Hesitation to adoption in the e-grocery retailing in an emerging market

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Abstract: The study aims to identify the various factors influencing adoption of e-grocery in India. The factors which have been analysed in this study include guidance for shopping, transaction security, sensory perception while shopping and product assortment and availability. The impact of these factors has been studied on perceived risk, perceived communicability, perceived compatibility and perceived complexity. The interactions have been hypothesised to influence customer’s choice of shopping for groceries online. The sample has been selected from the MBA graduates from a leading business school in India as these MBA graduates have joined the program after the work experience and majority of them are married and they are the prospective innovators which will contribute hugely in the success of e-retailing in India. Questionnaire has been administered to 500 respondents and 440 responded. Multiple regression analysis has been used to analyse the data. A thorough understanding of the factors influencing online grocery purchase adoption could lead to the designing effective marketing mix by online retailers to grow their business.

Keywords: e-grocery, perceived risk; perceived communicability; perceived compatibility; perceived complexity.

B. Rishi et al.

Biographical notes: Bikramjit Rishi is an Associate Professor of Marketing at IMT, Ghaziabad, India. He has over 15 years of academic and research experience. He has 24 refereed research papers, nine book chapters and 26 conference papers. He holds a Post Doctorate (funded by the European Commission), PhD and MBA degrees. Recently, his edited book entitled *Islamic Perspectives on Marketing and Consumer Behavior: Planning, Implementation, and Control* (http://www.igi-global.com/book/islamic-perspectives-marketing-consumer-behavior/120081) has been published by IGI Global USA. He was a Faculty Fellow of AMA Sheth Foundation Doctoral Consortium, 2015 held in Dubai and of AMA Sheth Foundation Doctoral Consortium, 2016 held in Ghaziabad.

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1 Introduction

If there is one category of spending that happens irrespective of whether it is a boom or recession is grocery. It also has the greatest and consistent share of wallet of every household. Grocery includes the entire ambit of products from cereals to soap, even vegetables and meat. This retail opportunity is hence very vast in terms of the customer base it caters to. With increasing number of households having both the partners working, long office hours and fast paced life, there is very little time available to do the task of grocery shopping the way it has been done till now. This opens up the opportunity for online grocery shopping that reduces the time and effort to shop for groceries in-store.
Increasing connectivity due to explosive growth of mobile phones and internet reach are also strong signals of huge opportunity existent in the e-retail space. The transaction systems for online payments have become robust as also with a general increase in level of comfort of online transactions among consumers. An IBEF (2015) report indicates that the online sales in India are expected to reach around 2% of the overall grocery market by 2020, creating a potential market size of around US$10 billion (Rs. 60,000 crore) following the surge in number of players operating in the industry.

However, in spite the macro trends indicating otherwise, there has been a rather slow adoption of online grocery shopping by consumers in India. A 2014 U.S. Department of Agriculture (USDA) (http://www.usda.gov/oce/commodity/wasde/latest.pdf) report notes that ‘the growth in India’s online retailing for food and groceries is a function of the rise in total internet users from 120 million to 213 million in the past year as well as a fall in mobile handset prices and a rise in smartphone penetration”. For example, Rishi (2010) concluded that the reliability, accessibility and convenience are the major motivator factors which motivate the Indian consumer to buy online. Similarly, reluctance and preference are the two decisional factors which influence the decision of the consumer to buy online or offline. Hans (2013) pointed out that e-grocery shopping is taking a shape in India. E-grocery shopping has the advantage of high percentage of repeat orders. All you need to do is impress a customer with the first order. Once a customer is satisfied, you can have one more regular in your clientele.

