Reviews available+EMI+3-7 days delivery+ 2 weeks and above return policy

The part worth utility of reviews available and discounts does not very much in range. The ideal model suggests about the free and best possible delivery days with most of available days in hand for return. The deferred payment is seen as transaction customization factor whereas reviews available is treated as transparency and trust factor. The discount factor is seen as convenience factor.

5.3 Conclusion

The research was aimed for understanding the buying behaviour of customers on online websites. The e-commerce has shifted the usage pattern of retail industry which till now was considered only as purchase through brick-and-mortar shops. Even though the concept of online buying has few patterns guided by the offline stores, but there are few other important factors which differentiate the online buying behaviour with offline buying decisions. The previous research had highlighted the factor of trust, convenience, privacy and security as the added decision influencing variables for online buying. This research considered above factors in tandem and gathered the websites' interactivity cues which are offered directly or indirectly to the buyers. Whenever a buyer, with an intention to browse or shop, lands on a seller's website, they are guided by various influencing signals. It includes the different guiding signals under selection, payment, delivery mechanism and return process. The buyers assess several value-based combinations of online buying attributes all taken together as opposed to done in steps as referred in past studies. In this research, the buying decision trade-offs are determined which buyers decide for maximizing the value propositions.

The research suggested the quantitative scores for the value related offerings and its influence as whole for the business as well. The Indian websites were selected based on multi-decision criteria for this study. These were the websites which were multi-product e-commerce and have established brand names among Indian buyers. The internal signals were studied through learning about their policies and the external signals were studied through suggestion of experts. The internal signals of websites impact the website navigation design and influences the interactive key words which

buyers interact on the website during online purchase decision. These act like external cues and with different offered combinations it tries to influence the specific segments of buyer. For example, a website may offer good assortments of product but offer only prepaid payments, or another value combination of customer reviews of its product but lesser return period. Based on the importance of these factors, a buyer then decides about preferred combinations which perceived as most value creating for him or her. This study suggested different combinations which are offered through online websites and measured their utility through conjoint analysis. The online buying processes is first assessed through past studies and then they variables under them are studied together. The research concludes that among the individual factors, buyers form online buying decisions in descending order of preference for return, delivery, selection and payment. Within these variables it was found that customer reviews, deferred payments, delivery period within 3-7 days and return period within 1 week has maximum utility under selection, payment, delivery and return respectively. The overall study creates a score-based utility table for ascertaining the highest vs lowest rank of value combinations. It is very helpful for managerial perspective as it further guides the online sellers to create their best value offerings with available resources. A smaller vendor may not enclose all the best combinations because of cost-constraints but they can always resort with next best value as per their business objective. The study also helps in targeting the right segments of customer who are attracted more towards certain utility compared to other available ones. For example, if a seller offers premium delivery, which scores low on utility, then in other combinations, he can offer increased values with either return policy or selection policy which scores high on utility to balance the trade-offs for these particular segments.

5.4 Managerial Implications:

In the dynamic ecosystem of online commerce, it is essentially important to comprehend the buyer and the values that lead to their contentment. Successful online seller's sites need to display more value propositions than just good website design and issue related to security. While doing an online buying, consumers face multiple components all together that impacts their buying decision. As business moves largely on internet-based platform, buyers make decisions between online and offline purchasing based on offering characteristics as price and availability and more concealed but prominent features as assortment, service and delivery costs. It is important for both offline as well as online sellers to assess the relative significance of these topics for their buyers if they are to devise proper value propositions for them. Online buyers make a buying decision based on some pre-accepted cognitive signals based on combinations offered by the online sellers.

Based on the output of the conjoint analysis and simulation, it is recommended by this study that buyers form online buying decisions in descending order of preference for return (convenience), delivery (i.e., delivery time period), selection (i.e., reviews, discounts etc) and payment. The research has some foremost practical applications for assessing consumer buying behavior online. Online sellers should acknowledge the fact that buyers' value propositions constitute a huge barrier to on-line transactions from managerial decision maker's perspective. However, this study adds that online sellers have different combinations of value options to tap the right segments. It gives feasible directions as to how online sellers can positively impact buyer intentions and build trust in their actions. Online sellers could use several utility enhancing buying combinations to increase favourable consumer attitudes and fulfil their utility needs.

