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INVENTORY MANAGEMENT OF GROCERY ITEMS AND CLOTHS: AN INNOVATIVE CONCEPT

PANKAJ S ARDAK*, & ANAND A BIHADE

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Abstract

In routine life lot of items are required to fulfil daily needs. Since from early morning to late night human being required lot of consumables. In a family where both are working don't have a time to maintain some of the consumables like grains, vegetables and fruits also to procure them. Most of the consumables deteriorates with respect to time and lose its quality due to deterioration. To maintain the quality of stock of grains required special holding arrangements which contribute to cost. Everyone likes to wear fashionable dresses and sarees in parties and offices. So, purchase of cloths is a regular practice of most of human being. It is common in most of houses that peoples have number of dresses and sarees dumped in cupboards. Some of dresses are not in used for many days/months though having good quality and appearance. Here attempt has been made to suggest a system which can deliver grocery items to peoples before demand at their places and make use of all dresses and sarees stored in cupboards regularly to get good return from purchase of those dresses and saree. The concept suggested can increase the productivity of the supplier and can have good business opportunities. As customers don't need to visit grocery store so social distancing can be made effectively in situation like COVID-19.

Keywords: Before Demand, Business opportunities, COVID-19, Grocery items, Productivity.

1. INTRODUCTION

It is possible to manage without good clothes and with some technological problems. But it is not possible to spend a single day without food. As food is the basic need of the peoples so the grocery market always has a demand. In urban and rural areas daily need of the grocery items get fulfilled by local kirana shops and malls like D Mart, Big Bazar and Wall Mart. To procure grocery items from such shops and mall, peoples has to spend more time for billing rather than purchasing. In today's scenario as cost of living goes on increasing day by day, every family required multiple income sources. For that all key members of family are doing jobs at various locations. The number of nuclear families where both are working increasing day by day. This scenario is most common in metros and small towns also. Most of the people has to travel more for jobs, can't have time even to spent with their loving ones. After reaching home late by this long traveling if someone has to wait for billing in large queue, how will be the mental condition of that person. This cannot be imagined. Such situations lead to the need for online grocery. However, if same demand of grocery gets satisfied by providing advantage of home delivery and relaxation from standing in long billing queues can save time and physical exertion of the peoples. With advent of technology and urbanization, it can be possible very easily. Currently, most of the online grocery stores are located in Metro and Tier-I cities, but with increasing incomes and urbanization, they are slowly expanding to Tier-II cities as well. All this online grocery stores delivers the on-demand deliveries. Big giants like Gofers and Big Basket are already in market doing online grocery business. Small kirana stores have a great impact of these big giants. Our aim in this study is to save the business and increase the productivity of these small kirana stores. Also suggests the delivery of items before demand/stock out of the home grocery inventory. By delivering items before demand, customer never faces the problem of stock out and also don't care about to spend time on purchase of grocery items. Today's era is the era of fashion. Everyone is interested in external appearance and fashionable cloths are playing important role in that. No one wants to wear same dress/saree in regular functions or in office. Mostly peoples prefer to repeat dress or saree once in week or month. To maintain this protocol, need plenty of dresses and sarees in stock at home. Maintaining stock of cloths means investing lot of money on purchase. And return from that investment is only satisfaction after wearing. Many times, it is observed that some of dresses or sarees get dumped in cupboard and not being in use for long period. In such situation return on that purchase will be very less and may be treated as loss. Here after searching don't get any literature related to this concept. Dresses and sarees that are not being used, though having good quality and appearance, from long period. Here method has been suggested so that after regular interval each dress/saree can be used to get good return on purchase.

College Of Engineering and Technology Akola Maharashtra, India
*Corresponding author email- pankajardak@gmail.com

2. CONCEPT

To delivery of the items before demand, it is important to know the monthly demands of the various families. So here first of all we will have to collect the data of 100 families in which both are working and have to spend time on travelling. During survey we can collect the information like size of family, festival celebration, possibilities of guest arrival, daily and monthly demand of various items, mode of payment, etc. and then analyses the same. The information can be collected through the questionnaires. After analyzing all information collected from the customer, we will come to know that how many families are interested in this concept. From this information local shop keeper can have the idea about the monthly usage of different grocery items. That's why shop keeper can maintain the inventory according to the demand of the customer. Here the concept of Vendor Managed Inventory has to be used. In a vendor managed inventory (VMI) concept, the vendor takes responsibility for managing the inventory of the customer without the need of orders from the customer side to be placed. Therefore, the vendor can optimize capacity planning, while the customer has to improve forecast accuracy. The successful implementation of the VMI completely depends upon proper communication between the customer, vendor and suppliers. By implementation of this system family members can save lot of time for billing and can spend with loving ones and hence can improve the productivity of families. Here RFID chips or any similar device can be attached with each item. All are connected with mobile application. Means details of each item (colour, pattern, when used before) is available in mobile application. Whenever user visits the application, he/she come to know how much dresses/sarees are in his/her inventory. Also, app can give information regarding which item is used when. Last time which one was used and which one was not used from long period. Due to this user can take benefits and satisfaction by using all items present in inventory. Also, when someone goes to market to purchase new items, in that case also this application will help to purchase new variety like colour, pattern, texture etc. Because of this application inventory of items present in cupboard will get maintain properly. Also, user can get better satisfaction and better return on purchase.