At the international level a research done by Consumer Direct Cooperative (1998) (http://ageconsearch.umn.edu/bitstream/26530/1/32010005.pdf) has come up with six groups of consumers who can be potential online grocery shoppers. The first group is identified as ‘shopping avoiders’. This group is completely not interested in grocery shopping be it online or traditional. The next group are ‘necessity users’ who shop only for necessity. There require a strong reason to go to the store and shop grocery and they do not consider it as an experience. The next set of people is identified as ‘new technologists’. They are typically young and embrace technology. Next are the ‘time starved’ who are price insensitive and would not mind paying a premium if a service or a product can save their time. These are followed by ‘responsibles’ who have plenty of time and they get heightened feeling of self-worth when they shop. The final category is the ‘traditional shoppers’ who are older and avoid the usage of technology. These are the group who really enjoy shopping in a traditional grocery shopping format. Each of these groups varies from each other in their attitude towards not only online grocery shopping but towards grocery shopping in general. With just a simple promise of delivery at doorsteps might be tempting for the ‘necessity users’ group and also ‘time starved’ group. But using this value proposition to target everyone may not be the right strategy. The value proposition of home delivery does not solve that problem that shoppers undergo on choosing the right product. More importantly the proposition of home delivery does not offer much value to ‘responsibles’ who enjoy enhanced self-worth by shopping. Also the value proposition of home delivery can be provided by traditional grocery players as well. In fact they offer the convenience where customers can go to the shop, choose and pick the products of their choice and the grocer will deliver the same to the customers even on the same day depending on the location of the grocer. Mainly thriving on the value proposition of just home delivery is not sustainable for e-grocers on a long term basis. Thus the focus should be on the entire shopping experience making ordering and receiving of groceries as smooth and easy as possible.
There are numerous developments happening in this space like unmanned reception boxes that relieves the customer from having to stay at home at the delivery, vendor managed inventory where the e-grocer makes sure that all the ingredients are available and are required to cook the planned food by accessing customer’s electronic cooking planner. Therefore the scope is enormous. But before e-grocers can confidently take plunge into these technical innovations it is very necessary to understand the expectation of an Indian e-grocery shopper from an e-grocer.

However drawing from research drawn from other countries, factors including transaction security issues, ease of use (Elliot and Fowell, 2000), inability to physically examine (Baker, 2000), product preferences and shopping experience satisfaction (Anckar, 2002) which includes possibility of consulting before a purchase limit the rate of adoption of online grocery shopping. To develop the conceptual framework for this paper, necessary theoretical and empirical investigations have been reviewed in the next section.

2 Literature review

2.1 Innovation and e-grocery shopping

A study on innovation theories and adoption rate of an innovation suggests that whether an innovation will materialise or not would depend on the perception of certain characteristics of the innovation. Some of the characteristics of innovation that determines its success or failure are that of perceived compatibility, complexity, divisibility, communicability and relative advantage (Rogers, 1995). The theory of planned behaviour also suggests that risk perception alters the behavioural intentions of innovation adoption (Ajzen, 1985). Since online purchase of grocery items involve significantly different shopping attitudes than buying in-store in a physical store set up, online grocery shopping is considered as a discontinuous innovation. Given that online grocery purchase is a discontinuous innovation process, it requires that the current shopping behaviour undergoes a significant change to be able to be successful. Hand et al (2009) suggests that since shopping online necessitates the consumer to leave the comfort of evaluating the product before purchase as well as the social interactions in the process, the value online should exceed these lost opportunities of offline grocery shopping. These perceived characteristics of innovation are predictors of adoption of online grocery buying (Black et al., 2001; Verhoef and Langerak, 2001).

The characteristics of innovation as suggested by Rogers (1995) that influence adoption rates of online grocery shopping used in the study include:

1. communicability, which is the ease with which a potential buyer can communicate with fellow buyers, sales persons, etc.
2. complexity, which is the perceived difficulty in adopting online grocery shopping
3. compatibility, which is the extent to which online grocery shopping aligns with their prior beliefs and social norms.

The perceived risk (McKnight et al., 2002) of online grocery shopping acts along with the factors proposed by Rogers to influence adoption of shopping for groceries online (Hansen, 2005).
Verhoef and Langerak (2001) studied the impact of these factors, i.e., relative advantage, compatibility, complexity, divisibility and communicability on the adoption of online shopping. These factors in turn affect the rate of adoption of the online grocery buying process. Authors suggest that relative advantage and compatibility of online shopping with current practices have a direct correlation to and an impact on the consumer’s choice to buy online. However the research also suggested the impact of perceived convenience on relative advantage and compatibility with existing purchase options in finally deciding the adoption rates of consumers. The study also suggests that the extent of risk and complexity perceived have a detracting effect on consumers purchasing online.

