

# Online Grocery Market

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**Abstract:** This business model is intended to provide an online platform connecting the general public customers with the producers of groceries and food products such as fruits, vegetables, meat and dairy products. The producers are selected based on their production methods and their quality. The model obtains the demand from the customers and the supply is found from the producers. The prices of the products are fixed according to the supply and demand. The customers' orders can be classified into two different categories: 1. Bulk orders and 2. Recipe based. The orders are obtained in a bulk quantity or for a certain period of time and the products are delivered periodically as per the customer's need. This model eliminates the requirements of conventional storage units and also controls the quality of the products using scientific devices. This model reduces the wastage of resources as it enables the customer to estimate their requirements using the help of recipe based ordering system and also keeps the price constant for the bulk orders.

**Keywords:** Service, Customer, Order, Delivery, Quantity

## I INTRODUCTION

Since organic, unprocessed, preservative less and untreated groceries are in demand, this business model bridges the gap between the producer and consumer of such products. This business model selects the local farms, milk vendors and poultry farmers in regard to its standards. The eligible producers who meet the standards are then listed in our online portal. The details of the producer such as their location, products delivered, availability and the quantity sold are updated and customers can register their feedback on the commodities received in the portal. Orders from general public, food joints, restaurants and hotels are obtained for a period of time. The products are delivered periodically. The frequency of delivery varies depending on the commodity's shelf life and demand. The business model also makes people aware of the revenue generated in grocery production which consequently can give rise to micro scale grocery production.

## II. PLANNING

The products that we deliver:

1. Vegetables
2. Fruits
3. Milk products
4. Eggs and fresh meat
5. Pulses, cereals and grains
6. Spices and nuts

The model gets order from the people, sends the demand to the producer, updates availability of the commodity, delivers feedback to the producer, picks the products and delivers it to the customers periodically.

**Printable PRODUCE SHELF LIFE GUIDE**

**USE ASAP 3-5 DAYS**

- Asparagus
- Basil
- Bok Choy
- Chard
- Chives
- Cilantro
- Escarole
- Kale
- Okra
- Onions, Cut
- Raddicchio
- Snow Peas
- Spinach
- Tomatoes (Countertop)

**USE SOON 5-7 DAYS**

- Artichokes
- Arugula
- Bell Peppers
- Broccoli
- Broccoli Rabe
- Brussels Sprouts
- Cabbage, Savoy & Napa
- Cauliflower
- Eggplant
- Endive
- Fennel
- Green Beans
- Jicama
- Leeks
- Lettuce/Mixed Greens
- Mint
- Mushrooms (Paper bag in fridge)
- Potatoes, Baby (Cool dark place away from onions)
- Radishes
- Scallions/Green Onions
- Winter Squash, Cut
- Zucchini & Summer Squash

**NO RUSH 2+ WEEKS**


- Cabbage, Green & Red
- Carrots
- Celery
- Rosemary
- Sweet Potatoes (Countertop)
- Thyme
- Turnips
- Beets
- Ginger
- Lemons
- Limes
- Potatoes, Large (Cool dark place away from onions)
- Parsnips
- Onions, Whole (Cool dark place away from potatoes)
- Winter Squashes (Countertop)

COOKSMARTS


Store in fridge unless otherwise noted. Store more perishable ingredients in more visible places, so you'll remember to use them sooner.

