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# Digi-Agro (Online Agricultural Grocery Shopping): The Need of Modern India

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## ABSTRACT

Easy to access and easy to use that is the moto for a successful start-up that could cruise through every hurdle that presents itself along the way. Most of food comes from farms, farmers don't get the returns they deserved on their produce and hard work because poor sale infrastructure. Whether it is the fast foods or daily goods that one might need, the internet is something that is helping the cause immensely. This affects the sellers who are not able sell their products directly and as a result, decreases the benefits and compensations of products they deliver. The primary motive of this project is to connect farmers and consumers directly on a platform so that customers can get products at lesser prices and our farmers get better benefits. The moto of this project is to bring market closer with the use of internet and the website.

**Key words:** Digi-Agro, Online agriculture products, Grocery shopping, Consumer pattern

In modern day life almost, everyone owns a smartphone and uses it on daily basis from shopping to booking. Shopping in urban and rural areas is very different. Urban people are usually well versed with the technology and the market whereas the rural population misses out on all this action and the benefits that could accrue. This project is to help the farmers and customer that to purchase and sell with better benefits. Through our application customer will be able to get high quality fresh vegetables and fruits quickly and efficiently while making it a deal of profit for farmers. By breaking the conventional supply chain both the customer and farmer will be satisfied with the result [1]. Poor marketing affects the whole income of poor farmers and local marketers, most of the livelihood in India depends upon agriculture and is only source of income for family. Farmers have little to no knowledge of technology and they sell their fruits and vegetables through a marketing committee and multi-layered supply chains which are used to decrease the farmer's income. In India rice, wheat and all other products are marketed through wholesale market [2]. Digital platforms have made a positive impact in every area of agricultural sector from providing information, to increase the minimum support price that farmers receive for their produce.

These days, fruits and vegetables buying is very easy

because of internet. The patron should continuously sell fruits and essentials at domestic, as well as control coupons, hold buying lists, queue in restaurant lines, have a look at the excellent print on food cans, or even determine out which rack and row she or he might be capable of be aware the object in. As a cease end result, a huge part of grocery purchasers or customers might be interested by a greater comfort and faster fruits and vegetables shopping opportunity. Each person's life has been so worrying and time ingesting that we now want a smart system in our kitchen as nicely. We moreover want a clever tool in our kitchen in the meantime. It is some distance hard to hold music off and check all the groceries domestically. Most of the time, we've the misguided impact that we have sufficient good quality products in our kitchen, high-quality to be faced with empty bottles whilst a need is urgent, inflicting us inconvenience [3]. To stop this, we often purchase an excessive amount of meals and maintain it at domestic for lots days, that's inconvenient and might purpose damage to the food both of these situations are complicated [4].

Grocery stores have traditionally been purchased where clients have the chance to touch and investigate services previous to purchase and also to manipulate the transport of delicate merchandise. Retailing of groceries through the internet remains at an early degree and the quantity of internet grocery purchases leaves a whole lot to be preferred for e-grocers in India to maintain worthwhile long-term expansion [5]. The concept of buying perishable merchandise, together with fish, over the net, elicits a few skepticisms amongst most of the people of customers, because the reliability and responsibility of the carrier is referred to as into query.

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E-grocery selling and purchasing goes on in India in a huge manner. In the close future, e purchasing will update shopping in a conventional supermarket. Even though traditional buying is still to be accomplished but online purchasing can alter the way humans enjoy buying in general. A look at pursuits to determine whether or not farmers are transforming the manner they store their produce and grocery stores from the Kirana store round the corner to online shops. The test is designed to expose the patron's mindset to e-trade and their choice for e-commerce [6]. This test will assist to discover whether or not e-trade will exceed the traditional buying preference and moreover the reaction of online grocery selling and shopping within the market. There are a large number of possibilities for a new model for services.

## MATERIALS AND METHODS

In India, e-grocery and intermediary selling is going on in a large manner. Where indirect selling provides very low price to farmers. The E-purchasing in the near future, will

update traditional style of shopping. While traditional buying still exists, online purchasing should change the manner customers participate in grocery buying. The purpose of this paper is to determine whether farmers are shifting their shopping habits from a next-door vendor to online grocery store for their produce and groceries. This research is conducted to show the mindset of the consumer towards online grocery shopping. These studies will assist to determine whether or not e-grocery will conquer the conventional method of purchasing and grows into a full-fledged platform for all sorts of marketing.

### Interface description

In our project consumer/user can order their products via visiting online website and purchase groceries and after confirm the order user will get invoice of confirmation and pay the price using cash on delivery at home. Web portal where farmers products will be listed and customer can purchase their groceries, plants and vegetables.

