



# Impact of customer experience on attitude and repurchase intention in online grocery retailing: A moderation mechanism of value Co-creation

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## ABSTRACT

The study proposes a comprehensive model framework, Online Customer Experience-Attitude Behaviour Context model for online grocery retailing in a digital scenario. The research also studies the concept of value co-creation in a moderated mechanism. Data was collected from 526 respondents buying groceries online. Analytical Hierarchy Process, SPSS 23, AMOS 22 and PROCESS Macro were applied for further analysis, testing the hypothesis and model formulation. The results reveal that the antecedent's convenience, recovery, and delivery experience impacted the attitude significantly. The emerging concept of value co-creation influenced the overall relationship between the antecedent of Online Customer Experience and attitude but at lower level of value co-creation. Thus, suggesting that involving customers time to time in co-creating a delighting Online Customer Experience may be a good strategy for the online grocery retailers to elevate online customers' attitude and repurchase intention.

## 1. Introduction

Online shopping is the recent and contemporary mode of buying items. It enables the customer to shop at any hour and from any place, thus facilitating 24 × 7 availability (Chiu, 2014), especially during the pandemic. Online shopping could essentially restructure customers' access and choice for the immediate future and in the times to come (Ellison, 2021). Several studies indicate that overall online grocery shopping has increased over time (Laato et al., 2020). Due to the pandemic, there has been a 76% growth in online grocery retailing vis-a-vis last year and sales have also gone up (Lal, Oct 16, 2020). But the question is, will this growth continue in the future also, when the conditions get better. What can the retailers do to win over their customers? How can they modifying customers' attitudes, increase their repurchase intention and make them part of the business?

Grocery comprises of food items that are essential and bought repeatedly, frequently, and usually in large quantities. Grocery buying is a low involvement, low value, frequent, repetitive but an indispensable activity (Hansen et al., 2004). Groceries (subjective to the food item types), might be considered as high-contact (fresh and highly perishable food items) and low-contact (canned items, packaged staple items with moderate shelf life, etc.). In this study, packed and branded durable grocery items that are standardized, have longer shelf-life periods and

logistically less sensitivity like packed flours, cereals, spices, oil, etc. have been considered (Tsydybey, 2014). Regardless of the complications like short shelf life, ambient storage condition, there is huge potential for electronic grocery trade in India, as the new age consumer looks for novel, convenient, and time-saving ways to buy groceries (Raijas, 2002). Thus, Online Grocery Retailing (OGR) is an upcoming, distinctive, and unexplored vertical of online retailing, and studying it may give many remarkable insights.

Shoppers do not devote much time in decision-making while shopping for grocery items. So, to differentiate themselves and make an impression on the customers, in the limited time of contact, the retailers should leverage the experience they can provide to the customer (Palmer, 2010). Today, only those businesses are sustainable that can retain their customer base (Kaur et al., 2020), a 5 percent surge in retaining customers can improve revenues by 25–95 percent (Charlton, 2015). Thus, crafting an amalgamated customer experience throughout the customer journey may help win reiterating customers (Kumar and Anjaly, 2017). Especially in OGR, with most vendors selling the same item, brand and quality at a similar price, retailers can get an edge over their competitors through customer experience and impact customers' behavioural outcomes (Verhoef et al., 2009).

With the advent of the Internet, the concept of Value co-creation has also gained importance. Co-creation has become an important element

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in offering a distinct, virtuous, and wholesome experience to the customers (Salehi et al., 2013). It involves customer's participation in conversation and association with organizations through creation, consumption, and delivery of goods and services (Sorooshiana et al., 2013). Involving customers in the process of conceptualization and crafting of new products and services, outlining, and resolving customer's problems by the organization through value co-creation has also been acknowledged (Verleye, 2015). Thus, providing a well-thought-out customer experience through value co-creation may help the online retailers to attract, retain and make customers part of the business. This may be the answer to the questions raised earlier in the paper. This paper makes an attempt to hypothesize and test this assumption and provide a direction for the businesses to grow and add value to research in OGR.

In this study, the researcher has applied the Attitude-Behaviour-Context (ABC) theory to study customers' attitude in the specific context of OGR with an emphasis on OCE and value co-creation which ultimately impacts their repurchase intention. OCE has been explored widely and its relationship with customer satisfaction, trust, loyalty has been studied invariably (Rose et al., 2012; Slack et al., 2020). This research studies the direct relation between the various antecedents of OCE and the basic attitude of the customer, which may be positive or negative in impacting the behavioural intention outcome in the relatively less involving and low-value segment of online grocery shopping (Brand, 2020). Customers learn and adapt from previous experiences in different complex ways. Studies show that the attitudinal variables may be to a great extent shaped by observed behaviour and vice versa (Tandon et al., 2020). Studying and measuring attitudes itself can enhance the knowledge of different sorts of personal and interactive behaviour of customers (Brand, 2020). Hence in this research, the study of attitude and its relationship with OCE and behavioural intention outcome is undertaken for OGR.

This discussion sheds light on three gaps in the existing research related to OGR: i) Even though, factors that affect customer experience are widely investigated, the conception of the antecedents of OCE in online grocery retail is very limited. ii) Research indicates that grocery retail involves a cognitive component of attitude which further affects the repurchase intention. Thus, this study emphasizes on the extended theoretical framework by studying the impact of customer experience on the attitude of the consumers which further influences their repurchase intention towards online grocery. Thus, this study purposes to fill the existing gap in the field of OGR regarding the relationship between OCE and attitude towards online grocery shopping and the outcome repurchase intention. iii) The concept of value co-creation has been studied in various contexts but there is no mention of how it impacts the OCE and attitude of the customers in OGR. Thus, this study has also tried to study the moderating effect of value co-creation on the relationship between OCE and attitude towards online grocery shopping.

The study attempts to bridge these gaps by applying the theory of Multi attribute utility theory (MAUT) and ABC theory to understand customers repurchase intention for OGR. The study assesses three research questions (RQs): (RQ1) Which are the crucial antecedents of OCE towards online grocery shopping? (RQ2) Is there any impact that these antecedents of OCE bear on the attitude of the customers which may further impact their online grocery repurchase intention? (RQ3) Is there any moderating influence of Value Co-creation on the association between antecedents of OCE and the attitude of the customer towards online grocery shopping and how this influence may vary at low and high level of value co-creation?

The following four steps were followed by the researcher to answer these research questions: (1) An extant review of the literature to understand the crucial factors antecedent to OCE in online grocery retail; (2) Contextualizing OCE to grocery retailing and prioritizing the antecedents with the help of MUAT via Analytical Hierarchy Process (AHP); (3) Recommending and empirically analysing research hypotheses on the association between antecedents of OCE—Attitude—Repurchase Intention; and (4) Reconfirmation of the research hypothesis in the light

of moderating effect of value co-creation.

The study is novel with certain previously unexplored aspects as following: (1) It is the first to apply MUAT theory—AHP is a widely used MADM technique to solve complex multi-situations choice-making problems—for identifying antecedents of OCE, and the ABC Theory—in which contextual factors help in predicting attitude of consumers with respect to exhibiting customer behavioural intention. Both have been applied in combination to provide a clear and distinct research outcome. (2) It extends the ABC by accustoming it to the OGR context and adding up to the overall moderately limited literature on OGR, thus contributing towards one of the upcoming and potential business verticals of organized online retailing, contributing immensely to the economic growth. (3) This study proposes a conceptual framework, the OCE-ABC Model for online grocery retailing, as the base of future research on Customer Experience-Attitude that drive customers intention toward repurchase of grocery in online retailing scenario. (4) Finally, this study contributes towards the emerging concept of Value Co-creation and highlights its actual role/impact on altering the attitude of the customer in a relatively less involving scenario of OGR and the leverage it can provide to the businesses.

Section 1 encompasses the introduction part of the study. Section 2 gives an overview of Theories and OCE. Section 3 explains the research model and hypothesis formulation. Section 4 defines the methodology followed in the study. Section 5 shows data analysis and outcomes of reliability, validity of the respondents' data. Section 6 and 7 contains the discussion regarding the findings and the conclusion respectively whereas Section 8 and 9 deals with the inferences for theory, recommendations, and limitations of the study.