**SPOILER ALERT!**  
A handy guide to grocery storage

	SHELF LIFE	STORAGE TIPS	SPOILAGE SIGNS
BEEF	1 to 3 days	always keep refrigerated; use ground beef within 2 days; can freeze for up to 6 months	putrid, sour odor; slimy or bloated appearance
CHICKEN	1 to 2 days	always keep refrigerated; can freeze for 1 year	gray or dull color; slimy; bad odor
PORK	1 to 2 days	always keep refrigerated; can freeze for 3 to 4 months	slimy texture; sour odor
TURKEY	1 to 2 days	ground turkey can be frozen for 3 to 4 months; cooked turkey can be refrigerated for 2 to 3 days	slimy texture; sour odor
HAM	1 week	fully-cooked ham should always be refrigerated	slimy texture; sour odor
FATTY FISH (I.E., SALMON)	1 to 2 days	leave in original wrapping; can freeze for 2 to 3 months	sour or ammonia-like odor; slimy or mushy flesh
SHRIMP	4 to 5 days	leave in original wrapping; can freeze for 1 year	sour or ammonia-like odor; slimy or mushy flesh
LEAN FISH (I.E., TUNA, TILAPIA)	1 to 2 days	leave in original wrapping; can freeze for 2 to 3 months	sour or ammonia-like odor; slimy or mushy flesh
BACON	1 to 2 weeks	after opening, use within 1 week	slimy texture; sour odor
LUNCH/DELI MEAT	3 days to 2 weeks	eat within 3 days of opening; unopened lunch/deli meat can last up to 2 weeks	



	SHELF LIFE	STORAGE TIPS	SPOILAGE SIGNS
MILK	1 week	don't store on the door of the refrigerator; always store between 33 and 40 degrees	sour odor; clumps
CREAM	3 days to 2 weeks	use within 3 days of opening; unopened cream can last up to 2 weeks; always store between 33 and 40 degrees	sour odor; curdling
BUTTER	1 to 2 months	use within 2 weeks of opening	rancid odor, flavor
CREAM CHEESE	2 weeks	don't store on the door of the refrigerator; always store between 33 and 40 degrees	bitter, yeasty taste or odor; grainy or chalky texture; mold
EGGS	3 to 5 weeks	don't store on the door of the refrigerator; always store in original package	pinkish hue on shell; sour, putrid odor
YOGURT	2 weeks	don't allow to sit at room temperature for more than 4 hours	discoloration; mold
ICE CREAM	2 months	ice cream starts to develop freezer burn after two months; don't refreeze melted ice cream	melted ice cream can spoil quickly at room temperature
CHEDDAR (AND OTHER HARD CHEESES)	3 to 4 weeks	lasts 3 to 6 months unopened; store between 33 and 40 degrees	green or blue patches of mold
SOFT CHEESES	1 week	use plastic wrap to avoid mold; store between 33 and 40 degrees	green or blue patches of mold; hard, tough rind
PARMESAN	2 months	lasts up to 9 months unopened; store between 33 and 40 degrees	green or blue patches of mold



	SHELF LIFE	STORAGE TIPS	SPOILAGE SIGNS
APPLES	6 to 8 weeks	store in the refrigerator for maximum shelf life	brown spots; mealy, mushy interior; mold
BANANAS	2 to 3 days in the pantry; 5 days in the refrigerator	store in a paper bag to speed ripening	dark brown to black skin
CITRUS FRUITS	2 to 3 weeks	store at room temperature until ripe, then refrigerate	mold; dark or shriveled exterior
MELONS	5 days	store at room temperature until ripe, then refrigerate	mold; collapsed or mushy rind
PEACHES	5 days	can freeze for up to a year	mold, brown or mushy spots
PEARS	5 days	can freeze for up to a year	mold, brown or mushy spots
STRAWBERRIES	3 days	always keep refrigerated; can freeze for up to a year	mold, brown or mushy spots
BLUEBERRIES	1 week	always keep refrigerated; can freeze for up to a year	mold, brown or mushy spots
RASPBERRIES	2 days	always keep refrigerated; can freeze for up to a year	mold, brown or mushy spots
GRAPES	5 days	can freeze for three months; remove grapes with scissors instead of individually	mushy or slimy; dull color; mold

### III. DECISION MAKING

The following decisions are to be made by this service provider

1. Selection of farms & Quality control of products
2. Feasibility of delivery

#### A) Selection of farms and Quality control

The farms are selected by the service provider by taking into consideration of the standards such as the maintenance of the farms, cleanliness of the workers and work area, adulteration and the ways employed in production. After preliminary standard tests, the product's quality is determined scientifically by checking its

- a) Nutritional content and its corresponding values
- b) Chemical toxin levels
- c) Geographical location of the farm

For example, a vegetable's quality is rich if it contains low level of chemical toxins due to the usage of organic farming techniques. Also, the nutritional content and values are high for unpolished rice and is determined to be of rich quality. Even the tea's quality varies when it is compared if it is from two different locations such as Darjeeling and Udhagamandalam.