Perceived communicability is the extent to which a consumer feels the need to obtain guidance and communicate their shopping experience to others (Blackwell et al., 2001). It is possible to talk to consumers and sales agents in an offline shop set up in order to get guidance on choice of a particular product or to share a shopping experience. This may however be absent while a consumer shops online. Thus, for a consumer who values guidance as a necessity while shopping may find the communicability in the online media much inferior as compared to brick-and-mortar stores. Hence, it is important to study the influence of guidance or the value a customer attaches in obtaining other’s views while choosing a product in the choice of online grocery shopping.

Previous studies have also shown (Van den Poel and Leunis, 1999) that perceived risk of online shopping are significantly higher than that of shopping in store. Normative guidance can significantly lower the risk perception and hence the risk associated with in-store shopping is lower (Hansen et al., 2004). Forsythe and Shi (2003) also conclude that when the perceived risk of unintended outcomes in online grocery purchase increases, it negatively impacts adoption of online grocery purchase. This perceived risk may arise due to concerns in transaction security (technology risk), doubts about the vendor (vendor risk), and product assortment including product quality (product risk), product replacements, etc. (Lim, 2003). Freshness of product is considered to be the major cause of risk perception by most consumers (Geuens et al., 2003). Also the absence of physical examination leads to greater perceived risk while shopping online (Laroche et al., 2005). Rajagopal (2011) proposed three models on consumer choice behaviour, shopping performance and marketplace advantage in buying decisions involving several cognitive and economic determinants affecting consumer behaviour. The framework for measuring the consumer behaviour discussed in this paper provides analytical dimensions for delineating the prediction of intangible variables affecting consumer preferences to optimise the purchase decisions in a given marketplace.

2.2 Motivation and e-grocery shopping

A majority of the consumers will associate with online grocery shopping as an entirely new way of purchasing groceries and transacting with the retailer than their existing beliefs and practices (Odekerken-Schröder and Wetzels, 2003). This would impact perceived compatibility which is the extent to which past beliefs and practices sync with the suggested new method and create usage barriers. Hansen (2005) suggested a new dimension to the study of adoption factors influencing purchase of grocery online. The study hypothesised differentiated levels of perceived complexity, risk and relative advantage among those who have made some purchase online vis-à-vis those who are completely new to online purchase. The study concluded that although there is previous
experience of online purchase in other product categories, the perceived complexity still affects online grocery adoption significantly inversely and so do perceived risk, relative advantage and perceived convenience. Thus, the adoption of online shopping behaviour is impacted by the product category and not just by the familiarity of online shopping.

Bringing together (Hansen, 2005) research with that of the theory of intrinsic motivation put forward by Davis et al.’s (1989) findings which suggest that self-efficacy is a major determinant of motivation reveals interesting insights. Although product assortment significantly impacts the adoption of online shopping and due to higher perceived complexity and risk associated with online shopping, the level of adoption may be low, the impact of efficacy taken together with this theory brings in an interesting dimension. This suggests that although product assortment may be the determinant of faster adoption rates, those who have had successful shopping experiences in other product categories have relatively lower apprehensions about online shopping and hence when it comes to grocery shopping the magnitude of risk, complexity may be lower compared to otherwise.

The offline grocery shopping involves a high degree of stimuli in the form of sensory perception such as touch and feel of the product, product display, in-store ambience, etc. This is absent in an online media and those who attach a relatively high weightage to such sensory perceptions may find the online mode less compatible with their existing practices (Hansen et al., 2004). Geuens et al. (2003) also suggest that consumers hesitate to shop online due to doubts on quality of products purchased online as they cannot check for its expiry date and related information. Canedy (1999) and Baker (2000) also support that due to the nature of grocery goods, consumers attach a high importance to physical examination for perishable goods before purchase. Adoption however is a trade-off between the past practices versus needs and wants of a consumer and in deciding among shopping channels it can be assumed that consumers make trade-offs (Odekerken-Schröder and Wetzels, 2003) available and hence the compatibility of the two will influence adoption of online mode of grocery purchase. Detailed information on the products such as nutritional information can help increase customer satisfaction and increase the perceived compatibility (Szymanski and Hise, 2000; Yang et al., 2003) with online mode of shopping and hence can impact their (online) success.

Product assortment is also found to be a major determinant in the choice of online versus in store shopping for grocery products (Arnold et al., 1983). Wider product assortment of goods along with hard-to-find products, and novel items in grocery (Hamilton, 1998) are a major source of competitive advantage for web-based retailers (Alba et al., 1997).