## 2. Theoretical background and conceptualization

The products' nature assumes a significant role in the advancement and improvement of internet shopping. Thus, it is very crucial for retailers to understand the factors that shape customer's attitude, and the outcomes particularly purchase intentions and continuation intentions towards online grocery shopping. In this study, the author has tried to study this with the help of MAUT and ABC Theories.

### 2.1. Multi Attribute Utility Theory (MAUT)

Multi-Attribute Utility theory supports decision making process. This theory paves the way forward to help choose from the various alternatives available. MAUT provides extensive set of quantitative and qualitative procedures to rationalize a choice/decision from the alternatives accessible (Canada and Sullivan, 1989). This theory applies a range of outcomes and risks involved in a particular decision-making process; this is just like the probability theory function in case of uncertainty. This approach enables assimilating preferences and value trade-offs for each attribute and estimate the comparative importance of each attribute thus helping in the decision-making process (Keeney, 1993). MAUT is applied in this study as it gives a proper systematic approach for evaluating and considering different alternatives. It helps decision makers access and choose from alternatives (Geoffrion et al., 1972). The research gap analysis in the field of services can be done by MAUT, providing more empirical inferences than conventional gap analysis (Bordley, 2001). MAUT adds robustness to the overall decision-making process and provides a framework to recognize better attributes across all critical metrics (Collins, 2006).

#### 2.1.1. MAUT—Analytical Hierarchy Process

It provides solution to complex multi-situations choice-making problems, like monitoring, ranking, highlighting, and choosing a group of alternatives under incongruous features (Hwang, 1981). The ultimate score is on a relative basis, equating the significance of one substitute to another. It also offers a mechanism for probing the reliability of the assessments (Saaty, 1980).

Step 1: Create AHP structure.

The purposes, criteria and alternatives are set in a hierarchical construct. Usually, a hierarchy has three planes with overall goal of the problem at the top, multiple criteria in the central, and decision choices/alternatives at the lowest level, (Albayrak, 2004).

Step 2: Create a pair-wise evaluation decision matrix.

A paired evaluation of criteria is made to evaluate the comparative credence/weight of criteria from a comparison scale in Table 1, (Albayrak, 2004).

Assuming that  $C = \{C_{jj} = 1, 2 \dots n\}$  is the set of criteria. Evaluation matrix is attained, in which every element  $a_{ij}$  ( $i, j = 1, 2 \dots n$ ) represents the relative credence/weights of the criteria demonstrated:

$$A = \begin{bmatrix} a_{11} & a_{12} & \dots & a_{1n} \\ a_{21} & a_{22} & \dots & \dots \\ \dots & \dots & a_{ii} & \dots \\ a_{n1} & a_{n2} & \dots & a_{nn} \end{bmatrix}$$

Where,  $a_{ij}$  ( $i, j = 1, 2 \dots n$ ) has comply with following condition:

$$a_{ij} = 1/a_{ji}; a_{ij} = 1; a_{ij} > 0.$$

Step 3: Estimate criteria credence.

$$AW = \lambda_{\max} * W \tag{1}$$

If  $\lambda_{\max}$  is equal to  $n$  and the rank of matrix  $A$  is  $n$ ,  $A$  is consistent. In this case, the relative criteria can be discussed. The credence of each criterion will be calculated by normalizing any of the rows or columns of matrix  $A$ .

Step 4: Test consistency.

Consistency Index (CI) and Consistency Ratio (CR) are used to measure consistency.

$$CI = (\lambda_{\max} - n) / (n - 1) \tag{2}$$

$$CR = CI / RI \tag{3}$$

Where  $RI$  is random index.

Different count of criteria has different value as shown in Table 2. If  $CR$  value is less than 0.10 (10%), the outcomes can be accepted, and matrix  $A$  is reliable.

2.2. Attitude- behaviour- context (ABC) theory

ABC theory predicts environmental as well as consumers' behaviours across various contexts. The theory was given by Guagnano in 1995 and explains that contextual factors help in predicting attitude of consumers with respect to exhibiting certain behaviours (Guagnano, 1995). Researchers explained that only attitude is not adequate to rationalize consumers' behaviour (Goh, 2016). It proposes that correlation between attitude and behaviour are stronger when behaviour is facilitated by the structural conditions at moderate level and does not extend it to such a level that even those with the least favourable attitudes would perform it

**Table 1**  
Standardized comparison scale.

Definition	Value
Equal importance	1
Weak importance	3
Essential importance	5
Demonstrated importance	7
Extreme importance	9
Intermediate values	2, 4, 6, 8

(Olander and Thøgersen, 2015).

According to researcher's, grocery shopping is considered as a low involvement activity and does not require much information search. Thus, it falls in habitual buying behaviour, where there is less involvement of the customer (Hansen et al., 2004). It was also suggested that in online grocery shopping, customers can be estimated to use the cognitive resources in crafting their beliefs toward the related attributes, which in turn may result in the development of an overall attitude toward the behaviour (Zaichkowsky, 1985).

Hence, ABC theory is used to study the role of OCE in predicting the attitude and repurchase intention towards buying groceries in an online environment (Guagnano, 1995). Also, the study incorporates Value Co-creation in the model as a moderator to further study the behavioural intention of the customer. It will help to check if customers could be involved and to what extent, could help businesses grow and provide a win-win situation for both for OGR.

2.3. Customer experience

Today businesses have shifted their focus from boosting their sales, to attracting and retaining their valued customers. They have realized that the key to success is linked with providing their customers with great shopping experiences (Petermans et al., 2013). Recently businesses are directing their resources towards value creation for their customers. They are creating experiences for them, thus shifting their management tactics from managing service quality to managing quality experience for their customers (Berry et al., 2002).

Customer experience as the "impression that the customer carries along with him after he comes in contact with products, services, and businesses and forms a perception consolidating the sensory information" (Carbone and Haeckel, 1994). It is very crucial aspect in providing satisfaction to the customer, setting benchmarks for expectations, developing customers faith and gaining their confidence, winning over loyal customers, creating affective bonds with customer (Slack and Singh., 2020; Singh et al., 2021).

Experience is a very broad and universal term and is applicable in different field and context of study. The concept has gained a lot of attention both from the academicians and professionals, yet the research in this field is restricted and fragmented according to researchers (Bilgihan et al., 2016). So, a universally substantiated study on customer experiences in retailing appears to be limited (Petermans et al., 2013), especially for OGR. With the extant review of literature and application of MAUT, the six factors were identified as the antecedent of online customer experience for this study by the researcher.

3. Research model and hypotheses

3.1. Attitude

Attitude is the acquired tendency of an individual to access an object, may be product or services either as positive & negative or favourable & unfavourable to facilitate adaptation to the environment (Ajzen, 2001). Attitude is mainly the outcome of a cognitive process, i.e., it originates solely from a deliberative or rule-based, analytical, purposeful, and evaluative approach (Fishbein and Ajzen, 1975). Online shopping is perceived favourable by the customer when they save time and avail convenience of shopping at anytime from anywhere (Sharma et al., 2020; Lin et al., 2017). Attitude is the best predictor of intentions to buy groceries. The utilitarian component of attitude is the major driver of the intentions (Talwar et al., 2020a), which aligns with the prior online grocery shopping studies conducted (Tsydybey, 2014). Studies found a strong relationship between consumer attitudes and repurchase intention (Amoroso and Lim, 2017). Consequently, it is essential to gain an insight as to how shoppers' attitude is formed and how it influences intentions and behavioural outcomes (Argyriou and Melewar, 2011).