#### B) Feasibility of delivery

The feasibility of delivery is directly influenced by the distance between the customer and the producer. Also, it is dependent on the shelf life of the product. So, based on the product's shelf life, a radius of delivery is determined. A formula is developed.

Delivery radius = Delivery speed \* .25 shelf life of product

For example, fresh meat can be delivered for a radius of 360 km with a delivery speed of 60 kmph and shelf life of a day.

### IV. ORDER TYPES

The orders can be of 2 types:

- 1) Bulk orders (based on long term need)
- 2) Product based order (based on the final product expected from raw materials)

Customer can select the producer based on the ratings. The prices of the products vary depending on the total demand of the product as well as the demand for the producer.

#### A) Bulk orders

In this type, a product is bought in a bulk quantity and is credited to the online grocery account of a customer after payment. The customer can break the quantity into small parts and get it delivered whenever they need. After the consumption of initial delivery, the customer can place an order for the next delivery. The advantage is that the product

is delivered freshly and the price is constant until the credit tends to zero.

A range of order quantity is set for every product. The quantities are as follows

- Vegetables And fruits: 8- 25 kg
- Milk: 10-50 liters
- Dairy products (ghee, butter, cream and cheese): 1-5 kg
- Eggs: 30- 150 nos.
- Fresh meat: 5-15 kg
- Grains: 20-100 kg
- Pulses and Cereals: 5-15 kg
- Spices and nuts: 1-5 kg

**B) Product based order**

In this type, the food products from different cuisines are listed. Also, the information on the calorific value and nutritional content of the food product is listed along the product for diet concerned people. Once the customer selects the food products and its expected quantity, the ingredients needed for manufacturing the food product are shown to the customer. This enables the customer to buy the raw materials required for making any food product. The customer can get the ingredients delivered for a minimum of 9 meals, i.e. a customer can select the food products required for a minimum of 3 days and get it delivered.

The Following Cuisines can be listed:

Indian Cuisines:

- 1) Kashmiri
- 2) Mughlai
- 3) Bengali
- 4) Andhra
- 5) Tamilian
- 6) Punjabi
- 7) Rajasthani
- 8) Gujarati
- 9) Goan
- 10) Kerala

International Cuisines:

- 1) French
- 2) American
- 3) Chinese
- 4) Meditterrian
- 5) Italian

VEG STARTER KASHMIRI	
KASHMIRI SPICEY CHAMAN	375
NADIER PALAK TIKKI	350
NADIER CHURMA	300
PANEER TIKKI	350
POUSH SPECIAL KABAB	350
BUZITH ALOO	250
BUZITH CHAMAN	400
CLASSIC PANEER TIKKA	425
KALI MIRCHWALA PANEER	425
VEG SEEKH KABAB	350
PANEER 3 WAYS	475
STUFFED MUSHROOM	425
TANDOORI GOBI/ BABY CORN	325
ASSORTED	700 / 1100
VEGETARIAN PLATTER	
VEG MAIN COURSE KASHMIRI	
DUM ALOO (4 PIECE)	325
METHI CHAMAN	425
RUWANGAN CHAMAN	425
CHAMAN QALIYA	425
NADIER PALAK	350
TSOK WAGUN / TAMATOR WAGUN	325
GOBI ROGANJOSH	375
RAJMA	375
PALAK HAAK	275
NADIER YAKHNI	300