3. BUSINESS MODEL

In present scenario local kirana shop keepers has to maintain large stock of grocery items. To purchase these large stocks, need sufficient floor space and hence heavy investment. Most of the items remain as it is for long period of time waiting for sale and hence deteriorates with respect to time. This happens as shopkeepers don't have control on inventory. If they think for low level of inventory then again, a fear of customer loss. The reason for this is uncertainty in demand. Again, most of customers purchase a stock of nearly one month as they don't have time to spend on this due to their busy schedule and travelling. To store one month stock again need special arrangement to maintain inventory. The concept suggested here can give a proper solution to these problems. After survey of families need for one month, shopkeeper can plan his inventory accordingly. After proper survey complete information will be given to software. And software will give reminder to shopkeeper about the requirement of customer. As per requirement shopkeeper can supply the order. The mechanism will work as follows.

Let Customer 'A' has provided his complete family requirement of grocery items to surveyor. Suppose he needs 5kg of sugar and 5kg of edible oil per month. Before implementation of this concept, he purchases complete 5kg of sugar and oil at once in a month. But after being the part of this module, at the end of month shopkeeper will deliver 2.5 kg of sugar and oil to him. This will be consumed in two weeks by user. Again, software will give information to shopkeeper that he has to supply remaining quantity to customer 'A'. So, shopkeeper will deliver. Because of this what happens shopkeeper has no need to maintain large stock as he has the complete idea of demand. As he has complete data regarding when to deliver and what to deliver so he can order that much quantity form whole seller only. This saves his investment on floor space and procurement of large stock. Also, customer will not require special arrangement to store this inventory. As delivery of items is at doorstep so customer can save the time. If shopkeeper has number of customers from a colony, then he has no problem to deliver the item to all with minimum delivery charges. If we see delivery system of Swiggy or Zomato, they charge Rs15=00 for each delivery and customer pays. Here supply of daily needs items to many at once is there so surely customer can pay. They have to pay against their saving of valuable time. If any customer needs a special item or regular items in between then can place order online. Means both, on demand and before demand delivery system can be possible with concept.

In addition to scheduled deliveries, the business model can integrate subscription-based plans where customers pay a fixed amount monthly for regular supplies based on their customized consumption patterns. This not only ensures a steady revenue stream for shopkeepers but also builds customer loyalty. The model can be supported by a mobile and web application that acts as a real-time interface between customers, vendors, and suppliers. This app can show consumption trends, pending deliveries, payment history, and offer suggestions based on seasonal needs or festival requirements.

To further enhance profitability, data analytics can be used to identify peak demand periods, popular products, and slow-moving stock, helping vendors optimize procurement and reduce wastage. Additionally, the system can introduce loyalty rewards or points to motivate regular users, offering discounts or free delivery after a certain number of purchases. Shopkeepers can also collaborate with local clothing retailers and integrate garment inventory tracking through the same platform, offering seasonal recommendations or rotating use of apparel for various functions.

This integrated model not only ensures efficient grocery inventory management but also creates an ecosystem for smart wardrobe usage, reducing wastage and maximizing value from purchased clothes. For scalability, franchise opportunities can be explored in different towns or localities, using a centralized software backbone. Moreover, partnerships with logistics providers for last-mile delivery can minimize infrastructure investment for

individual shopkeepers while ensuring timely service. Eventually, this model could evolve into a hyperlocal inventory management system that empowers local businesses, ensures customer convenience, and builds a sustainable supply chain.

4. ADVANTAGES

After implementation of this concept following advantage will be to shopkeeper and customer.

- Shopkeeper can plan for his inventory. So, no need to invest on large stock.
- Needs less floor space area.
- Large saving on inventory holding cost.
- Less spoilage and wastage of consumables items.
- Customer can save money as purchase is in small quantities.
- No need of special storing and maintaining of grocery items in house.
- Can save time on purchase and billing.
- Can give employment to peoples for home delivery and packaging.
- Data collected from families allows for accurate prediction of consumption patterns, reducing overstocking and understocking.
- Shopkeepers don't have to lock up large amounts of capital in unsold stock, improving cash flow and business sustainability.
- With a digital platform, transactions, inventory tracking, customer preferences, and payment records can be streamlined and automated.
- The system allows for personalized recommendations based on family habits, festivals, and past purchases, enhancing customer satisfaction.
- Clustered delivery planning based on customer location helps reduce transportation cost and carbon footprint.

5. CONCLUSION

Here attempt has been made to save the business of small kirana shop and also increase their productive. Productivity of the family members can be increased by saving the time of the family members. Such concept avoids large gathering of the peoples and can be beneficial in situation like COVID-19. Also, as shop keeper is well aware about his supply so can save inventory holding cost. Due to this user can take benefits and satisfaction by using all items present in inventory. Also, when someone goes to market to purchase new items, in that case also this application will help to purchase new variety like colour, pattern, texture etc. Because of this application inventory of items present in cupboard will get maintain properly. Also, user can get better satisfaction and better return on purchase.

Furthermore, this system fosters a structured approach to household inventory management, promoting mindful consumption. It encourages digital adoption among local vendors, bridging the gap between traditional retail and smart commerce. The predictive supply system ensures product availability at the right time, enhancing convenience. With real-time data and personalized insights, both shopkeepers and consumers can make more informed decisions. This approach minimizes waste, reduces impulsive bulk buying, and improves financial planning for households. Integration with wardrobe tracking adds an innovative layer, ensuring optimal use of garments. The model promotes sustainable practices in retail and household management. Overall, this concept builds a win-win ecosystem for consumers and local vendors, promoting efficiency, convenience, and long-term sustainability.

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