**Table 2**  
Random index value.

n	1	2	3	4	5	6	7	8	9	10
RI	0	0	0.58	0.90	1.12	1.24	1.32	1.41	1.45	1.49

### 3.2. Antecedent of OCE

#### 3.2.1. Convenience

Convenience is the hassle-free ability to use something (Ray et al., 2019). Convenience is explained in context with consumers' time, effort, costs related with shopping. Several studies have identified convenience in shopping as one of the most important factors for customers inclination towards adoption of online buying (Beauchamp and Ponder, 2010). Utilitarian value involves cognitive attributes of attitude, like value for money, convenience, and time savings aspects (Teo, 2002). Shoppers with a utilitarian approach have great value for time and worth its provisioning and management (Cotte and Ratneshwar, 2003). Research in OGR indicate that convenience for consumers such as ordering groceries from home, receiving them as per their ease enable them to save time. This plays a very crucial role for doing shopping of grocery products online (Verhoef, 2002). Recent studies show that 80% customers purchased grocery online for convenience and not price (Lal, Oct 16, 2020).

**H1.** The antecedent Convenience of OCE positively correlates with customers Attitude towards online grocery shopping.

#### 3.2.2. Product experience

Product experience represented experience related to the features, attributes, assortment of products offered like the product diversity and add-on offerings provided by the service provider (Klaus and Maklan, 2012). It gives an opportunity to the customers to pick and choose from a wide assortment of products and compare the different offerings (Klaus and Maklan, 2012) and acts as a very important factor in framing the consumers behaviour (Srinivansan et al., 2002). The belief and attitude of a customer about a product is formed by its performance. Customer attitudes were the result of customers perceived experiences, which were again the outcome of product functionality, packaging, display and point of purchase perceptions (Fatma, 2014).

**H2.** The antecedent Product Experience of OCE positively correlates with customers Attitude towards online grocery shopping.

#### 3.2.3. Privacy & security

Security & Privacy relates to protection of personal information made available on any website during online transaction as well as safety against any violations (Vafaeva, 2013). Privacy of personal information of the customer is one of the very crucial dimensions for OCE. Customer's perception of security may include the safety during transactions process and protection of credit card and personal information (Khanra, 2021). The retailer's website that exhibits a professional appearance adds on to the security dimension of the customer experience (Azevedo, 2015). Lack of privacy and security may lead to anxiety and higher level of perceived risk among the customers (Talwar et al., 2020b; Meuter et al., 2000).

**H3.** The antecedent Privacy/Security of OCE positively correlates with customers Attitude towards online grocery shopping.

#### 3.2.4. Delivery experience

It suggests the importance of experiences linked to the delivery factor like, date of delivery, time of delivery, alternatives of re-routing and various communications related to the aspect. The outcome of studies reveals that flexibility in the delivery options and clear communication were the most crucial and valued attributes by the online customers (Kumar and Anjaly, 2017). Internet has taken a very important role in

service delivery. The factors contributing to the perceived online service encounters are unlike those of traditional service delivery. Hence, delivery is significant and decisive in crafting the online service experience for the customers (Holloway and Beatty, 2003; Naidu et al., 2021). Delivery constructs fall under the utilitarian aspect linked to customers' aspirations for information related to their transactions and a very strong antecedent of customer experience (Kumar and Anjaly, 2017). The issues like delayed delivery may have deep and lasting impact on customers (Collier and Bienstock, 2006). The customers may intend to opt for competitive products and services in recurrent delivery failures scenario (Bujisic, 2014). On the other hand, studies also suggested that ability to schedule delivery of their ordered items saved customers' time, receiving their ordered items quickly and at their doorstep created positive attitude towards the online retailer (Dillahunt et al., 2019).

**H4.** The antecedent Delivery Experience of OCE positively correlates with customers Attitude towards online grocery shopping.

#### 3.2.5. Network effects

It enables online retailers access customer feedback and help monitor customer's perceptions and ideas to nurture innovation. Interface between customers and e-retailers across multiple online channels, aid e-retailers in enhancing customers experience (Barreda and Bilgihan, 2013). It acts as another channel that offers insights on rapidly changing consumer behaviours. The company can create new offerings based on insights shared by customers through the social media analysis (Briedis et al., 2020). It generates emotional hooks for the customers (Bilgihan et al., 2016). Networking features let the customers exchange their products and deliveries experience, with other customers through social networking platforms like Facebook, Twitter, etc., (Heng et al., 2018). They also get an opportunity to associate with others having common interest through a blog or community (Kaur et al., 2019). Studies suggested that social media play a very important role in impacting the users' behaviour in the form of attitude, cognizance, opinion, usage, intention, buying habit, evaluation and sharing of information (Chang and Chen, 2008). But this has not been studied in context of online grocery. Hence, this gives an opportunity to find the relevance of networking effects in case of OGR, which has a low customer involvement.

**H5.** The antecedent Network Extent of OCE positively correlates with customers Attitude towards online grocery shopping.

#### 3.2.6. Recovery

These are actions undertaken by any business to counter a service failure (Grönroos, 1988), so that the complaint of the customer changes into their satisfaction (Bell and Zemke, 1987) and they continue to be loyal customers to the organization (Miller et al., 2000). Inept recovery let the customers down for the second time, which could end up in negative WOM and switching to competitors (Lewis, 2004). Service failure preceded by poor recovery faced by other customers may also impacts the perception and repurchase intentions of customer observing positive experience (Collier and Bienstock, 2006). Effective service recovery could be more important than initial service experiences in influencing customer (Bitner et al., 1997).

**H6.** The antecedent Recovery of OCE positively correlates with customers Attitude towards online grocery shopping.

### 3.3. Online repurchase intentions

It is defined as the reprocessing of the online channel to purchase from a specific retailer (Khalifa and Liu, 2007). Online repurchase intention is affected by the shopping experience (Rose et al., 2012). Rose et al. (2012) proposed that experiential state is key element in resulting the repurchase intention of the customer (Rose et al., 2012). Studies have led to the finding that repeat purchase or repurchase intention is a crucial outcome of enhanced online customer experience (Chiu, 2012). Destiny (2012) showed that customers repurchase intention may be impacted by various factors, and attitude being one of the most important factors (Destiny, 2012). The behavioural intention itself is based on antecedents like attitude toward the behaviour, subjective norm, and perceived behavioural control, with each antecedent having importance weightage relative to behaviour and population under consideration (Ajzen, 2002). In this case customer attitude is undertaken to study its impact on online grocery repurchase intention.

**H7.** The customers Attitude towards online grocery shopping positively correlates with Online Grocery Repurchase Intention.

### 3.4. Value Co-creation

Lately, consumers have modified their role from just being a buyer of the products and services to active and self-motivated respondents capable of defining and generating values for themselves. Thus, they are no more a consenting and compliant end to retailers marketing means but have altered their roles to a more creative contributor and provider (Tapscott and Williams, 2006). It is the collaboration of producers and consumers in the creation of value through the definition, production, delivery, and use of products and services” (Sheth and Hellman, 2018). Here customers get involved with businesses in interaction and exchange of ideas during designing, creation, delivery, and final consumption of products (Frow and Payne, 2007), thus increasing the number of interfaces (Choo and Petrick, 2014). Companies may utilize

the concept of value co-creation as one of the strategies to retain valuable customers. Studies reveal that online co-creation intensifies the effect of experiences, further increasing perceived value, favourable attitude (Meng and Cui, 2020) increased purchase intention and behaviour (Pee, 2016). Studies have revealed that value co-creation has a moderating effect between experiences and their outcomes (Meng and Cui, 2020). It was also found that customers tend to return to retailers who value their ideas, and this has led to directing of online customer traffic to brands where their ideas are sought, appraised, and incorporated leading to value co-creation (Pathak et al., 2017). But the level of value co-creation may alter from low to high depending on the kind of services. Despite its acknowledgement, empirical work about the outcomes of co-creation is rather limited (Carbonell et al., 2009). This paper proposes to find the relationships facilitated by Value Co-creation (the structural condition), where it acts as a moderator to further study the behavioural intention of the customer. This will help to check if customers could be involved in value co-creation in OGR and to what extent that could help businesses grow and provide a win-win situation for both. Thus, the researcher has tried to observe if the online grocery retailers could leverage this concept and apply it for increasing their customer base.

