

Dhirubhai Ambani Institute of Information and
Communication Technology

**“Provide Fresh Produce to Consumer and Forecasting Volume of
Fruit and Vegetables Available at Nenpur”**

By

Nishant R. Aghera

(201013014)

To

Dr. Girja sharan

Declaration

I **NISHANT R. AGHERA**, Post Graduate student of Information and Communication Technology in Agriculture and Rural Development 2010-11 batch, from Dhirubhai Ambani Institute of Information and Communication Technology (DA-IICT), Gandhinagar, Gujarat. hereby declare that this project report titled, **“provide fresh produce to consumer and forecasting volume of fruit and vegetables available at nenpur”** is an original study and has been carried out by me as a part of winter project under the guidance of Mr.Prodyut Pal (Project Director cum zonal head) in Reliance Fresh Ltd

I further declare that no any part of this report has been copied from any source, or if taken, the original source has been given due credit in the content. I have worked for four months on our winter project as required under manual of policies of our institute.

Place:

Date:

Nishant RAghera

Id: (201013014)

CERTIFICATE

This is certifying that **Mr. NISHANT R. AGHERA** student of post graduate institute of DA-IICT (Dhirubhai Ambani Institute of Information and Communication Technology), Gandhinagar has satisfactorily completed his project work from 1/01/2012 to 30/04/2012 in Reliance Fresh Ltd.

He has undertaken the project of “**Provide fresh produce to consumer and forecasting volume of fruit and vegetables available at Nenpur.**”

” and has submitted the same to us. While during this project work we found that he is a sincere, enthusiastic and practical student.

We wish him all success in his future professional carrier.

Mr. Prodyut Pal

(Project Director cum zonal
head)

Reliance Fresh Ltd

Acknowledgement

We owe a great many thanks to a great many people who helped and supported us during the writing of this project report effectively and moreover on time.

It is our pleasure to acknowledge Dr. Ranendu Ghosh and Dr. Girja Sharan (DA-IICT, Gandhinagar) who gave us such a brilliant opportunity to apply our best knowledge and experience of supply chain management and procurement business in a practical way as a part of information and communication technology in agriculture and rural development course.

With great pleasure, we extend our deep sense of gratitude to Mr. Shushil Kumar, Project Director cum zonal head, Reliance Fresh Limited, for providing facilities and valuable suggestion throughout the project work.

Our deepest thanks to Mr. Prodyut Pal, Head of Procurement department, Gujarat. He has taken pain to go through the project and make necessary correction as and when needed and for giving us very important guidelines for this project.

We are also thankful to Mr. Ilesh Pathak, Mr. Pankaj Singh, Mr. Dilip Dubey for directing us at various stages of internship period.

We also extend our sincere thanks to Mr. Pragnesh Patel, and Mr. Brijesh Patel for providing us valuable information when needed and directing us at various situations. Despite of their busy schedules, they gave us different ideas in making this project unique.

.

1.Introduction:

With a vision to generate inclusive growth and prosperity for farmers, vendor partners, small shopkeepers and consumers, Reliance Retail Limited (RRL), a subsidiary of RIL, was set up to lead Reliance Group's foray into organized retail. Since its inception in 2006, Reliance Retail Limited (RRL) has grown into an organization that caters to millions of customers, thousands of farmers and vendors. Based on its core growth strategy of backward integration, RRL has made rapid progress toward building an entire value chain starting from the farmers to the end consumers.

Reliance Fresh is the convenience store format which forms part of the retail business of Reliance Industries of India. Reliance plans to invest in excess of Rs 25000crores in the next 4 years in their retail division. The company already has in excess of 608 reliance fresh outlets across the country and 68 reliance fresh outlets in Gujarat. These stores sell fresh fruits and vegetables, staples, groceries, fresh juice, bars and dairy products.

A typical Reliance Fresh store is approximately 3000-4000 square feet and caters to a catchment area of 2–3 km. Store's main focus would be fresh produce like fruits and vegetables at a much lower price. The main idea of the company was to source from farmers and sell directly to the consumer, removing middlemen out of the way.

1.1 Reliance fresh working system:

Farmers: The farmers harvest the crop and bring it to the collection centre. They save on the transportation cost they would incur in taking the vegetables to the mandi.