PETIT ROUGE FRENCH BISTRO	
HORS D'OEUVRES	
<p><b>FOIE GRAS 19</b> SEARED HUSSON VALLEY FOIE GRAS WITH A PRUNE PORT WINE REDUCTION SERVED WITH TORASTED BROCCHE</p> <p><b>RIS DE VEAU 14</b> CRISPY SWEETBREADS IN A CAPER SAUCE</p> <p><b>BEIGNETS DE BRANDE DE MOIRUE 12</b> SALT COD &amp; POTATO FRITTERS WITH TOMATO CONFIT AND FRIED SAGE</p> <p><b>SAUMON TARTARE 14</b> CAPER, ONIONS, EGGS AND CREME FRAICHE AND 10% OF GARUM 3/5</p> <p><b>ASSIETTE DE FROMAGES 16</b> TASTING OF 5 CHEESES</p>	<p><b>ESCARGOTS DE BOURGOGNE 12</b> WILD BURBUNDY "LAND LOBSTERS" BATHED IN HERBED GARLIC BUTTER</p> <p><b>MOLLES MARINIERE 14</b> STEAMED MEDITERRANEAN MUSSELS IN WHITE WINE, SHALLOTS AND A SPLASH OF PERNO</p> <p><b>ASSIETTE DE CHARCUTERIE 17</b> A TASTING OF GORE CURIED SALAGES, BAYONNE PROSCUITO AND PATE WITH OLIVES AND CORNICHONS</p> <p><b>COCKTAIL DE CREVETTES 16</b> HEAD ON KEY WEST PINK SHRIMP COCKTAIL SERVED WITH COCKTAIL SAUCE &amp; MUSTARD TARRAGON MAYONNAISE</p>
SOUPES	
<p><b>SOUPE A L'OIGNON GRATINEE 10</b> CLASSIC ONION SOUP</p>	<p><b>SOUPE AUX TRUFFES NOIRES V.G.E 18</b> CHICKEN CONSOMME LACED WITH BLACK TRUFFLES AND FOIE GRAS COVERED WITH BILLOUZY SOUFFLE OF PUFF PASTRY. (CHEF PAUL BOCUSE CREATED THIS SOUP FOR THE PRESIDENT OF FRANCE AT THE ELYSEE PALACE IN PARIS IN 1975)</p>
SALADES	
<p><b>CLASSIC CAESAR SALAD 8</b> CRISP ROMAINE LEAVES TOSSED IN A HONORADE CAESAR DRESSING WITH CROUTONS</p> <p><b>SALADE MESCUN MAISON 7</b> MIXED FIELD GREENS TOSSED IN OUR HOUSE VINAIGRETTE</p> <p><b>SALADE DE FRISSE AUX LARDONS 12</b> FRISSE, BABY ARTICHAUT &amp; RADICHO WITH LARDONS, POACHED EGG &amp; BACON VINAIGRETTE</p>	<p><b>SALADE LAITUE 9</b> BIFF LETTUCE TOSSED IN OUR HOUSE VINAIGRETTE GARNISHED WITH TARRAGON, CHERVIL AND CHIVES</p> <p><b>SALADE AU CHEVRE CHAUD 12</b> WARM GOAT CHEESE SALAD</p> <p><b>SALADE DE CRESSON ET D'ENDIVES 12</b> WATERCRESS &amp; ENDIVE SALAD WITH CARAMELIZED WALNUTS AND BLUE CHEESE</p>