**H8.** The relationship between antecedents a) Convenience; b) Product Experience; c) Privacy & Security; d) Delivery Experience; e) Network effects; f) Recovery, of OCE and Attitude towards online grocery shopping will be moderated significantly by value co-creation such that the relationship will be stronger on a high rather than low level of value co-creation. The Conceptual model is displayed in Fig. 1.

## 4. Research method

### 4.1. Analytical Hierarchy Process (AHP)

Initially, 10 constructs were identified as the antecedent of OCE from the review of literature. These are defined in brief as shown in Table 3.

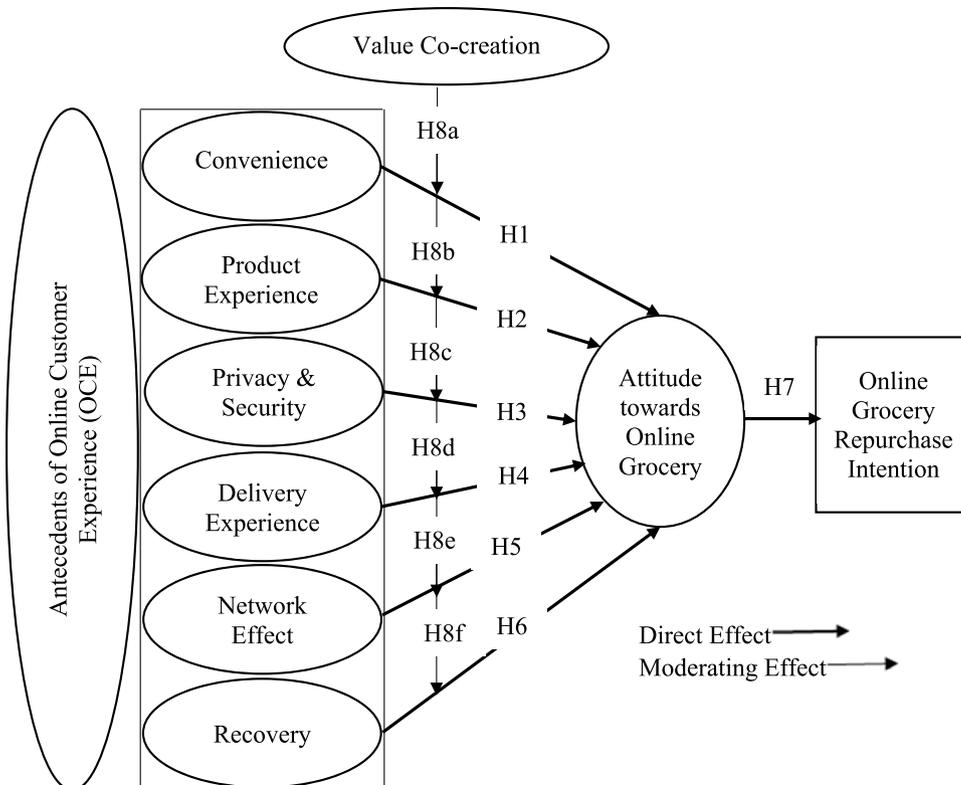


Fig. 1. Conceptual framework.

**Table 3**  
Definition of OCE factors.

Constructs	Definition
Convenience (CV)	It is the “capability to efficiently complete tasks, in a way that suits the customer’s situation” (McLean et al., 2018). Retail convenience in context with consumers’ time and effort costs related with shopping ((Beauchamp and Ponder, 2010).
Product experience (PE)	Experience related to the features, attributes, assortment of products offered like the product diversity and add-on offerings provided by the service provider (Klaus and Maklan, 2012).
Privacy & Security (P&S)	Protection of personal information made available on any website during online transaction as well as safety against any violations (Vafaeva, 2013).
Return & Exchange (R&E)	The process and policies of returning/exchanging the product. Proper guidelines, clear and effective communication from e-retailers can improve the experience related to exchange and return of the product (Kumar and Anjaly, 2017).
Delivery experience (DE)	Experiences linked to the delivery timings, re-routing options and aspects like on-time delivery, cash-on-delivery, reverse pick-ups along with last mile delivery etc. (Kumar and Anjaly, 2017).
Network effects (NE)	It indicates the opportunity that let the customers exchange their products and deliveries experience, with other customers through social networking platforms like Facebook, Twitter, etc., (Heng et al., 2018).
Recovery (RC)	These are actions undertaken by any business to counter a service failure (Grönroos, 1988), so that the complaint of the customer changes into their satisfaction Bell and Zemke (1987) and they continue to be loyal customers to the organization (Miller et al., 2000).
Online shopping skill (OSS)	<ul style="list-style-type: none"> <li>Users’ ability to use the Internet with proficiency and accomplish the task (Novak et al., 2000); (Shim et al., 2015)</li> </ul>
Control (CT)	<ul style="list-style-type: none"> <li>Users’ perception about their control over their own access, search and evaluation of the content of retailer’s website (Rose et al., 2012).</li> </ul>
Hedonic motivation (HM)	It is the desire to have fun and be playful; an experience-based enjoyment derived from the entire buying decision process (Yeo et al., 2017).

Experts’ views from 7 practitioners and academicians were sought on these constructs for the research purpose. A pairwise evaluation of the constructs was performed, and data was collected. This information was then loaded on the basis of information given in Table 1, into the Criteria Value Matrix as shown in Table 4.

This criteria matrix once obtained was normalized, as shown in Table 5. This process of normalization was initiated to bring the values of all the criteria/factors on the common platform for further calculations.

The normalized values of the factors were obtained by adding each of the factor alongside all the remaining factors and determining its average gave the credence of the factor in the normalized matrix. The credence/weights (W) attained in Table 5 indicated the preference of the experts for the factor contributing towards the antecedent of the OCE in

**Table 4**  
Criteria value matrix.

	CV	PE	P&S	R&E	DE	NE	RC	OSS	CT	HM
CV	1	1.00	0.20	3.00	0.33	3.00	0.33	5.00	5.00	7.00
PE	1.00	1	0.33	3.00	0.33	1.00	1.00	9.00	9.00	7.00
P&S	5.00	3.00	1	5.00	3.00	3.00	3.00	7.00	7.00	5.00
R&E	0.33	0.33	0.20	1	0.33	0.20	0.14	3.00	3.00	3.00
DE	3.00	3.00	0.33	3.00	1	3.00	1.00	7.00	5.00	5.00
NE	0.33	1.00	0.33	5.00	0.33	1	0.33	5.00	7.00	7.00
RC	3.00	1.00	0.33	7.00	1.00	3.00	1	7.00	7.00	7.00
OSS	0.20	0.11	0.14	0.33	0.14	0.20	0.20	1	1.00	1.00
CT	0.20	0.11	0.14	0.33	0.20	0.14	0.14	1.00	1	1.00
HM	0.14	0.14	0.20	0.33	0.20	0.14	0.14	1.00	1.00	1
SUM	14.21	10.70	3.22	28.0	6.88	14.69	7.30	46.00	46.00	44.0

OGR.

The analysis revealed that Return & Exchange (R&E), Online shopping skill (OSS), Control (CT) and Hedonic motivation (HM) were the less important factors. Amongst all the factors, Privacy & Security (P&S), Delivery experience (DE) and Recovery (RC) were the most important factors. Also, the factors Product experience (PE), Convenience (CV) and Network effects (NE) were the next important factors acting as antecedent for OCE. Thus, these six important factors were highlighted by the experts for the purpose of this study. The study also checked the consistency of the matrix through: Consistency Index (CI) and Consistency Ratio (CR). In order to estimate these two parameters, 1/W for each of the factors were calculated. This is shown in Table 5. This helped in getting the value of Ws and Consistency vector  $\lambda_{max}$  as shown in Table 6.

