



VEGYZONE

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Abstract-India is one among the countries that are cautious about the safety of the food thus leading the country to mainly focus on the agricultural development programs in the current scenario. This paper is mainly based on exchanging goods and services in the field of vegetable marketing with healthy and freshly cultivated vegetables. The idea is completely implemented on online platform. Profit is gained by avoiding the intermediate agents and providing fresh vegetables at a reasonable price. Mainly to afford quality vegetables and management of vegetable transportation from farmer to warehouse and to the customer. It also improves the pattern of vegetable sales that enhances the modern lifestyle of the citizen.

Keywords – vegetables, fresh, quality, middle men

I. INTRODUCTION

The vegetable monopoly being the most important industry and its product forming the basis of the life, it is indispensable. It plays a crucial role in developing rural economy. The supply chain begins from the vegetable supplier who stores and transfers the vegetable thus, managing the whole supply chain. The selection of the vegetable supplier reflects directly on the development of the business and the quality of the product.

Domestic and international research depicts that the food quality safety problem is due to the information asymmetry and adverse selection caused by the quality's credence goods property. Hence to enhance the information transparency of food, the quality, safety is the only way to solve the food quality safety problem. Figure 1 depicts the regular vegetable supply chain from cultivators to consumer.

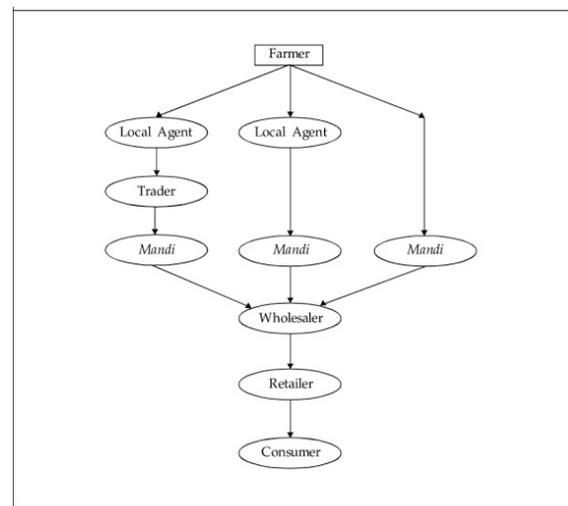


Figure 1: The regular vegetable supply chain from cultivators to consumer

The main interest is to avoid middle men. The link will be only between the **farmers to business sector** and from **business sector to customers**. This guides in making profit by getting more demand. This helps a number of farmers who are going through loss due to intermediate agencies. The middle men are the ones who make more profit that results in loss to the farmers. So the main focus is to avoid the middle men and provide the farmers with a reasonable profit to what they produce. The aim is to mainly provide the newly harvested vegetables to the customers. We are using online technology to provide this service for the customer.

At recent times, people prefer easy and a comfortable way to purchase products through which they sit in home and order the products that gets delivered to their residence. By organising this online basis demand on providing fresh vegetables will be piled up.

“VEGYZONE” describes an edible region. VEGY means vegetable and ZONE means particular area or place. If needed, even the fertilizers will be provided with the reasonable price to the farmers. The consumer demand on healthy and high quality vegetable is proportional to the developing economy and increasing standard of people’s living.

II. RELATED WORK

Had examined and reviewed various published papers. An overview of these papers are as follows: In [1], a proposal is created regarding the safety of vegetable by tracing the supply chain with the help of integrating two-dimensional barcode technology and Web Service technology that analysis the vegetable supply chain from beginning till end. The two-dimensional barcode acts as a data bearer which pin objects associated with the vegetable agrology, refine, freightage, entrepot, merchandise, and endorse chiffon network communication for processing and reciprocated data of the vegetable procure. Consumers initially must install the software that enables to read the barcode and scan the barcode on the packet of the vegetables, it’s done by using the camera. The software after reading the barcode sends the request to the network service and provides the information of the vegetables from its cultivation to marketing.

In [2], Analyzation, made on the difficulties and also the present quality of vegetables traceability system in

market areas result in new supply chain “dual structure”. Dual structure is totally supportive to the trading cost theory and contract economics theory and it’s the most effective way to a long-term safety management mechanism. The provision chain of vegetables involves the related government department by making it a regular and transparent transaction between the cultivators to consumers.