Ankar (2002) concludes that consumers perceive grocery shopping as a routine and mundane task and would like to perform it as efficiently as possible. It is for this reason that consumers tend to shop from a local kirana store where they can shop with least complexity as they have knowledge on the product placement and assortment available with the shopper. Hence, we hypothesise that product assortment significantly impacts the perceived complexity and hence effects the choice of online versus in store shopping.

Kornum and Bjerre (2007) proposed a framework for the analysis of market creation and apply this to the grocery e-commerce business. The article develops a model of four forces that interplay when companies engage in the process of creating new markets. The applicability of the model is exemplified by examining the interaction of the forces
having created grocery e-commerce markets in the UK and Denmark. Rishi (2009) studied the drivers of grocery store choice, in the context of the evolving retail industry in India. The study analysed the distinct store features as perceived by respondents with the true motivations of various consumers in patronising various stores. In the process it provides insight as to whether the average Indian consumer values the new store dimensions offered by retailers as a part of the new formats emerging in the market place.

Although most of the studies considered so far have researched on the purchase intentions of consumers and what are the drivers of online grocery shopping, very few have actually studied the consumers who have already carried out an online grocery shopping. This in consistency in intention and behaviour is lucidly explained by Shim et al. (2001) and quoted by Hansen (2005) and that future intentions cannot be considered as predictors for future actions. However future adoption or non-adoption are dependent on how those who have already purchased online perceive the relative advantage, convenience, complexity and risk associated with shopping for groceries online.

2.3 Synthesis of review of literature and development of conceptual framework and hypotheses development

On the basis of the synthesis of review of literature it is proposed that a linkage among the innovation determinants like perceived risk, perceived convenience, perceived compatibility and perceived complexity should be established with the e-grocery marketing related factors like guidance, transaction security, sensory perception and product assortment. A conceptual framework has been proposed which is shown in Figure 1.

**Figure 1** Construct description linkage on the basis of literature (see online version for colours)

On the basis of above conceptual framework the following hypotheses have been proposed for validation.
H1
a. Better guidance about the products.
b. Better transaction security.
c. Lesser sensory perception requirements.
d. Clearer product assortment will have a significant influence on the perceived risk of the consumers in case of e-grocery shopping.

H2 Better guidance about the products and better assortment of products will have a significant influence on the perceived convenience in case of e-grocery shopping.

H3 Better guidance about the products and sensory perception will have a significant influence on the perceived compatibility in case of e-grocery shopping.

H4 Clearer product assortment will have a significant influence on the perceived complexity in case of e-grocery shopping.

3 Research methodology

This is study is descriptive in nature which is significant applications in e-grocery industry in India. The population mentioned in this paper refers to citizens of India buying products through e-commerce. The sample size is taken from the National Capital Region (NCR) of India. The sample has been selected from the young population as the young people buy products and services online. The sample has been selected from the MBA graduates from a leading business school in India as these MBA graduates have joined the program after the work experience and majority of them are married and they are the prospective innovators which will contribute hugely in the success of e-retailing in India. The respondents are users who are frequent buyers in online domain. Also as pointed out apart from social norms and other factors, future predictors of online shopping do not necessitate actual buying behaviour. Hence it is important to study the adoption rates of existing users of online shopping and their perception and drivers to shop online. The respondents were from different occupation/specialty in these regions having varied professional experience both in terms of number of years and discipline. Care has been given to take respondents from varied fields so as better representation of population can be extended. The sampling employed in this study is systematic random sampling approach. A list has been prepared and every third sampling unit is included in the sample. The questionnaire has been administered to 500 respondents out of which 440 responses have been found suitable for the data analysis. The detailed profile of the respondents is shown in Tables 1 and 2.