The value of Ws was obtained for each factor by summing the product of weightage and criteria matrix. Consistency vector ( $\lambda_{max}$ ) was obtained as the product of Ws and inverse of weightage 1/W. The CI value was obtained through  $\lambda_{max}$  and the number of attributes taken for the study purpose i.e., 10. The CI value calculated was 0.15 with equation (2). CR value was evaluated with the CI value obtained and the RI value 1.49, shown in Table 2 with equation (3). This value comes to be 0.098 (9.8 percent). This value is less than 10 percent. Therefore, the observations were consistent, and the model was robust. So, for further study and data collection we proceeded with the 6 factors as antecedent of OCE.

#### 4.2. Sample and survey administration

Information was gathered through a structured questionnaire from shoppers purchasing grocery online in India (Delhi, NCR). The survey was administered through internet. The online survey was posted on various online platforms and people who were doing online shopping were only qualified to fill the survey. The data was collected between 4th January-28th February 2021. 563 responses were received. Out of these 526 valid responses were used for further analysis. Table 7 gives the demographics information. Among the statistical tools SPSS 23, AMOS 22 and PROCESS Macro were used to analyze the data and draw inferences.

#### 4.3. Measures and instrument development

The questionnaire contained three segments. The initial segment covered the introduction and the screening questions, which ensured that only online grocery shoppers could fill the questionnaire. The consequent section contained construct items taken into consideration for the study. The last section comprised of demographic information of the respondents. The construct items for the study were taken from established and validated scales, shown in Table 8. Though, a few scale items were adapted according to research requisites. Each item of the construct was measured with the seven-point scale ranging from 1 to 7. Age groups, gender and education were taken as control variables in the

**Table 5**  
Normalized value matrix.

	CV	PE	P&S	R&E	DE	NE	RC	OSS	CT	HM	(W)	1/W
CV	0.07	0.09	0.06	0.11	0.05	0.20	0.05	0.11	0.11	0.16	0.10	9.92
PE	0.07	0.09	0.10	0.11	0.05	0.07	0.14	0.20	0.20	0.16	0.12	8.48
P&S	0.35	0.28	0.31	0.18	0.44	0.20	0.41	0.15	0.15	0.11	0.26	3.86
R&E	0.02	0.03	0.06	0.04	0.05	0.01	0.02	0.07	0.07	0.07	0.04	23.11
DE	0.21	0.28	0.10	0.11	0.15	0.20	0.14	0.15	0.11	0.11	0.16	6.40
NE	0.02	0.09	0.10	0.18	0.05	0.07	0.05	0.11	0.15	0.16	0.10	10.19
RC	0.21	0.09	0.10	0.25	0.15	0.20	0.14	0.15	0.15	0.16	0.16	6.22
OSS	0.01	0.01	0.04	0.01	0.02	0.01	0.03	0.02	0.02	0.02	0.02	47.90
CT	0.01	0.01	0.04	0.01	0.03	0.01	0.02	0.02	0.02	0.02	0.02	48.70
HM	0.01	0.01	0.06	0.01	0.03	0.01	0.02	0.02	0.02	0.02	0.02	45.04
SUM	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Table 6**  
Factor/Criteria wise Consistency Vector.

	CV	PE	P&S	R&E	DE	NE	RC	OSS	CT	HM	Ws	$\lambda_{max}$
CV	0.10	0.12	0.05	0.13	0.05	0.29	0.05	0.10	0.10	0.16	1.16	11.54
PE	0.10	0.12	0.09	0.13	0.05	0.10	0.16	0.19	0.18	0.16	1.27	10.81
P&S	0.50	0.35	0.26	0.22	0.47	0.29	0.48	0.15	0.14	0.11	2.98	11.50
R&E	0.03	0.04	0.05	0.04	0.05	0.02	0.02	0.06	0.06	0.07	0.45	10.48
DE	0.30	0.35	0.09	0.13	0.16	0.29	0.16	0.15	0.10	0.11	1.84	11.79
NE	0.03	0.12	0.09	0.22	0.05	0.10	0.05	0.10	0.14	0.16	1.06	10.82
RC	0.30	0.12	0.09	0.30	0.16	0.29	0.16	0.15	0.14	0.16	1.87	11.60
OSS	0.02	0.01	0.04	0.01	0.02	0.02	0.03	0.02	0.02	0.02	0.22	10.66
CT	0.02	0.01	0.04	0.01	0.03	0.01	0.02	0.02	0.02	0.02	0.22	10.55
HM	0.01	0.02	0.05	0.01	0.03	0.01	0.02	0.02	0.02	0.02	0.23	10.33
SUM	1.43	1.26	0.83	1.21	1.08	1.44	1.17	0.96	0.94	0.98	11.31	11.31

study.

**5. Results**

**5.1. Measurement model**

Confirmatory factor analysis (CFA) was implemented in order to find the constructs validity, reliability. In this study there was a recursive type of CFA model. The outcomes indicated that for all the constructs, factor loading was significant ( $p < 0.001$ ). Also, for each construct the average variance extracted (AVE) was above 0.5 and the construct reliability (CR) was above 0.7 (Hair, 2010). The constructs also showed the discriminant validity (Fornell and Larcker, 1981) as shown in Table 9. The outcome reveals that there is significant correlation between the constructs, with correlation coefficient range between 0.2 and 0.7. These values are again lower than 0.9, indicating absence of multi-collinearity (Tamilmani, 2019). The reliability of the constructs was shown through Cronbach’s  $\alpha$  coefficients value above 0.7, as shown in Table 8. The initial work involved checking the fitness of the model with the help CFA. A number of fitness indices were deliberated, such as  $CMIN/DF = 2.75$ ,  $p_0 = 0.001$ ,  $CFI = 0.92$ ,  $TLI = 0.91$  and  $RMSEA = 0.058$  (Hair, 2010). The item wise mean and standard deviation for each construct are also given in Table 8.

**5.2. Common method bias (CMB)**

Harman one-factor test was also done to check CMB likelihood. The single factor must not explain most of the variance and emerge as the major factor, i.e., value must not be higher than 50 percent. Through Exploratory factor analysis (EFA) outcomes 73.9 percent of the total variance was explained and the initial factor explained 31.9 percent of the variance. Thus, CMB was improbable to be an issue in the data collected for the study. Ultimately, the study identified a composite moderated model thus curtailing CMB as it was unlikely for respondents to envisage such relationships (Podsakoff and Organ, 1986).

**5.3. Hypothesis Testing**

A two-step process was followed for hypotheses testing. Initially, the direct effects of each construct on the independent construct (H1–H7) were tested using AMOS 22. Secondly the moderation effect of Value co-creation was studied on the relation between factors antecedent to OCE and attitude (H8a–H8f) were tested using PROCESS Macro.

The value of Variance Inflation Factor (VIF) for the independent factors higher than 5 indicated multicollinearity (Kim, 2019). In this study the VIF value for all the factors was lower than the threshold value, thus nullifying multicollinearity.

Structural path analysis returned satisfactory model fit indices ( $CMIN/DF = 2.8$ ,  $CFI = 0.92$ ,  $TLI = 0.91$ ,  $RMSEA = 0.06$ ), confirming the goodness of fit. The outcomes showed that of the antecedents of OCE, Convenience, Delivery experience and Recovery had a positive and statistically significant effect on customer’s attitude towards online grocery shopping. Thus, H1, H4 and H6 were accepted. However, Product experience, Privacy & Security and Network effects had insignificant influence on customer’s attitude. Thus, H2, H3 and H5 were rejected. Also, Attitude had a positive and statistically significant effect on customer’s online repurchase intention. Thus, H7 was also accepted. This is shown in Table 10.

**5.4. Moderation effect**

In the subsequent part the outcomes studied were the effects of moderator. According to literature, the effects of moderation could be accomplished with the help of PROCESS Macro module, Model 1 (Hayes, 2013). The observations of the analysis were illustrated in Table 11.