ENTREES	
<p><b>SAUMON A LA POELE PROVENCAL 24</b> PAN SEARED SCOTTISH SALMON WITH GARLIC AND TOMATOES SERVED WITH ASPRAGUES</p> <p><b>CONFIT DE CANARD 19</b> CRISPY DUCK LEG CONFIT SERVED WITH FRISSE AND POTATOES COOKED IN DUCK FAT</p> <p><b>FOIE DE VEAU LYONNAIS 21</b> SAUTEED CALVES LIVER WITH CARAMELIZED ONIONS SERVED WITH MASHED POTATOES</p> <p><b>SOLE MEUNIERE MP</b> SAUTEED DOVER SOLE WITH LEMON BROWN BUTTER SAUCE SERVED WITH ASPRAGUES</p> <p><b>TRUITE GRENOBLOISE 23</b> SAUTEED DUMBO TRUITE WITH LEMON CAPER SAUCE SERVED WITH FRENCH GREEN BEANS</p> <p><b>LE CARRIE D'AGNEAU 28</b> RACK OF LAMB BRUSHED WITH DIJON MUSTARD AND TOPPED WITH PARSLEY BREADCRUMBS SERVED WITH POTATO GRATIN</p>	<p><b>POULET ROUGE 21</b> SEMI BONELESS HALF CHICKEN SERVED WITH MASHED POTATOES</p> <p><b>STEAK FRITES</b></p> <p><b>STEAK TARTARE 24</b> FINELY CHOPPED FILET MIGNON SEASONED WITH ONIONS, CAPERS AND CORNICHONS</p> <p><b>BAVETTE A LA BORDELAISE 24</b> SHORT STEAK WITH CARAMELIZED SHALLOTS AND RED WINE JUS</p> <p><b>FILET MIGNON AU POIVRE VEGET 34</b> PAN SEARED TENDER LOIN OF BEEF WITH A GREEN PEPPERCORN SAUCE</p>
ACCOMPAGNEMENTS	
<p><b>MACARONI AU GRATIN 7</b> MACARONI AND CHEESE</p> <p><b>ASPERGES 8</b> STEAMED ASPRAGUES</p> <p><b>EPINARDS SAUTES A L'AIL CONFIT 7</b> SAUTEED SPINACH WITH ROASTED GARLIC</p> <p><b>HARICOTS VERTS 7</b> FRENCH GREEN BEANS</p>	<p><b>POMMES FRITES 6</b> FRENCH FRITES</p> <p><b>GRATIN DE POMMES DE TERRE 6</b> POTATO GRATIN</p> <p><b>POMMES A LA SARLADAISE 7</b> POTATOES COOKED IN DUCK FAT</p> <p><b>PUREE DE POMMES DE TERRE 5</b> TUDOR GOLD WASH POTATOES</p>
<p>Consuming raw or under cooked meats poultry, seafood, shellfish or eggs may increase your risk of food-borne illness especially if you have medical conditions *Our French Fries are cooked in peanut oil</p>	