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Gender wise composition of sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Number of respondents</td>
</tr>
<tr>
<td>Male</td>
<td>262</td>
</tr>
<tr>
<td>Female</td>
<td>178</td>
</tr>
<tr>
<td>Total</td>
<td>440</td>
</tr>
</tbody>
</table>
Table 2  Age of the respondents

<table>
<thead>
<tr>
<th>Age</th>
<th>Number of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>20–24</td>
<td>242</td>
</tr>
<tr>
<td>25–29</td>
<td>153</td>
</tr>
<tr>
<td>30–34</td>
<td>45</td>
</tr>
</tbody>
</table>

The study has used the questionnaire to collect the data. The questionnaire has been borrowed from Huang and Oppewal (2006). The language of the questionnaire has been adjusted according to the requirements of the Indian market. A pre-test of the questionnaire has been performed to check the validity, reliability and sensitivity of the questionnaire. The Cronbach alpha value for every situation has been checked and it has been found that the situation 3 was having the maximum Cronbach alpha value i.e. 0.853 while the situation 12 was having the lowest value at 0.683 thus indicating the goodness of the scale measurements. The questionnaire administered, had the options to be presented with a varied set of hypothetical choice tasks. These experimental hypothetical tasks were the significant contributors to the philosophy of the questionnaire being administered. This has been designed keeping in mind to measure the change in shoppers responses again various stimulates of situations given, so as all possible online and in-store grocery shopping conditions can be evaluated. Each respondent was presented with two hypothetical scenarios and then further asked to plan a grocery trip for each scenario. However, caution was taken to ask the respondents about their last held grocery trip and their routine usage of the internet. For obvious reasons, the last part of the questionnaire was on socio-demographic attributes.

To prove the hypotheses, the different situations for the shopping trips that the respondent considers have taken into consideration to build the scenarios for shopping. The different situations which have been considered includes as the original purpose of the shopping trip, total time available to respondent at that particular circumstance for shopping, if exists then the delivery charges and to measure geographical proximities like travel time to a physical store. Each attribute had particularly two levels, as shown in Table 1. Through mathematical modelling the total number of possible combinations of levels is 24 profiles. However, to avoid the strict overloading on the respondents and to remove various fatigue biases, it was decided that each respondent shall receive only two profile descriptions or the situations drawn from the varied 16 profiles. Thus, all together, eight different questionnaire versions were created, each with two different scenarios. The different questionnaire versions are shown in Appendix.

Hence, for a particular respondent with two scenarios given, after each scenario was presented, the respondents were requested to indicate on a seven-point Likert scale (1 – definitely buy in-store, 7 – definitely buy online). The purpose of this exercise was to measure the extent they would choose to buy in-store or online. They were then asked to rate the level of their perceived risk, perceived communicability, perceived compatibility and perceived complexity for the in-store and online situation, respectively. A sample scenario and the related questions are shown in Table 3. After this, to measure the reliability of the construct measures used for the two experimental scenarios respondents were asked an additional set of questions within the context of their second scenario.
## 4 Analysis and results

All the respondents included in the survey were heavy internet users with all of them performing e-commerce activities in one or the other category. A multiple regression technique has been used to prove the hypotheses. All the assumptions of regression which includes normality, linearity and homoscedasticity have been tested and data has been found suitable to run the regression.

### 4.1 Hypothesis tests

Multiple regression tests were carried out in order to test the impact of various factors such as touch and feel, reviews etc. on perceived risk, complexity and so on and finally their impact on the choice of online or in-store shopping for groceries.

Hypothesis numbered H1–H4 were used to define the relationship between the identified factors namely guidance, transaction security, sensory perception and product assortment on consumer’s perception of risk, communicability, complexity and compatibility. In order to test the hypothesis, the various perception constructs were checked for each of the scenario defined in terms of the difference in ratings for online and in-store shopping. The obtained differences were then subsequently regressed against the situational factors identified, again for each construct separately. Effect coding was used to define attribute levels as explained in Table 3.

Results as shown in Table 4 suggest that availability of guidance, transaction security, and product assortment affect differences in perceived risk which is comparable to the findings of Hansen (2005) and Verhoef and Langerak (2001). Sensory perceptions, however, does not affect the risk perception. Guidance and transaction security also affect perceived convenience as well as perceived compatibility. It is also observed that product assortment and sensory perceptions do not affect perceived convenience. Sensory perceptions and product assortment affect perceived compatibility whereas sensory perceptions, product assortment, and transaction security have an impact on perceived complexity. Availability of guidance however does not have an effect on perceived complexity. Part of the results of the study matches with the findings of Baker (2000) for guidance, Lim (2003) for transaction security, Hansen (2005) for sensory perception and Lim (2003) for product assortment. The modified conceptual framework is shown in Figure 2.
Table 4  Regression output