The interaction effect of a) Convenience, b) Product experience, c) Privacy & Security, d) Delivery experience e) Network effects, f) Recovery and Value Co-creation was significant on customers’ attitude towards online grocery shopping. But the value of  $\beta$  at high level and low level of interaction indicated that there was a strong impact of delivery experience on customers’ attitude at higher level as compared to lower level of co-creation. For all the other antecedents the impact decreased

**Table 7**  
Demographic profile of the respondents.

Items	Category	Number of respondents	Percentage %
Gender	Male	250	47.5
	Female	276	52.5
Age (years)	Below 25 years	29	5.6
	25–34 years	231	44
	35–44 years	184	34.9
	45–54 years	58	11.0
	55 years and above	23	4.4
Education	High School	0	0
	Graduation	89	16.9
	Post-Graduation	403	76.6
	Doctoral	27	5.2
	Others	7	1.4
Marital Status	Unmarried	123	23.4
	Married	368	70
	Divorced	17	3.3
	Spouse not alive	17	3.3
Occupation	Student	37	7
	Business	46	8.7
	Service	274	52
	Self-Employed	60	11.5
	Housewife	60	11.5
	Other	49	9.4
Monthly Household Income (Rupees)	Less than 25,000	63	11.9
	25,000–49,000	68	12.9
	50,000–74,000	43	8.2
	75,000–99,000	101	19.2
	1,00,000 and above	251	47.8
Time duration since buying grocery online	Less than a month	39	7.5
	1–6 months	85	16.2
	6–12 months	111	21.1
	1–2 years	119	22.7
	more than 2 years	171	32.6
Online grocery purchase frequency	Daily	10	1.9
	Once in a week	109	20.8
	Fortnightly	78	14.8
	Monthly	195	37.0
	Once in two months	93	17.6
value of the shopping basket (Rupees/ purchase)	Rarely.	42	8
	Less than 1000	96	18.3
	1001–2000	163	30.9
	2001–3000	69	13.1
	3001–4000	60	11.5
4001–5000	62	11.7	
5001 and above	76	14.5	

at higher level of value co-creation. Thus, only H8d was accepted. The outcomes of the hypotheses testing are shown in Fig. 2.

### 6. Discussion

The outcomes reveal that convenience, delivery experience and recovery have significant positive associations with attitude. The study also showed that attitude has significant positive associations with on-line repurchase intentions of grocery. Thus, Hypothesis H1, H4, H6 and H7 were accepted.

**Hypothesis 1:** Online grocery shopping has given buyers the opportunity to buy grocery at their own discretion and convenience (Jiang, 2013). Researchers have acknowledged convenience as a critical dimension for appraising customer experience (Garg et al., 2012) and repurchase intention of customers (Pham et al., 2018). Online shopping is perceived favourable by the customer as it saves time and provide convenience of shopping at anytime from anywhere (Lin et al., 2017). It is observed that in the pandemic, purchasing grocery through online mode was preferred by the customers due to the convenience it

**Table 8**  
Measurement scale and summary.

Construct	Item	Scale reference	Standard FL	Mean	SD
Convenience CV ( $\alpha = 0.90$ )	CV1	Jiang (2013)	0.83	5.15	1.12
	CV2		0.84	5.09	1.11
	CV3		0.83	5.08	1.12
	CV4		0.82	5.16	1.16
Product Experience PE ( $\alpha = 0.87$ )	PE 1	Ganesha et al. (2010)	0.78	5.32	1.07
	PE 2		0.77	5.41	1.03
	PE 3		0.75	5.26	1.09
	PE 4	Verhoef et al. (2009)	0.77	5.21	1.19
Privacy & Security PS ( $\alpha = 0.81$ )	PE 5	Rose et al. (2012)	0.76	5.38	0.97
	PS2	Parasuraman et al. (2005)	0.75	4.85	1.02
	PS3		0.72	5.18	1.03
	PS4	Román (2007)	0.75	5.31	1.02
	PS5		0.66	5.47	0.97
Delivery Experience DL ( $\alpha = .82$ )	DL1	Rose et al. (2012)	0.66	5.29	0.91
	DL2		0.69	5.31	1.09
	DL3		0.77	5.38	1.08
	DL4		0.83	5.62	1.17
Network effects NE ( $\alpha = .75$ )	NE1	Rose et al. (2012)	0.68	5.58	0.95
	NE2	(Constantinides (2004)	0.65	5.7	0.96
	NE3		0.80	5.57	0.91
Value Co-creation CC ( $\alpha = .91$ )	CC1	Nysveen and Pedersen (2014)	0.83	4.12	1.46
	CC2		0.86	3.71	1.53
	CC3		0.82	4.15	1.39
	CC4		0.87	4.08	1.43
Recovery RC ( $\alpha = .89$ )	RC1	Parasuraman et al. (2005)	0.86	5.03	1.28
	RC2		0.77	4.96	1.24
	RC3		0.69	4.82	1.34
	RC4		0.78	5.07	1.31
	RC5		0.84	5.18	1.22
Attitude AT ( $\alpha = .92$ )	AT1	Kim (2010)	0.86	5.03	1.25
	AT2		0.88	4.86	1.23
	AT3		0.86	4.97	1.27
	AT4		0.85	4.96	1.33
Online Repurchase Intention ORI ( $\alpha = .95$ )	ORI1	Rose et al. (2012)	0.91	4.94	1.22
	ORI2		0.85	4.96	1.19
	ORI3		0.85	4.95	1.25
	ORI4		0.88	4.74	1.24
	ORI5		0.89	4.82	1.21
	ORI6		0.87	4.95	1.17

provided. Recent studies show that 80% customers purchased grocery online for convenience and not price (Lal, Oct 16, 2020). Online shopping is considered much easier and simpler task as compared to offline shopping and customer can avoid long queues, rush etc., indicating that the convenience motivations have a direct relationship with attitude (Yeo et al., 2017). The outcome of the study was consistent with the literature. Thus, convenience was attributed as an important and significant factor antecedent to OCE in impacting the customer's attitude.

**Hypothesis 2:** The outcome of the study showed that product experience did not impact the customers' attitude significantly. The process of decision making is impacted by the degree of product involvement and hence is a crucial aspect affecting the buying decision. Grocery shopping falls in habitual buying behaviour and customers consider it a low involvement activity which does not require much information search and decision for further purchases are made on the basis of previous purchases (Hansen et al., 2004). These products do not require much search costs. Differentiation among e-retailers is low, even in terms of price dispersion (González and Miles, 2018). In today's competitive scenario customers consider getting quality products and service from e-retailers, which they no longer deliberate to prefer one vendor over the other. Thus, it was observed in the study that the hypothesis was not supported.

**Hypothesis 3:** Privacy and Security is attributed as an important factor antecedent to online customer experience but in this study, it did not impact customers' attitude significantly. OGR is in a very nascent stage, and it takes time for customers to gain confidence in any system and process when money matters and divulgence of personal

**Table 9**  
Validity table.

	CR	AVE	AT	RC	PE	PS	NE	DL	CV	CC	ORI
AT	0.92	0.74	0.86								
RC	0.89	0.62	0.57	0.79							
PE	0.88	0.59	0.29	0.45	0.77						
PS	0.81	0.52	0.41	0.46	0.49	0.72					
NE	0.75	0.51	0.38	0.50	0.61	0.61	0.71				
DL	0.83	0.54	0.46	0.49	0.42	0.44	0.42	0.74			
CV	0.90	0.69	0.35	0.45	0.39	0.38	0.49	0.29	0.83		
CC	0.91	0.71	0.36	0.26	0.20	0.40	0.22	0.30	0.27	0.85	
ORI	0.95	0.76	0.70	0.50	0.39	0.29	0.34	0.56	0.39	0.22	0.87

**Table 10**  
Structural model Results.

Hypothesis/Path Outcomes	Standardized Estimate	S.E.	C.R.
<b>Direct effects</b>			
Convenience- > Attitude	0.11*	0.06	1.96
Product experience- > Attitude	-0.11ns	0.08	-1.39
Privacy & Security- > Attitude	0.17ns	0.09	1.84
Delivery experience- > Attitude	0.28***	0.06	4.62
Network effects- > Attitude	0.02ns	0.11	0.20
Recovery- > Attitude	0.45***	0.06	7.39
Attitude- > Online Repurchase Intention	0.71***	0.04	17.33