The study provides an overall view of the buyer's online buying and decision process. It includes overall calculation by respondents for several value-based combinations of online buying attributes all combined together as opposed to done in steps as referred in past studies. Thus, the trade-offs buyers decide among value propositions, during the decision-making process, is ascertained. Online shopping return-based elements were observed to be the most influencing factor affecting the buyer's utility measures, while payment factors scored as least important by the study findings. In a gist, the current study introduces a utilitarian perspective to the online website businesses and helps seller to comprehend the trade-offs buyers make during the online buying decision.

The research adds that buyers place high importance on return policy while making decisions about online buying. It should be helpful for the industry while making a positioning strategy for their online brands. This study also adds that not all buyers are equally sensitive to maximum number of days for return as best value. With this as a business strategy, offering convenient return option seems a key factor to attract and retain online consumers.

The delivery is another important attribute which scores high on utility measures. The business managers may have a relatively similar customer base due their specific brand positioning, but offering premium deliveries instead of long delayed delivery is acceptable. Free delivery itself has its threshold with delivery days offered. A free delivery with long delivery period scores low on utility scores of online buyers. The managers can trade-off with logistic cost of delivery period with offering little less favourable return policies. Some website which boast of large assortments or offering deep discounts manages it with logistic cost by offering more delivery days. This

empowers the online sellers to engage not only those online buyers who are sensitive to low delivery fees but also those buyers who opts for more convenient options of delivery, eg, premium delivery, same day delivery etc.

As, the study highlights the quantitative measures, the final rank-based combinations obtained as follows:

Plan no.	Selection	Payment	Delivery	Return	PWU
8	discounts	EMI	3-7 days	within 1 week	7.9768
9	reviews available	COD	7-10 days	within 1 week	6.91
7	large assortments	COD	3-7 days	within 1 week	6.5444
3	discounts	COD	7-10 days	2 week or more	4.3831
2	reviews available	prepaid	3-7 days	2 week or more	3.7938
10	well explained specifications	EMI	7-10 days	within 1 week	2.6731
11	reviews available	COD	>10 days	within 1 week	2.535
5	large assortments	COD	< 3 days prem	within 1 week	2.5044
6	discounts	prepaid	< 3 days prem	within 1 week	1.8431
4	large assortments	EMI	>10 days	2 week or more	-1.1657
1	well explained specifications	COD	< 3 days prem	2 week or more	-2.5187
13	reviews available	EMI	< 3 days prem	no return	-3.3712

12	well explained specifications	prepaid	>10 days	within 1 week	-3.6663
14	well explained specifications	COD	3-7 days	no return	-3.6974
15	large assortments	prepaid	7-10 days	no return	-4.1031
16	discounts	COD	>10 days	no return	-5.2106

(Table 5: Final rank-based value combination with utility score)

Analyzing the first top five preferences, it suggests about a combination of optimum return option clubbed with deferred payment. These similar combinations have high utilities. Also, the premium deliver is not opted even the delivery day is shortest in this option. As, managerial decision-making process, it should be noted that fastest delivery time and budget spent on it should not be positioned for all the mass markets. Even though the card number 5 and 6 shows a faint positive utility towards premium delivery but its utility is no were compared to top five value combinations.