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Adjusted $R^2$</th>
<th>Independent variable</th>
<th>$B$</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived risk</td>
<td>61.0</td>
<td>Sensory perception</td>
<td>-0.013</td>
<td>0.507</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Guidance</td>
<td>-0.709</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Transaction security</td>
<td>0.237</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Product assortment</td>
<td>0.231</td>
<td>0.000</td>
</tr>
<tr>
<td>Perceived convenience</td>
<td>55.8</td>
<td>Sensory perception</td>
<td>0.011</td>
<td>0.617</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Guidance</td>
<td>0.267</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Transaction security</td>
<td>0.698</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Product assortment</td>
<td>-0.05</td>
<td>0.817</td>
</tr>
<tr>
<td>Perceived compatibility</td>
<td>69.9</td>
<td>Sensory perception</td>
<td>0.814</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Guidance</td>
<td>-0.098</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Transaction security</td>
<td>-0.124</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Product assortment</td>
<td>-0.113</td>
<td>0.000</td>
</tr>
<tr>
<td>Perceived complexity</td>
<td>19.5</td>
<td>Sensory perception</td>
<td>-0.409</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Guidance</td>
<td>-0.05</td>
<td>0.086</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Transaction security</td>
<td>0.137</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Product assortment</td>
<td>0.105</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Figure 2  Modified construct relationship on the basis of research outcomes (see online version for colours)

5  Managerial implications

Internet users in India are expected to become three times by 2016. As the number of users in India is growing, the influence of internet on purchase decision is also growing. Developed economies like USA and Europe have embraced this medium and started
buying online extensively. However the Indian scenario is different and Indian users are culturally and socially varied from developed economies and even from other developing economies and hence it is important for businesses who want to go online to understand and embrace the differences. Indian retail industry is among the top five in the world and is estimated to be around $500 billion. However most of this retail is currently unorganised and a very meagre 1% is organised and around 40% of it is projected to be happens over online space over the next seven years. Internet retailing of grocery is still at a very nascent stage and presents an exciting and challenging opportunity for both few existing players and firms planning to venture into this space. The major competitor to this online adoption is the mushrooming of modern retail which provides consumers a huge product assortment. In the past, the local kirana wala was the distance between the desire to own a product and the consumer whereas today these have been eliminated by the aisle showcase of products were consumers can navigate and pick products increasing convenience and benefit consumers with the sensory feeling required to buy a product specially those of perishable nature. Research also suggest that although standardised products like packaged foods, bottled drinks, etc will have a greater adoption rate as compared to fresh fruits and vegetables available at the nearest retailer due to the perception of wanting to buy fresh produce. Although players like bigbasket.com and dilligrocery.com are coming up, their customer base is still on the lower side with deliveries per day touching up to a maximum of 100 orders as per a press release. As of now this space is highly unorganised and the biggest entry barrier being problems faced by the firms in inventory management and last mile delivery. The primary main reason for these portals not picking up has been the lack of trust with respect to freshness, quality and originality. On the other hand, internet users are also increasing in India with the growth of smartphones. The growth of smartphone in India is projected at around 40% for the next five years. This presents a huge opportunity for grocery e-tailers in India. Therefore it is of paramount importance to understand the factors that drives the Indian grocery shopper to shop online.

However, both consumer behavioural trends and market growth projections promise a boom in this sector. It is grappling with increasing number of modern retailers looking to go online and open their portals as well as manufacturers like say coke also going online and selling on their own. The narrow margins already typical of this space means that increasing competition will badly hurt margins and therefore create other troubles. It is therefore extremely important to understand the drivers that will determine the future of online grocery shopping in India and the relative importance that consumers attach to various characteristics of shopping such as guidance, assortment, sensory perception, and the ease of transacting. Guidance in the form of online product reviews plays a very important role in e-grocery shopping in India. Reading online user reviews and seeking opinion of the peers has become an important part in the pre purchase research conducted by the online shopper. Guidance can also include trust earned media such as word of mouth and recommendations by friends, family and neighbours. Flipkart for example has used this factor effectively by prioritising genuine reviews by recognising the review written by the actual purchaser of the product as ‘certified buyer’ review. This adds to the trust placed in the review by the shopper. It is strategies like these that e-grocery portals can use to build the trust factor and provide guidance to the shopper which can play an important role in the final purchase decision of the shopper. As online reviews increase the ranking of the portal also improves in the local search engines. Local search engines mainly provide information to consumers at home and help them to predict and make
quick decisions. Also online reviews may also influence how Google decides the rank the portal in its search results. Therefore two critical points are important for business in this context. First is to ensure that consumer who shop on the portal are satisfied and they express their satisfaction about the product with product recommendations on the portal. Second is to ensure this review is viewed by the decision maker who visits the portal.