## V. OPERATION AND MANAGEMENT

### A) Daily Tasks

- Availability update
- Price update
- Pick-up of products
- Quality check for freshness and other discrepancies
- Product cleaning (if applicable)
- Packing of products
- Product delivery
- Revenue transfer to producer

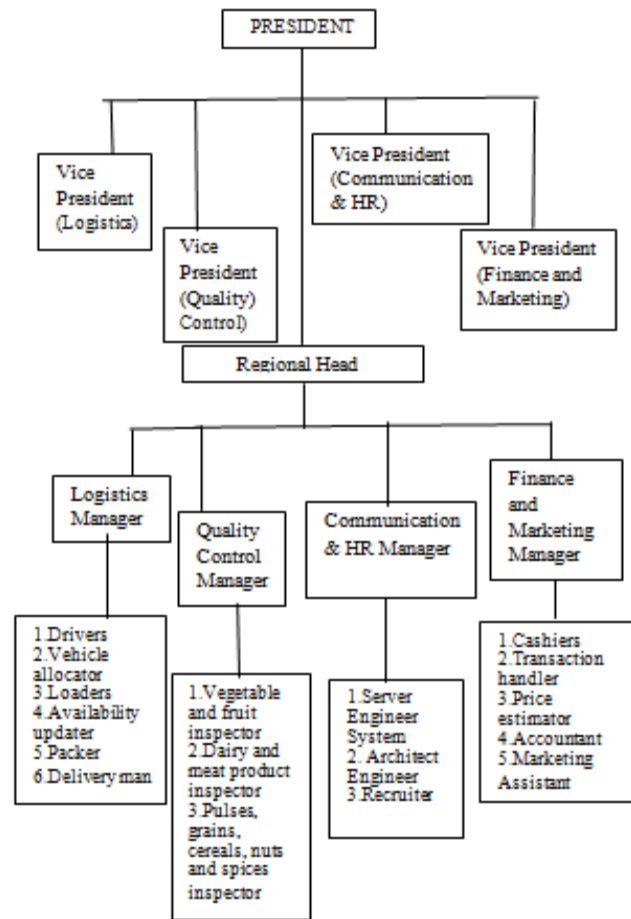
### B) External Communication

The demand from the customers, quantity of rejected products, customer feedback and the amount of money generated are reported to the producer by the service provider. Updates on the price and availability of the products are posted on the portal for the customers. The customers send the orders via online portal and are received by the service provider. Also, the product status and location are reported by the service provider to the customer.

### C) Internal communication

After getting the orders, the online portal sends the information of the quantity of products to be picked up from various farms and in response, the pick-up department updates the availability of the goods after the pick up from the producers' farms on a daily basis to the online portal and also the location of the pick-up vehicles. Information on the supply and demand information provided by the customers and the pick-up department are sent to the finance department from the portal and the prices are set by the finance department and the details are updated to the online portal. The portal sends the information of the incoming products to the distribution and packing center for allocation of vehicles and packing. The quality control and assessment department check the goods once they reach the distribution and packing Centre and quantity of rejected products are updated. After packing, the online portal provides the delivery location and the amount to be collected if it's a cash on delivery order. The delivery department updates the delivery status to the online portal and returns the cash to the finance department. The cash is then sent from the finance team to the producers via online transaction. The statistics of finance is also updated to the online portal. The online portal then displays daily statistics to the President, Vice Presidents, Regional Heads, Department Managers and Ground labors. The monthly salaries are then distributed to the employees via online transaction.

## VI ORGANISATIONAL STRUCTURE



Multiple regions of operation are present in this organization and employees below the rank of Vice Presidents are common to every region of operation.

## VII. USAGE OF TECHNOLOGY

As we live in an age driven by technology, the employment of technology plays a vital role in cost cutting and maintenance of quality. The online portal plays a major role as it can maintain a record of every operation that will be performed and employment of data analytics can make marketing this model more effective. An fMRI scanner is used for quality control of products that are to be delivered by scanning them for pest levels. Scientific methods are employed for the selection of producers and their corresponding products. Special packing materials made from chitosan that are resistant to fungal and bacterial attack are used.



Fig 1: Quality packing



Fig 2: Quality checking

### VIII . FINANCIAL MANAGEMENT AND PLANNING

The products are priced after considering the service charges, investment of the producer and the profit margins of both the trader and the producer. The prices vary based on the law of supply and demand.

The initial investments of the trader are:

- 1) Scanning equipment and
- 2) Set up of online portal.

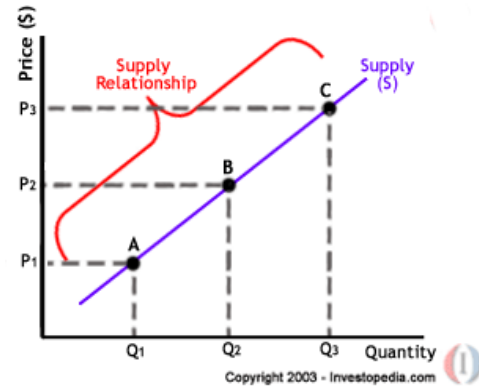
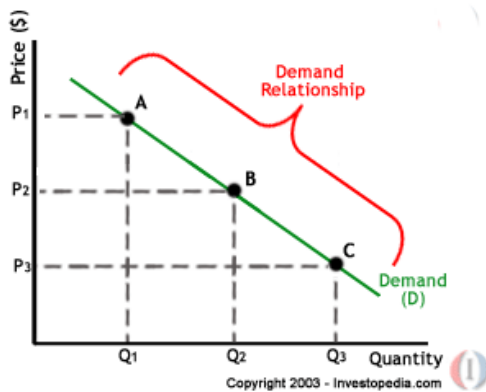
The monthly expenditures for the trader are as follows:

- Salaries for Employees
- Rent for warehouse
- Packing material
- Logistics cost

The product price is based on the law of supply and demand.