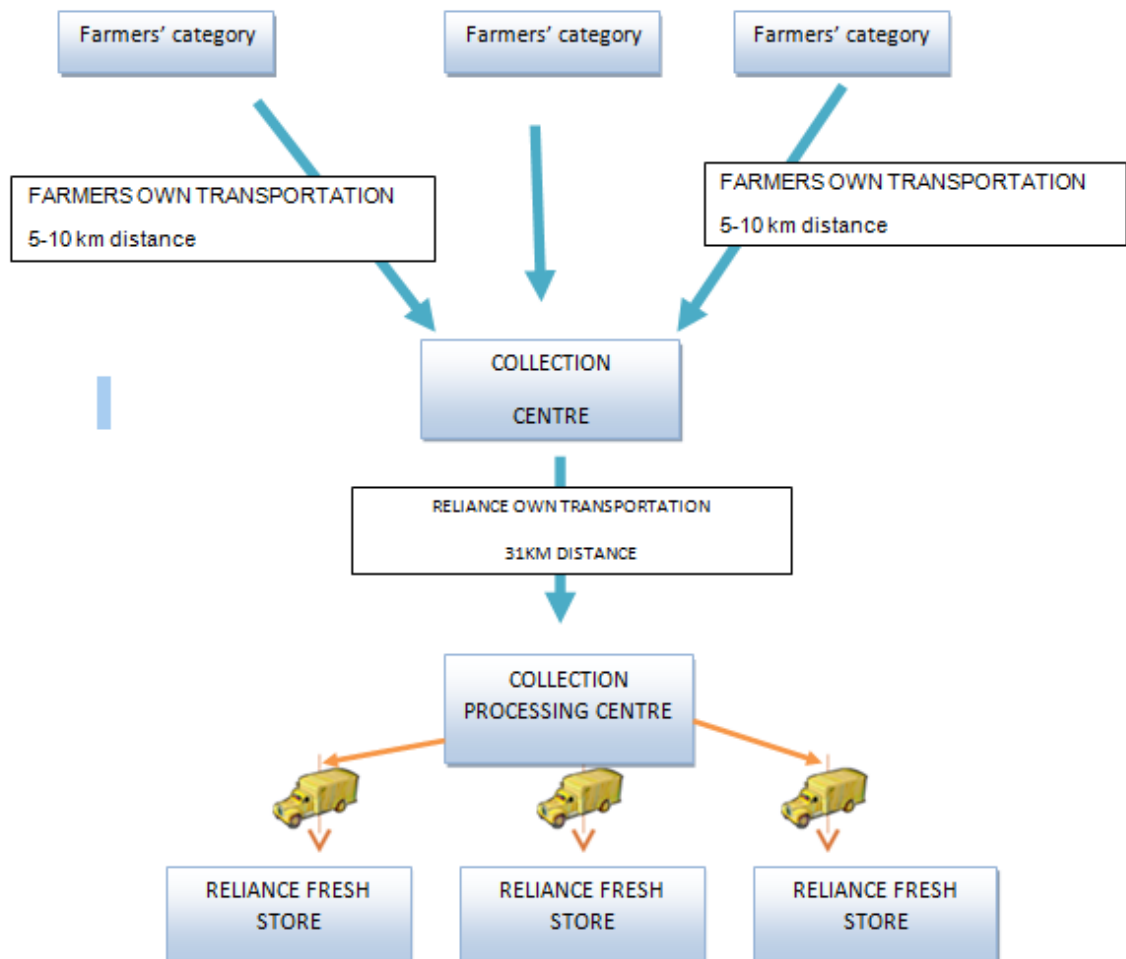
Collection centers:

It is the place where vegetables and fruits received from farmers and from other sources are stored for a while and then goes through processing process. Processing of fruits and vegetables means their cleaning; separating rotten ones fruits and their packaging. Usually fruits and vegetables maximum storing duration in collection centre is one day, means in one day the complete recycling of fruits and vegetables does complete. It is easily understandable because in case of vegetables they start to rot after two or three days under normal condition.

Distribution centre: The distribution centre receives the vegetables and does a through quality check. They prepare the vegetables for the retail store and also ship the vegetables depending on the requirement for each store.

Retail Stores: They are just responsible for receiving and checking the quality of vegetables arriving each night. Then they put up all good vegetables on display for customers.

1.2 Supply Chain operations:.



- The vegetables are collected in villages from farmers directly.
- They are submitted to collection centre (CC) like Nenpur, Prantij and Padra.
- Payments and visual inspection of vegetables are done in CC.
- From CC they are transferred to Distribution Centre (DC) via Reliance own logistical units. Naroda is the DC for Ahmedabad.
- If the capacity is not fulfilled by the collection centre then purchase from mandi.
- This leads us to the next and final step in the process, i.e. the local Reliance Fresh store.

- Visual quality inspection of bulk produces
- Sorting
- Crating of acceptable bulk produce
- Weighting
- Payment to Farmer
- Storage it under cooler environment.
- Loaded it in referred vehicle and sealed it.

Operation perform at Nenpur Collection

Crated material is transferred through referred truck.
Distance is 31 kms.