The derived model validates the importance that shopper place COD feature of various e-commerce portal. The same trend is observed in e-grocery as well. This game changer was first introduced by Flipkart and almost every other player followed the suit. Transaction security has a baring effect on all the four factors of perceived risk, perceived convenience, perceived compatibility, and perceived complexity. Indian grocery shopper considers COD as less risky, convenient, compatible and less complex. Especially in a category like grocery with low shelf life and chances of receiving a not so satisfactory product is high COD increases the trust factor and customers find it safer to use it. Another major issue in India is the low penetration of credit cards. This is another major reason that pushes customers to opt for COD facility. But for businesses, providing COD option is a major challenge. The return rates are high, long cash flow cycle between order and payment and also the risk associated with delivery personnel handling cash.

Sensory perception which play a major role in the purchase of groceries like rice, wheat, dal where customer find it comfortable to touch, feel or smell the product before they make the final purchase decision. In a category like grocery which has limited shelf life, the customers’ perception of quality can change based on sensory perception. This is one factor that is very difficult for e-commerce business to fulfil.

One of the major advantages offered by e-commerce portals is product assortment. Consumers seek variety especially in groceries and that can be provided by e-grocery portals. But too much of product variety leads to complexity in the minds of the consumer. Firms must also have their long term sustainability and profit in mind before settling on the product assortment. Our model suggests that product assortment is not as important as other parameters such as sensory feeling or guidance. This should be taken with a pinch of salt as consumers currently substitute a small portion of their grocery shopping with online purchases. They do not depend on the online media to carry out the whole of their requirements and hence do not feel the need for the whole range to be available. However in the future as adoption grows and other parameters get levelled, product assortment will be the competitive advantage that one player can create and sustain over the other. E-grocery players must plan on offering consistent product offering, mix of product that offers maximum profitability but also superior shopping experience to consumers. Too much product assortment can lead to inventory problems with the possibility of order not being fulfilled that leads to the perception of risk in the minds of the consumer. With real time analytics now in place e-tailers can clearly identify and classify products that are more preferred by consumers and then decide on their product assortment strategy.

6 Conclusions

This paper tried investigating the adoption of online grocery buying among those who have significant exposure to online buying. Factors that ultimately impact the adoption of online shopping was hypothesised to be perceived risk, perceived complexity, perceived compatibility, and perceived convenience. The hypothesised factors were then checked
for their impact on the characteristics of a successful shopping which include availability of guidance, transaction security, sensory perception and product assortment. The study administered questionnaires, each with a combination of two scenarios from a total of sixteen scenarios which varied the levels of the chosen factors which were hypothesised to impact online grocery shopping adoption. The survey was administered to youth who have previously tried online shopping in the NCR. A flurry of online portals selling online grocery in India supported our reason for choosing this area. Characteristics typical of this region is the growing number of working women, increasing traffic at malls, and the need for a break from regular chores which result in a time crunch to shop at malls. This has resulted in a demand for greater convenience and hence the growing number of online shopping and grocery portals. The study establishes the drivers of online shopping and impact of these factors on the characteristics of shopping are in fact true through multiple regression analysis. For shoppers in India product assortment have shown to not significantly impact online shopping behaviour whereas guidance, transaction security and sensory feelings which are in turn impacted by perceived risk, perceived complexity, perceived compatibility, and perceived convenience are found to be deterministic of their shopping behaviour. This means that any player who needs to penetrate this online grocery shop must need to address existing consumer concerns in order to grow beyond and once growth is established must look at the differentiating factors to sustain in this marketplace.

In case of e-grocery shopping it can be concluded that availability of guidance, transaction security and product assortment are having significant influence on perceived risk guidance, and transaction security also influence perceived convenience as well as perceived compatibility. It is also observed that product assortment and sensory perceptions are not having any significant effect on perceived convenience. Sensory perceptions and product assortment is having significant influence on perceived compatibility whereas sensory perceptions, product assortment, and transaction security have an impact on perceived complexity. Availability of guidance is not having any influence on perceived complexity.