**Table 11**  
Outcomes of moderation effect.

Moderation effects of Value Co-creation	Dependent variable: Attitude	
Interactions	β (low level)	β (high level)
Convenience X Value Co-creation	0.38***	0.13*
Product experience X Value Co-creation	0.30***	0.11*
Privacy & Security X Value Co-creation	0.37***	0.16**
Delivery experience X Value Co-creation	0.25***	0.47***
Network effects X Value Co-creation	0.38***	0.13*
Recovery X Value Co-creation	0.58***	0.27***

Notes: ns (not significant); \*p < 0.05; \*\*\*p < 0.001.

information are concerned (Driediger and Bhatiasevi, 2019). Studies show that customers prefer “Cash on Delivery” (COD) option for payment and did not want to share their personal as well as banking details while shopping online thus minimizing the impact of privacy and security (Thakur and Srivastava, 2015). This option led to removal of inhibitions among customers to use online shopping. In developing countries most customers considered COD as the most convenient, time saving, and safer option as compared to credit card (Hussain et al., 2007). It has also been reported that consumers are naive, indifferent, or uninformed regarding the privacy and security issues. They are ready to trade privacy for convenience or small incentives (Acquisti and Grossklags, 2005). Often privacy and security are mentioned as a crucial factor for consumers doing online shopping, but either they are ignored or are forgotten while shopping (Leon, 2015). Thus, it was observed that the hypothesis was not supported.

**Hypothesis 4:** The literature shows that delivery experience falls under the utilitarian aspect and has a strong influence in creating customer experience (Kumar and Anjaly, 2017). Receiving their ordered items quickly and at their doorstep made them repurchase more often from the online retailer (Dillahunt et al., 2019). Customers require customer service that is consistent and delivered timely (Singh and Söderlund, 2020). Apart from that, “real time tracking provides real-time access to a wide range of statistics on the customer’s shipments, increasing safety of the package and reliability” (Kumar and Anjaly, 2017). In case of home delivery service, customers emphasized and gave importance to the ability to choose date and time of delivery and the service quality. Studies also indicated that the customers may

intend to opt for competitive products and services in case of repetitive delivery failures (Bujisic, 2014). On the other hand, studies also suggested that ability to schedule delivery of their ordered items saved customers’ time, receiving their ordered items quickly and at their doorstep created positive attitude towards the online retailer (Dillahunt et al., 2019). Thus, Delivery experience was attributed as an important and significant factor antecedent to OCE in impacting the customer’s attitude. This outcome was consistent with the literature.

**Hypothesis 5:** Online portals have become effective platforms for customers networking and information sharing. This feature of e-commerce has been employed by the e-retailers to offer valuable experiences to their customers. Networking has a very crucial role in promoting customers repurchase intention in e-commerce (Lin et al., 2017). Social media may craft users’ behaviour in the form of attitude, cognizance, opinion, usage, intention, buying habit, evaluation and sharing of information (Chang and Chen, 2008). It was observed by the researchers that the Network extent has been attributed as an important factor antecedent to online customer experience but its significance in impacting the customers attitude was not found in this study. This outcome was not consistent with the literature. This may be due to the gap in the shoppers using social media and the shoppers who actually connect with their on social media (Sharma et al., 2020). This can also be attributed to lack of customers’ awareness about existing online grocery retailer accounts or lack of relevant content (NA, 2019).

**Hypothesis 6:** According to studies conducted by various researchers supporting recovery positively affected customer profitability and repurchase intention (Slack et al., 2020). A positively perceived recovery encouraged customers to repurchase from the online retailer. Customers need consistent customer service. Online retailers’ timely delivery, refund or replacement of products impact customer’s attitude. It is important that retailers make deliverable commitments and focus on curtailing service failures (Singh and Söderlund, 2020). Service failure preceded by poor recovery faced by other customers may also impact the perception and repurchase intentions of customer observing positive experience. An effective service recovery is more important than initial service (Bitner et al., 1997). The retailer’s recovery activities enhanced customer retention (Javed, 2019). Thus, it was observed by the researchers that the recovery has been attributed as an important antecedent of OCE in impacting customers attitude towards online grocery shopping.

**Hypothesis 7:** Attitude is mainly the outcome of a cognitive process, i.e., it originates solely from a deliberative or rule-based, analytical, purposeful, and evaluative approach (Fishbein and Ajzen, 1975). Attitude is the best predictor of intentions to buy groceries. The utilitarian component of attitude is the major driver of the intentions, which aligns with the prior online grocery shopping study conducted (Tsydybey, 2014). Behavioural intention is highly anticipated by attitude as it has a significant positive impact (Yeo et al., 2017). A strong relationship was found between consumer attitudes and repurchase intention and continuance intention, a similar construct to repurchase intention (Amoroso and Lim, 2017). Thus, it was observed by the researchers that Customers Attitude towards online grocery shopping impacts their online repurchase intention.

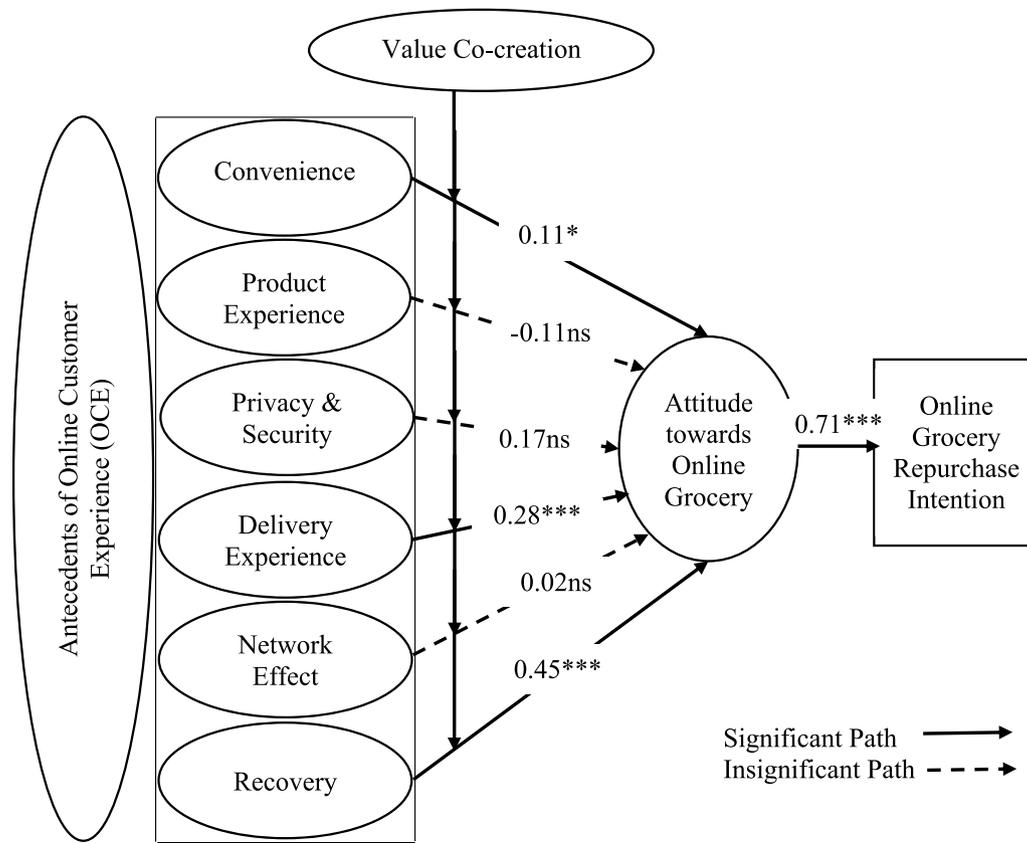


Fig. 2. Result of hypothesis testing.