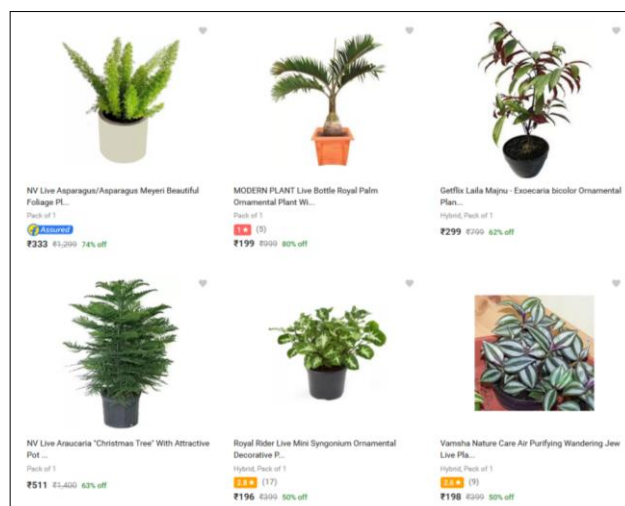
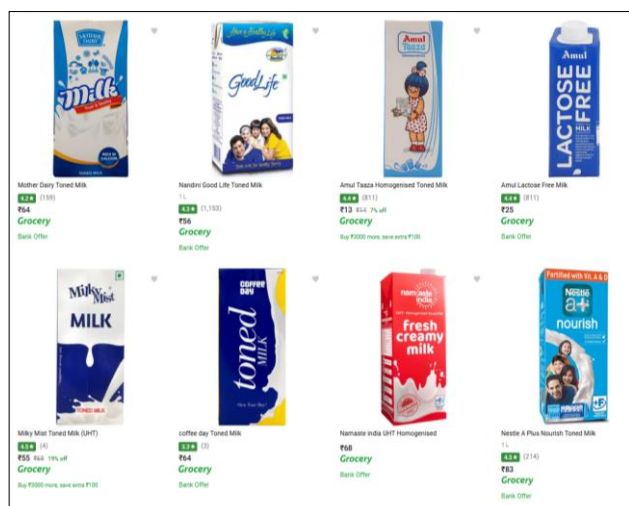


Fig 1-2 Show the listed products

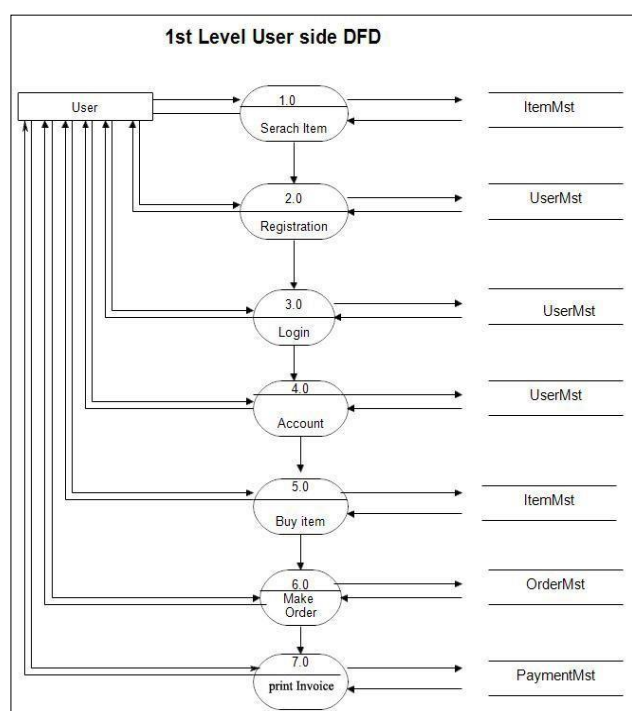


Fig 3 First level user side DFD

### Sequence of purchasing products

Website has features like Bigbasket and Flipkart where user can visit the website 24\*7 and it is accessible. Firstly, when user accesses the website there will be grocery products and search bar, login and signup for registration. Users can search their desired products and add to cart for multiple product purchase. Once user confirm the final order invoice is generated as a receipt for successfully order. Finally at the time of cash on delivery users have to show the invoice and take their products.

### Data analysis

Analysis and interpretation are vital steps in the trying out technique. Step one inside the facts studying process will typically be to recode all calculated variables, however the values had been already coded thus when uploading the uncooked information because of the compatibility of SPSS packages.

### Sample size

It incorporates of ninety respondents which has been taken non-officially throughout numerous socio demographic profiles.

### Sampling design

A random sampling method turned into adopted to draw the sample respondents for the observe. Random sampling way each man or woman detail within the universe has an identical risk of being chosen.