The research suggests that

a) Return policy is most important attribute for the utility combination for the consumers.

b) Delivery is another managerial concern and value offers should be made available with these factors while devising online policies by business managers

c) Available buying combinations, based on this study, with no return option score least with utilities of online buyers.

d) Consumers can deviate little bit on delivery days if the reviews are available for decision making and return policy is favorable

e) For making the online buying decision trustworthy, customer reviews should be included for online buyers.

f) Conversely, as a business strategy by managers, the satisfied buyers, should be motivated for writing their reviews which can positively affect new buyers.

g) Discount is perceived as another value creating factor in online buying. The managers should price the merchandise in such a way that there is some room for offering discounts for the buyers without affecting the topline revenues.

h) Managers can resort to psychological pricing strategy where they show the previous price as strike mark and a new discounted price is shown to make believe that online buyers are in win-win situation.

i) Business managers can take help for value creating combination from this study from Table 5. Managerial decisions can be made to segregate the customers who are ready to go with premium delivery by compensating it with offering large assortments or payment on delivery options.

j) Managers can choose to offer the next best buying alternatives to the buyers if the most ideal model does not fit into their policy making, budget wise.

k) Payment is not most important factor but flexibility of payment at the time of delivery has high utility measure.

However, this research has its own limitations such as it is conducted mostly with young buyers. The data collection and respondent's accuracy are always challenging. Online buyers of different age bracket and educational background could vary in their

preferences for attributes and features of online websites. The value proposition may be different when we select multi-product websites compared to specialized online websites. (eg, Lenskart, Jewelstone, Amazon Grocery etc). The decision making is widely affected by the choice of product. The high-priced vs low-priced merchandise or the high frequency vs low frequency purchase will have their own minute dimensions of utility measures which we were not able to gauge in our study. Moreover, the e-commerce business environment is very dynamic and new government laws makes something or other mandatory day by day. So, in the coming times, more factors like "omni-channel", "trials in your house", "Prime membership", Paid Deliveries, etc can affect utility of buyers further and can define a new paradigm for the end users. The new business model of e-commerce leads to social media marketing, influencers marketing and affiliate marketing. This study does not incorporate the factors associated with these business models. The m-commerce is the future for e-commerce and based on specific device usage the value offered in m-commerce will be different from e-commerce.

Chapter 6
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Annexure

E-S-Qual scale (Parsuraman et al)

EFF1	This site makes it easy to find what I need
EFF2	It makes it easy to get anywhere on the site.
EFF3	It enables me to complete a transaction quickly.
EFF4	Information at this site is well organized.
EFF5	It loads its pages fast.
EFF6	This site is simple to use.
EFF7	This site enables me to get on to it quickly.
EFF8	This site is well organized.
SYS1	This site is always available for business.
SYS2	This site launches and runs right away.
SYS3	This site does not crash.
SYS4	Pages at this site do not freeze after I enter my order information.
FUL1	It delivers orders when promised
FUL2	This site makes items available for delivery within a suitable time frame.

FUL3	It quickly delivers what I order.
FUL4	It sends out the items ordered.
FUL5	It has in stock the items the company claims to have.
FUL6	It is truthful about its offerings.
FUL7	It makes accurate promises about delivery of products.
PRI1	It protects information about my Web-shopping behaviour
PRI2	It does not share my personal information with other sites
PRI3	This site protects information about my credit card.

Orthogonal scale

Combination				Scores - 1 to 16 (high)	
Selection	Payment	Delivery	Return		
well explained specifications	COD	<3 days prem	within 2 weeks		
reviews available	prepaid	3-7 days	within 2 weeks		
discounts	COD	7-10 days	within 2 weeks		
large assortments	EMI	>10 days	within 2 weeks		
large assortments	COD	<3 days prem	within 1 week		

discounts	prepaid	<3 days prem	within 1 week		
large assortments	COD	3-7 days	within 1 week		
discounts	EMI	3-7 days	within 1 week		
reviews available	COD	7-10 days	within 1 week		
well explained specifications	EMI	7-10 days	within 1 week		
reviews available	COD	>10 days	within 1 week		
well explained specifications	prepaid	>10 days	within 1 week		

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reviews available	EMI	<3 days	no return		
well explained specifications	COD	3-7 days prem	no return		
large assortments	prepaid	7-10 days	no return		
discounts	COD	>10 days	no return		