**Hypothesis 8:** The new reality of online business is that customer is no longer just the end receiver of the goods and services. They have become the participants of the value creation for themselves. In value co-creation the product is not the end object but a progression where the customer gets engrossed and participates in the process (Auh et al., 2007). Studies show that increased level of co-creation led to engagement and intention to co-create in future (Frasquet et al., 2019), thus increasing the number of interfaces (Choo and Petrick, 2014). Companies may utilize the concept of value co-creation as one of the strategies to retain valuable customers, Studies reveal that customer experience and value co-creation process are closely associated (Frow and Payne, 2007), thus online co-creation intensifies the effect of experiences, further increasing perceived value, favourable attitude (Meng and Cui, 2020), increased purchase intention and behaviour (Pee, 2016). The result of the analysis also showed there is significant moderation effect of value co-creation for all the relationships. But this effect was more at lower level of value co-creation and decreased as the level of co-creation increased for all the antecedents except for Delivery experience.

**7. Conclusion**

This research tries towards augmenting the study on consumer attitude and their behavioural intention in the context of online groceries repurchase intention. The study has grounded its base in the Multi Attribute Utility Theory and ABC Theory, to study the grocery retailing in online platform and with specific reference to value co-creation where both the customers and retailers take part in designing the product and services. This research studies the various antecedents of customer experience in impacting the customers’ attitude towards online grocery shopping. Through this study the researcher addresses the three research

questions.

RQ1, is related to the identification of crucial antecedents of customer experience towards online grocery repurchase. This was undertaken through an extant review of literature to identify the crucial factors antecedent to customer experience and contextualizing them to OGR and then prioritizing them using MUAT via AHP.

RQ2, tried to find the impact of the antecedents of OCE on the attitude of the customer which may further impact their online grocery repurchase intention. Empirical analysis of research hypotheses on the association between antecedents of Customer experience– attitude – repurchase intention gave outcomes that disclosed that Recovery was the principal driver of customers attitude towards online grocery shopping, followed by Delivery experience and Convenience. Whereas Product experience, Privacy & Security and Network effects did not show statistically significant impact on customers attitude towards on-line grocery shopping. Also, customers attitude had statistically significant impact on online grocery repurchase intention.

RQ3, tried to study the moderating influences of Value Co-creation on the association between antecedents of OCE and the attitude of the customer towards online grocery shopping. This was done using PROCESS Macro thus, reconfirming the research hypothesis in the light of value co-creation. The outcomes showed that there is existence of significant moderation effect of value co-creation for all the relationships. But this effect was more at lower level of value co-creation and decreased as the level of co-creation increased for all the antecedents except for Delivery experience. The study thus offers several useful implications for theory and practice in OGR.

## 8. Implication

### 8.1. Theoretical implication

This research has proposed and empirically analysed comprehensive model, OCE-ABC model to assess the influence of factors antecedent to OCE on customers Attitude and on Online repurchase intention in case of OGR. The study developed the conceptual model, grounded in the existing literature, framework and theories of ABC and MAUT. Although many studies have already been conducted in the field of online businesses, but very few studies pertaining to OGR are available. Also, an all-inclusive moderated model taking into consideration the confluence of e-commerce, customer experience, behavioural intention and the new aspects provided by internet to the customers like networking effects, value co-creation has been presented. This has not been highlighted in the existing literature of online retailing.

Secondly, previous studies suggested that product experience, privacy & security and network effects have been very important in influencing online repurchase intention but in this study did not positively and significantly influence the customer's attitude. This has been dealt in the discussion part of the study. These factors should be taken care and the hindrances should be resolved so that they become a persuading factor for customers to shop grocery online. It was also observed that recovery has emerged out to be a very important factor in influencing customers' attitude and their repurchase intention in online grocery retail.

Next, the incorporation of value co-creation in the model as a moderator further helped to get an insight of customers' intent and expectation in an online grocery retail scenario. The various interactions showed that in the current scenario co-creation is playing a very minimal role in influencing the various relations between the antecedents and the customers' attitude towards online grocery shopping except for delivery experience. This showed that customers buying groceries online are more involved with the retailers in co-creating value for improvising their delivery experience.

As an overall inference, the outcomes are insightful and make significant contributions to the customer experience literature, particularly in context of OGR. In particular, the study may prove helpful to the researchers who are interested in developing an in depth understanding of antecedents of OEC in affecting their attitude and repurchase intention and the impact that value co-creation with enabled and empowered customers in the changing and overwhelming scenario of e-retailing. The study contributes towards the conceptual model for OCE and repurchase intention in online grocery retailing in light of the ABC Theory and MAUT in the current scenario of online retailing.

### 8.2. Practical implication

This study also provided some practical implications for online grocery retailers to ensure that they pay attention to the important antecedents of customer experience. Online retailers must acknowledge customer experience as a critical multidimensional factor and the effect each of its antecedents' implements on customers' attitude and their repurchase intention. They must also realize the importance of value co-creation in the changing scenario and the impact on the overall customer experience and its' outcomes.

The outcomes suggested that Delivery experience played a very important role in creating customers attitude and their behavioural intention in OGR. Customers are anxious about receiving the whereabouts of their products and timely delivery of these items. The convenience and doorstep delivery of the product help the customers to save time and avoid the hassle of standing in long queues. The customers also want to get involved in the co-creation to create value for themselves through efficient delivery experience. This may be because of the fact that the customer has already invested his time and energy and many a times money in buying the products and thus tries to get involved in the

co-creation process more and more to ensure that the delivery is efficient. Thus, it is suggested that retailers should try and involve customers in creating delivery experience.

Efficient recovery was another key factor for retailers resulting in their repurchases intention. With help of efficient and effective recovery, complaint of the customer may be altered into their satisfaction (Bell and Zemke, 1987) and help convert them into loyal customers (Miller et al., 2000). Inept recovery may let the customers down for the second time, which could end up in negative WOM and switching of customers to competitors (Lewis, 2004).

The antecedents Privacy & Security, Network effects and Product experience were another set of factors that did not directly influenced the repurchase intention in OGR. But these factors influenced customers' intent to repurchase significantly in the presence of co-creation as moderator, though at a lower level of interaction. Online retailers should try and continue influencing customers' attitude through improvised privacy and security features. They should use encryption software and anti-hacking equipment in order to safeguard customers' information pertaining to credit card number, phone number, address, account details etc. In this era of pandemic when making online payments is a safer option for the customers are opting for it but at the same time e-retailers should try and safeguard them.

The online retailers should try and leverage customers' expectations in co-creating value for them and gain their repurchase intent. The factors antecedent to OCE directly influenced customers' attitude which in turn impacted their online repurchase intention. However, for most of the antecedent's co-creation acted as a moderator at lower level as compared to higher level of co-creation. This may be because the customers consider buying grocery online as a low involvement activity and devoting more time and energy in these activities may not be considered generating a value preposition for themselves. Online grocery retailers should thus ensure that customers' get experience that they value the most. The study aligns with the ABC theory which proposes that correlation between attitude and behaviour are stronger when behaviour is facilitated by the structural conditions at moderate level and does not extend it to such a level that even those with the least favourable attitudes would perform it (Olander and Thøgersen, 2015). So, involving customers time to time in co-creating a great customer experience may be a good strategy for the online grocery retailers to elevate online customers' attitude and repurchase intention in the context of OGR. The results may impact the customers in due course and make them more oriented towards the OGR.

## 9. Limitations and future research

Largely, the subject of the research is distinctively noteworthy as not much work has been done in this area and requires further research work to be carried out on the topic. This study has certain limitations and may be taken up for future study by researchers. The grocery segment in online retail consists of a variety of products. This study was confined to a particular section of the grocery segment in online retailing. Understanding the product type and their roles in online grocery shopping will help researchers and practitioners with useful information to highlight and develop behavioural intentions of customers. The sample studied may not represent the online shopper's population of the different geographic regions as well as other countries. Hence, in order to generalize the findings, the study should be replicated on larger sample size in various as well as on online grocery customers in other countries. The research was mainly a cross-sectional, one-time surveyed study pertaining to cost and time constraints. However, a long-term longitudinal study would contribute more significantly to the area of knowledge. The focus of this study was Business-to-Consumer (B2C) OGR and may not be projected specifically to other online business categories like B2B etc. Further researcher could be carried out on these factors along with other emerging factors in the area of OCE to study different behavioural intentions and outcomes.

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