#### Tools

The following tools are used in this study for the analysis.

#### Percentage analysis

Percentage strategies consult with the precise shape used to make a distinction between or greater collected facts collection. the proportion is dependent on the connection definition. The related matters are compared. The facts are decreased within the shape with the base identical to a hundred percent by means of the use of the percentage, which inspires relative assessment.

$$\text{Percentage} = \frac{\text{No. of respondents}}{\text{Total No. of respondents}} \times 100$$

## RESULTS AND DISCUSSION

From the results of the investigation the results revealed that majority of the respondents are of the age of 20-30 years. The results further revealed that majority of the respondents pick online grocery purchasing due to the fact they are able to keep every time. The majority of the respondents pick buying private care merchandise. In case of method of payment, the majority of the respondents select cash on delivery [7]. The results are depicted in (Table 1-4).

Table 1 Showing the age of the respondents

Age	Respondents	Percentage
Below 20 years	29	32.2
20 – 30	42	46.7
30 – 40	12	13.3
Above 40	7	7.8

Table 2 Showing reason for online grocery shopping

Reasons	Respondents	Percentage
Mobility problems	17	18.09
Shopping too tiring	20	22.2
Recommendation	18	20.0
Any time shopping	24	26.7
No time to go to store	11	12.2
Total	90	100

Table 3 Showing the products preferred in online shopping

Products	Respondents	Percentage
Groceries	4	4.44
Edible oil	11	12.22
Beverages	4	4.44
Milk and dairy	10	11.11
Baby and childcare	5	6
Laundry supplies	12	13.33
Household and cleaning	2	2.22
Snacks	10	11.11
Imported and garment	6	6
Fruits and vegetables	11	12.22
Personal care	15	17
Total	90	100

Table 4 Showing the method of payment by the respondents

Payment method	Respondents	Percentage
Credit card	9	11.11
Debit card	21	23.3
Net banking	15	16.7
Cash on delivery	43	47.8
Total	90	100

#### Advantages of online grocery shopping

*It saves time:* You can log in at any time and keep your stocks full and have an amazing experience. Plus, taking the transport course saves you time and money by doing away with the need to visit the store [8]. In fact, studies display that as compared to individual family trips, grocery transport services reduce carbon dioxide emissions by means of half.

*Avoiding unneeded purchases:* It's way too easy when you're walking around the store taking hold of everything you need while you want a plant, vegetables, and some fruits on your cart. You did not want them before, however now that you've visible them, you're in desperate want of them! shopping online will assist you manipulate your impulse purchases [9].

*Find everything you need:* On web sites, search engine results pages (SERP) makes it less complicated to find products; typing in a product's name might convey up all related products, making it a lot simpler to discover precisely what you're looking for.

#### Disadvantages of online grocery shopping

*No physical confirmation available:* Do you look for the freshness of your greens? online shopping and surfing won't assist one to check the exceptional of their products but businesses will constantly try to supply products to a well-known medium.

*Delivery - A challenge:* If you were not at home when the delivery arrived, the perishables would spoil on your doorstep. For some internet services, pick-up locations are located inside some stores. Others offer you the option of picking up your groceries at a specific location. In either case, your market basket is secure.

*The cost* when you hire a person to do the legwork for you, you pay a premium. online services can consume into your grocery finances way to better-priced goods, delivery expenses, gas surcharges, and the inability to bargain shop.

#### Challenges faced by the online grocery shopping

##### Challenge 1: Storage and Delivery Cost

Perishable goods necessitate extra infrastructure upgrades in terms of garage and distribution (refrigeration). Perishables ought to be shipped new, which necessitates the usage of special warehouses, transport containers, and specialized transport motors. All of this necessitates a huge amount of cash [10].

*Solution:* Inventory expenses may be reduced the usage of a simply-in-time supply framework blended with a grocery inventory control API. Aside from that, partnering with a reliable transport supplier that has the essential vehicles to make certain customer loyalty is a clever idea from both financial and operational point of view.

**Challenge 2: Low Profit Margins**

Customers hesitate to pay for delivery charges and like quicker transport with guarantee of satisfactory. E-Grocery shops may additionally discover that catering to this specific need is a financial nightmare [11].

**Solution:** Lease an e-grocery logistics commercial enterprise as a substitute of buying your very own fleet of products and personnel to make the deliveries for you, that would be less expensive than the whole fee of motors and wages. Make sure to specify within the agreement that arrangement with the delivery service supplier and gadgets to be shipped are the service company's duty among the workplace gate and the patron's doorstep.

**Challenge 3: Ineffective Delivery**

It's difficult to bridge the gap between hyper-local segments and a single delivery system, especially when consumers expect equal-hour delivery. Product exceptional, time, and delivery fee – most of these essential elements apply a massive commission for a faster delivery system [12].