7 Limitations and future scope

The diffusion of online grocery buying behaviour is said to be varied depending upon the age profile, respondent location, social norms, cultural practices and so on. The study is limited to youth and young adults living in the NCR. The study can have other results if administered to a wider age profile since youth are said to be more ready to adopt internet innovation due to the increasing time crunch felt. Also the study is administered to individual members of the household and may vary if the household is taken together and administered. The geographic spread of the research is also a limiting factor to the scope of the study. Future research can focus on understanding the impact of age on the drivers of online purchases and the patterns that emerge out of the interaction between the drivers and characteristics of shopping. Also study of other segments of consumers such as those who have never purchased online, who have never purchased perishables online, etc can be segmented and the impact of the previous shopping experiences on online grocery shopping adoption can be understood.
Hesitation to adoption in the e-grocery retailing in an emerging market

References


Appendix

Questionnaire

Situation 1

1. No reviews or any guidance is available for the grocery items.
2. COD option is available.
3. You want to buy dal/rice where touch/feel of the item is important for you.
4. You are satisfied with similar/substitute product if the particular product is unavailable.
Situation 2
1. You know about various product through reviews (online/offline).
2. COD option is available.
3. You want to buy a standard product where touch and feel is not important to you (example Ponds Face Wash).
4. You are satisfied with similar/substitute product if the particular product is unavailable.

Situation 3
1. You know about various product through reviews (online/offline).
2. COD option is available.
3. You want to buy dal/rice where touch/feel of the item is important for you.
4. You are satisfied with similar/substitute product if the particular product is unavailable.

Situation 4
1. You have to pay online for all the transactions you make.
2. No reviews or any guidance is available for the grocery items.
3. You want to buy dal/rice where touch/feel of the item is important for you.
4. You are very specific about the product and not comfortable with substitutes/similar products.

Situation 5
1. You want to buy dal/rice where touch/feel of the item is important for you.
2. No reviews or any guidance is available for the grocery items.
3. COD option is available.
4. You are very specific about the product and not comfortable with substitutes/similar products.

Situation 6
1. You are very specific about the product and not comfortable with substitutes/similar products.
2. You know about various product through reviews (online/offline).
3. You have to pay online for all the transactions you make.
4. You want to buy dal/rice where touch/feel of the item is important for you.

Situation 7
1. No reviews or any guidance is available for the grocery items.
2. COD option is available.
You want to buy a standard product where touch and feel is not important to you (example Ponds Face Wash).

You are satisfied with similar/substitute product if the particular product is unavailable.

Situation 8
1 You have to pay online for all the transactions you make.
2 No reviews or any guidance is available for the grocery items.
3 You want to buy dal/rice where touch/feel of the item is important for you.
4 You are satisfied with similar/substitute product if the particular product is unavailable.

Situation 9
1 You want to buy a standard product where touch and feel is not important to you (example Ponds Face Wash).
2 No reviews or any guidance is available for the grocery items.
3 You have to pay online for all the transactions you make.
4 You are very specific about the product and not comfortable with substitutes/similar products.

Situation 10
1 You want to buy a standard product where touch and feel is not important to you (example Ponds Face Wash).
2 No reviews or any guidance is available for the grocery items.
3 You have to pay online for all the transactions you make.
4 You are satisfied with similar/substitute product if the particular product is unavailable.

Situation 11
1 You know about various product through reviews (online/offline).
2 You have to pay online for all the transactions you make.
3 You want to buy a standard product where touch and feel is not important to you (example Ponds Face Wash).
4 You are satisfied with similar/substitute product if the particular product is unavailable.

Situation 12
1 You know about various product through reviews (online/offline).
2 You have to pay online for all the transactions you make.
Out of the above 16 scenarios any two scenarios will be given and the following questions will be asked for each scenario:

1. Would you choose to buy groceries online or in store?
   - Definitely in-store 1 2 3 4 5 6 7 Definitely online
For the given scenario (1 – not at all; 7 – very much)
a How much risky will be to buy grocery online?
b How much complex is it to buy grocery online?
c How much convenient is to buy grocery online?
d How much compatible is to buy grocery online?