- Weight of arrieved material and confirm with weight which is taken at collection centre.
- Visual quality recheck of received bulk.
- Dump wastage or sell in market
- Stored(cooler or normal environment) it if required.
- Crating of material according to requirement of stores and dispatch it to different stores.

Central Processing Centre Naroda

4 km distance
Transferred material through referred vehicle.

- Received at Store.
- Keep it for sale.
- Payment receive from people who buy that material.
- Wastage materal is dump after some day.

Naroda Reliance Fresh Store

2. Research Objective:

- To track vegetables from collection centre to store.
- Calculate different cost applied on vegetable.
- To develop a database to forecast the volume of vegetables.

3. Methodology:

3.1 Description of Study Area

Kheda district lies in middle of Gujarat state. Kheda is situated between 72.32° to 73.37° East (Longitude) and 22.30° to 23.18° North (Latitude). Major part of this district is covers by villages. Monsoon begins in July and carry till September. The average annual rain fall of this region is 723 mm. The average minimum and maximum temperature of this region is 14° to 41°C.

Kheda District is located on Bank of river Vatrak and 35 kms from ahmedabad. It has 13 Talukas with Nadiyad, mahemdabad, kheda, Matar and kapadvanj. This district covers 23 % of Aonla production of Gujarat. It also covers 7 % to total production of Vegetables in Gujarat. Mahemdabad taluka is our focus area. In this taluka study covers different villages namely Nenpur, Ghodali, Makva, Modaj, Sansoli, Sojali, Dajipura, Sadra, Vadadala, Jalampura, Lakshmipura, Amasaran and Malataj.

Major Vegetables and fruits crop includes Spinach, tomato, Bottle Gourd, Sponge Gourd, Methi Big, Bitter Gourd, Okra, Drumstick, Sugar baby melon, Cabbage, Corriander, Coccinea, Amaranthus, Raddish White, Brinjal Black Big etc.

3.2 Sampling Technique

As per objectives of the study; purposive and random sampling technique were adopted. Here Mahemdabad Taluka is our focus area. At the first stage 18 villages was selected from the Mahemdabad Taluka on the basis of vegetable and fruit production. At the Second stage, a total 100 farmers were selected randomly for the study.

3.3 Type of data

Primary data is collected through observation of tomato crate. In crate we put one notebook. Whenever crate moves time and place is noted in that. When it reaches to final point we collected it.

The primary data was collected through survey. The information was collected through personal interview with the farmer using well structured questionnaires. The interview was regarding information on vegetable crops, likes which vegetable crop they grown, how much

area they covers, when harvesting will start and up to when they can provide their produce. Also we collected information about production of it.

Secondary data was collected from company database, web portals and literature available from other sources.

4. Analysis

4.1 Tracking time:

For the objective one I have collected 30 days observation for tomato vegetable. From the below table we can say that average 20:50 Hr. needed for vegetables to come from collection centre to store.

Table: 4.1

Day	Hrs	Day	Hrs.
1	20:55	16	21:50
2	22:08	17	20:25
3	20:48	18	17:05
4	22:05	19	19:25
5	20:35	20	19:45
6	19:25	21	17:25
7	20:40	22	23:20
8	23:25	23	23:05
9	18:30	24	19:20
10	22:40	25	22:05
11	19:05	26	22:10
12	19:10	27	22:00
13	20:40	28	21:50
14	20:15	29	23:40
15	20:05	30	20:50

Day wise time taken from cc to store.

4.2 Calculation of cost

To calculate the cost I have select one vegetable Tomato. And observed 10days cost applied on it, Different cost like labour charge at collection centre as well as CPC and transportation cost from collection centre to CPC, and CPC to Store.

From table we can say that the cost applied is near about 1Rs. Its changes because of some day thr amount of vegetable is low so the transportation cost applied per Kg is increased because the vehicle transportation charge is fixed 450 Rs for 2500Kg weight.

Table: 4.2

purchase rate of tomato	cost applied after procurement
10	11.09
9.5	10.54
9	10.08
10.5	11.54
11	12.06
10	11.06
8.75	9.81
9.25	10.31
10	11.08
10.75	11.8

Cost of tomato after procurement.