**Solution:** As far as the use of online grocery marketplaces goes, it's becoming increasingly tough for conventional grocery shops to comprehend and capitalize on standard opportunities in grocery eCommerce. The administrator of the grocery eCommerce marketplace is devising and enforcing a selection of strategies as a way to growth the charge of powerful online grocery deliveries.

**Challenge 4: Consumer Patterns**

In any case, of the developing wide variety of online grocery stores and the benefit of online purchasing, people nevertheless generally tend to purchase groceries from a physical place. The consumer behaviour is actually reflected in the graph underneath [13].

**Solution:** Combining the online and offline grocery shopping makes it a great concept on this regard. Pre-orders and slash-aspect pickups are two other revolutionary ways to improve the customer satisfaction. In fact, they may already be a huge hit with clients everywhere across the world. This actually has a feature that lets the clients to order groceries and set up a delivery period or a pick-up area in advance. It saves their money and time on every delivery.

**CONCLUSION**

The major objective of the agricultural e-commerce framework is to improve the agricultural sector in India. Mainly there are two important factors that are used as a base for implementing the framework. Firstly, by focusing on Agriculture Production where the total agricultural output can be increased by applying better farming practice, better seeds in market, more appropriate fertilizers for crops and understanding the dynamics of prices. Secondly, structuring the marketing and sales will help in the marketing of agricultural products. A well-maintained database will help track farmer and trader information which can be used for trading purposes. The massive rise of internet use over the last decade has given the opportunity to adopt the new technology and experience the service of the cloud. Agricultural E-Commerce has made the financial condition better by remarkably reducing middlemen costs from the supply chain and can build a hearty relationship between farmers and consumers. The existing online trading portals are unable to accomplish the objectives of agricultural E-Commerce. In this project we've used simple databases and used a reference set of rules for displaying the photographs to purchase the product. Finally, the well-designed framework becomes a good basis for development of a right agriculture e-commerce application with relevant features that will take all parameters that are involved into consideration.

**LITERATURE CITED**

1. Klerkx L, Jakku E, Labarthe P. 2019. A review of social science on digital agriculture, smart farming and agriculture 4.0: New contributions and a future research agenda. *NJAS-Wageningen Journal of Life Sciences* 90-91
2. Na H, Wang HH, Zhou Q. 2020. The impact of online grocery shopping on stockpile behaviour in Covid-19. *China Agricultural Economic Review* 12(3): 459-470.
3. Michelle A, Brenda M. Cude J. 2000. Consumer response to online grocery shopping. *International Journal of Retail and Distribution Management* 28(1): 17-26.
4. Aylott R, Mitchell V. 1998. An exploratory study of grocery shopper stressors. *International Journal of Retail and Distribution Management* 26(9): 362-73.
5. Kutz K. 1998. Online grocery shopping on track for rapid growth. Anderson Consulting News Release (online), January 20, available from: <http://www.shoplink.com>.
6. Zachary A, Magda NT, John D, Kennedy R. 2016. How do shoppers behave online? An observational study of online grocery shopping. *Journal of Consumer Behaviour* 15(3): 261-270.
7. Rombach M, Bitsch V. 2016. A typology of online flower shops on the German market. *Acta Horticulturae* 1132: 127-134.
8. Kang C, Moon J, Kim T, Choe Y. 2015. Why consumers go to online grocery. *Comparing Vegetables with Grains*. pp 3604-3613.
8. Nur SM, Sujak H, Rahman SA. 2016. Buying groceries online: The influences of electronic service quality (eServQual) and situational factors. *Procedia Economics and Finance* 37: 379-385.
9. İlhan BY, İşcioglu TE. 2015. Effect of women's labor market status on online grocery shopping, the case of Turkey. *Eurasian Business Review* 5(2): 371-396.
10. Ronan de Kervenoael, Jonathan E, Alan H. 2014. Influencing online grocery innovation: Anti-choice as a trigger for activity fragmentation and multi-tasking. *Futures* 62: 155-163.
11. Papatla P. 2011. Do online shopping styles affect preferred site attributes? An empirical investigation and retailing implications. *Journal of Retailing and Consumer Services* 18(4): 362-369.
12. Ling J, Nan J, Liu S. 2011. Consumer perceptions of E-Service convenience: An exploratory study. *Procedia Environmental Sciences* 11: 406-410.
13. Lyons AC, Cude B, Lawrence FC, Gutter M. 2005. Conducting research online: Challenges facing researchers in family and consumer sciences. *Family and Consumer Sciences Research Journal* 33(4): 341-356.