In [3], it considers the vegetable supply chain of province. The aim of this is to search out the most effective purveyors on the vegetable supply chain. This solution can improvise the development of the business and competitively within the market. It uses four sorts of the vegetable suppliers:

- The Growers to The Contract
- The Vegetable Trader
- The Growers in Own Land
- The Agricultural Association

It uses 5 indicators:

- The indicators of the quality level
- The degree of cooperation
- The index of price levels
- The index of supply ability
- The delivery flexibility

It uses the Analytic Hierarchy Process (AHP) to match their advantages and downsides. By using this method, it came to a conclusion that the Agricultural Association is the most appropriate vegetable suppliers than the others.

- In [4], the main focus is on Kuala Lumpur, capital of Malaysia which is facing the traffic problem. The main aim is to use GIS technology to find the acceptable routes based on the shortest distance and at last proposing a model to cut back the price of fresh vegetables.

The main objectives are:

1. To develop a spatial direction system for analysing the information.
2. To propose a GIS model for the distribution problem.

Usage of ArcGIS Software in addition with extension of Network Analyst is the cardinal to gather the information. It depicts that the ArcGIS is a useful gizmo for deciding the shortest path for distributing the fresh vegetables. The GIS allows the user to make delineate,airing the created maps, showing the information and combine them and at lastcan view the information in thedifferent paths. In real world, vector model is used to find solution associated with the distribution problem and network analysis is usually accustomed.

- In [5], itdelineate a solicit of constructing a system that discern fruits and vegetables inward the peddle market by apprehendfigure with a video camera attached to it. The system is helpful for the shoppers to tagcoveted fruits and vegetables with a price in step with its weight. The main is to attenuate the quality of interface between the human and computer interactions, increasing the Process of identifying and enhanced the use of computer instead of manual system. The hardware of the system consists a Raspberry Pi, camera, display, load cell and a case. Drawbacks of this study are:
- As it includes a camera to require photos, there may be a risk of catching a persons' face within the picture. It are often rectified by placing the camera looking downwards from above the dimensions.
- Sometimes it won't provide clear printing.
- Different fruits and vegetables of same shape or same colour can't be identified with its name while printing.



• **Figure 2: Analysis of fresh vegetables export**

III. METHODOLOGY

The analysis made by the government reports that have suggested that a third of all tested foodis adulterated in India. It is home to 24% of the world's malnourished children and around 135 million patients of obesity, and food safety, is a critical issue for the future of health in the country. Figure 2 depicts the analysis of fresh vegetable exports.

There is increase in awareness of food safety among the consumers and clarification upon the quality of the products initiating from the cultivators up till the sellers must be transparent.The information about the quality and management system should be assured.Dispurement vegetables cast 11% of total food expenditure in the rural India and 10.5% in urban India.

Particulars	Farmers	Bulk traders	Wholesalers	Retailers
Production /buying cost (Rs.)	22.00	35.00	35.00	48.24
Total marketing cost (Rs.)	3.70	4.51	9.55	14.98
Profit margin (Rs.)	9.30	6.94	5.48	5.25
Total value (Rs.)	35.00	11.45	15.03	20.23
Sale amount (Rs.)	35.00	46.45	50.03	68.47
Profit in terms of sales price (%)	26.6%	14.9%	11.0%	7.7%
Profit in terms of cost (%)	36.2%	17.6%	12.3%	8.3%
Profit addition (%)	79.2%	16.4%	0.2%	4.1%

Figure 3: Profit gained by each sector during the supply chain

Pronto, India not only has one of the apical quota out-of-pocket expenditure for health outlay but also one of the highest elevation of people susceptible to a debilitating health crisis. At prevailing situation each and every person go for electronically connected products. All the products are available online except fresh vegetables. This is motivation to do this. Now in day-to-daybasis farmers are in the loss due to intermediate agencies.

It raised us to thought of avoiding middle men and making it beneficial to the farmers and providing best products to the customers at a reasonable price. Figure 3 depicts profit gained y each sector during the supply chain.

The commissary value of vegetables in phrase of undeviating consumption, processing as well as trade has surgesubstantially in lateryears.Figure 4 shows the graph of income and expenditure of farmer. Emphasis laid on increasing production with an objective of achieving complete nutritional security.Expediency studies for erect the marketing, handle plants, glacial storage, transportation system for coarse and processed destructible horticultural products and other associated fields and undertake astute, planning and enforcement of projects on their basis



Figure 4: Graph of income and expenditure of a farmer.

Figure 5 depicts the steps involved in proposed system

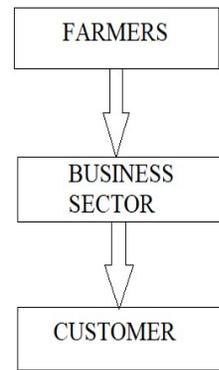


Figure 5: Steps involved in proposed system

Graziers will provide vegetables which has been cultivated in their field and that will be stored in the warehouse from where it will be delivered directly to consumer door. Complete Procedure of placing order is based on web network. The organisation receives the request placed by the consumer through server and the consumer receives the vegetables through manpower. Figure 6 shows Flowchart of vegetable supply chain on online platform.