4.3 Development of database

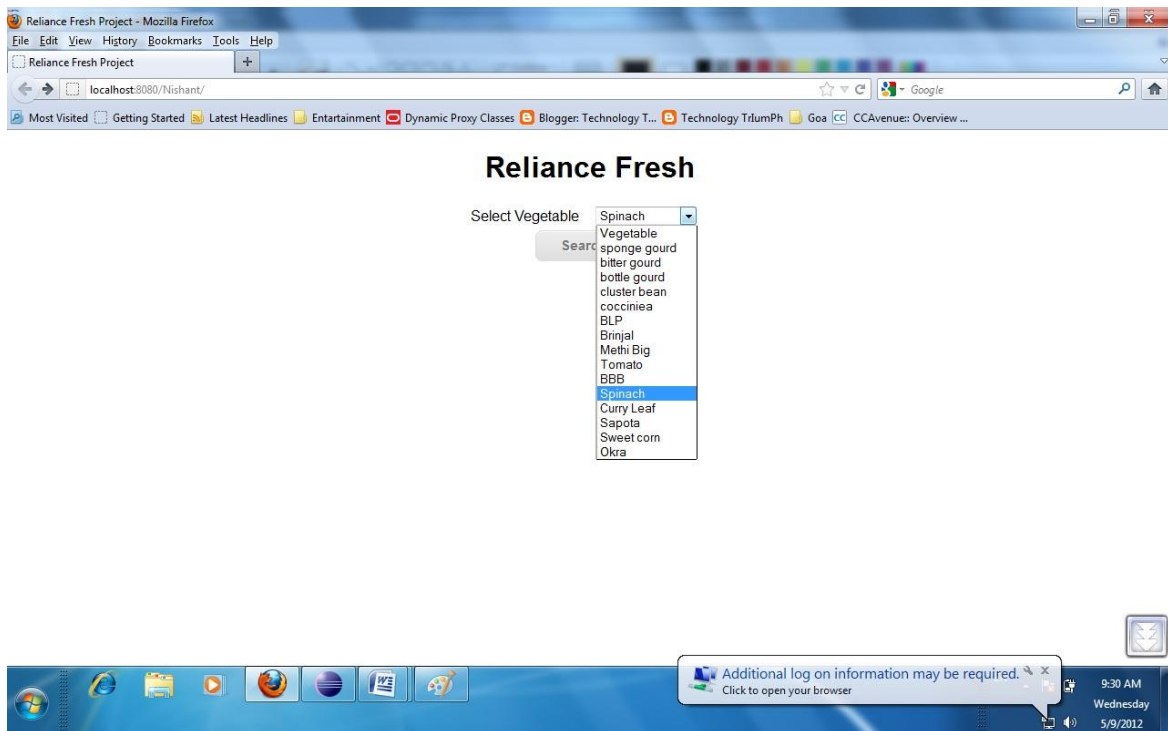
For the objective three i have developed a database for forecasting the amount of vegetables.

Software

Using Mysql and java created a database website and Simple conventional method of tabular analysis was used to study the future availability of fruits and vegetables.

- First put the collected data in excel sheet.
- Create database with the help of Mysql.
- Using java language user interface is created in eclipse.

Screen shorts:



This is home page of the database. In which one can select the vegetable name from list.

Farmer	Contact No	Village	Bigha	Cultivated Area	First Harvest	Last Harvest	Harvesting Interval	Avg Quantity per Harvest	Availability
Rameshbhai	9712644149	Nenpur	3.5	3.5	april	november	2days	100	10000
Rameshbhai Chauhan	9727279345	Ghodali	4	4	February	February	3	200	2250
Abbas malek	9537735143	Nenpur	5	3	May	November	3	1200	80000
ramanbhai	9624372092	ghodali	1	1	april	june	daily	100	9000
dipakbhai jadv	9737201965	nenpur	20	5	may	november	3days	350	24500
mehmud punja	9725930104	Nenpur	3	2	April	October	2days	250	22500
Sabirbhai	9904836514	mahemdabad	6	4	may	october	2days	200	18000
Ramabhai	9726958620	Nenpur	2	1	may	november	2days	110	9900
Javedmiya	8140264802	Nenpur	3	2	may	october	2days	300	27000
Yogeshbhai	7874723285	Chaulaj	50	25	April	November	3days	350	35000
Total Availability								238150	

This is display of database, which shows name of farmer, contact no., bigha, village, and cultivated area, first and last harvest, harvesting interval, average quantity and total availability.

5. Conclusion

- Reliance fresh provide fresh product to the consumer because it takes less than 24 hr from collection centre to store.
- From the study we find out that the product takes 20:50hrs to reach from CC to Store.
- Cost applied after procure is around 1Rs.
- From the database we can forecast the amount of vegetables.
- Availability is depends on the price because of farmers are free to sell their product, so if there is a price different change in the availability.

Appendix

Sr. No.	Taluka	Village	Number of Farmers
1.	Mahemdabad	Ghodali	27
		Sansoli	21
		Sojali	3
		Nenpur	14
		Vadadala	6
		Modaj	7
		Sadra	1
		Makva	10
		Bhuapura	1
		Boriyavi	1
		Chaulaj	1
		Jalampura	1
		Kanij	1
		Mahemdabad	1
		Vanch	1
		Lakshmipura	1
		Malataj	1
Amsaran	2		
Total			100