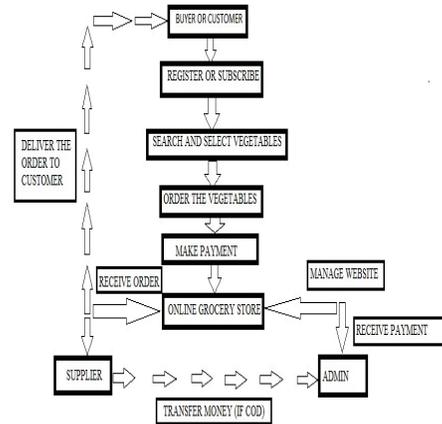


Figure 6: Flowchart of vegetable supply chain on online platform

IV. IMPLEMENTATION

Programming languages used are CSS, php, java.

- A user can go through the website and look for the required vegetables.
- In order to purchase, users should register with user mail id and password will be sent to user mail.
 - ✓ If in case, the users forget the password after creating the account, there is an option for creating a new password.
- The customer selects his required vegetables from the vegetable category and adds the order to cart for further selection.
- After selecting the vegetable in the cart; details of customer name, complete address of residence, phone number and any notes for special order need to be filled by the customer in billing details.
- The billing details consists of evaluation of the amount of the order consists of product name, product quantity, subtotal amount, delivery fee, GST charges, total, payment mode and customer can place order.
- An order gets placed and customer receives the details of the order that has order number, date of order, customer mail id, total amount, payment mode, order details, billing address and the customer receives a mail of confirmation of order placed.
- Customer can track order using the order id/number, mail id of user.
- Once the order gets received by the customer. Customer gets a mail of an invoice PDF that can be downloaded.
 - ✓ The invoice PDF consists of invoice id, invoice date, order id, order date, payment mode, and total amount of order and delivery address.
- A cancellation of order can be done by the organiser if an order is placed and a mail of cancellation is sent to the customer.

V. CONCLUSION

We eschew the intermediate agent's in this paper. We will provide preminent and fresh vegetables to the customer on time. Analysing every aspects of the vegetables supply chain and establishing information model in necessary links that also helps to improve the healthy and quality vegetables and also implements the

management of vegetable data and modernization with an increased value to farmer's cultivation. It is also beneficial as it plays an important role in India's economy by improvising the income of the small and marginal farmers and cultivation of the crops is labour intensive that led to employment opportunities for the rural people.

REFERENCES

- [1] Shuyi Qiao, Zhiqiang Wei, Yongquan Yang; "Research on Vegetable Supply Chain Traceability Model Based on Two-dimensional Barcode"; Sixth International Symposium on Computational Intelligence and Design, 2013.
 - [2] Yang Xuejun, Yang Fan; "Guandong province soft science research;" The Traceability System of Vegetables Quality", 2011.
 - [3] WANG Fangzhou, SUN Wensheng; "The Study of Supplier Selection of Vegetable Supply Chain in Hebei Province", 2011.
 - [4] Mohammad, Abousaeidi, Rosmadi Fauzi, Rusnah Muhamad; "Application Of Geographical Information System In Routing For Delivery Of Fresh Vegetables", 2011.
 - [5] Frida Femling, Adan Olsson, Fernando Alonso-Fernandez; "Fruit and Vegetable Identification Using Machine Learning For Retail Applications", 2018
- [1] Shuyi Qiao, Zhiqiang Wei, Yongquan Yang; "Research on Vegetable Supply Chain Traceability Model Based on Two-dimensional Barcode"; Sixth International Symposium on Computational Intelligence and Design, 2013.
 - [2] Yang Xuejun, Yang Fan; "Guandong province soft science research;" The Traceability System of Vegetables Quality", 2011.
 - [3] WANG Fangzhou, SUN Wensheng; "The Study of Supplier Selection of Vegetable Supply Chain in Hebei Province", 2011.
 - [4] Mohammad, Abousaeidi, Rosmadi Fauzi, Rusnah Muhamad; "Application Of Geographical Information System In Routing For Delivery Of Fresh Vegetables", 2011.
 - [5] Frida Femling, Adan Olsson, Fernando Alonso-Fernandez; "Fruit and Vegetable Identification Using Machine Learning For Retail Applications", 2018.