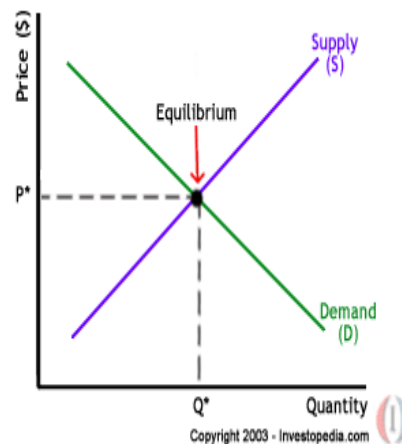
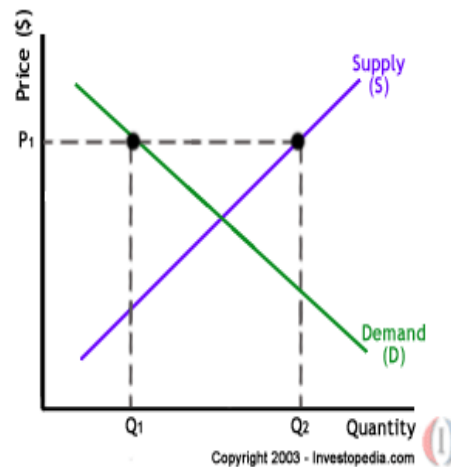
#### A) The Law of Demand

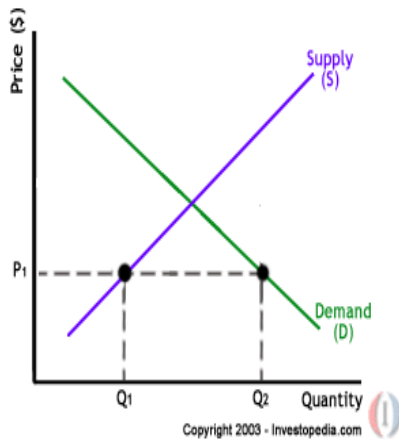
The law of demand states that, if all other factors remain equal, the higher the price of a good, the less people will demand that good. In other words, the higher the price, the lower the quantity demanded. The amount of a good that buyers purchase at a higher price is less because as the price of a good goes up, so does the opportunity cost of buying that good. As a result, people will naturally avoid buying a product that will force them to forgo the consumption of something else they value more. The chart below shows that the curve is a downward slope.



#### B) The Law of Supply

Like the law of demand, the law of supply demonstrates the quantities that will be sold at a certain price. But unlike the law of demand, the supply relationship shows an upward slope. This means that the higher the price, the higher the quantity supplied. Producers supply more at a higher price because selling a higher quantity at a higher price increases revenue.





### IX. USP, FEATURES AND ADVANTAGES

The unique selling points of our model are the ordering types- Bulk and Product based.

Features of our model

1. Delivery of fresh products
2. Reduction of wastage
3. Availability of products
4. Constant pricing for the order period
5. Periodical bulk revenue
6. Credit transfer
7. Multiple delivery points

These advantages will encourage customers to use this portal as the general expectations such as freshness, comparison of price, constant price and availability are delivered in our business mode. The customer can make request for delivery of

the product whenever the product that had been delivered is consumed until the credit goes to zero. The customer can also transfer credit to other customers via the online account. The customer can get it delivered to multiple points so that a common account for a family can be maintained. Also, the producers are provided with bulk revenue and accurate demand which results in reduction of wastage as they are provided the information of demand over a period of time and investment for development due to the bulk revenue.

### X .CONCLUSION

This Online grocery store model can be a practically working idea which will result in good response and results from customers. This idea makes things easy to buy as well as makes the selection of products more convenient to people. This model will be able to attract customers in the urban cities such as Delhi, Calcutta, Mumbai, Chennai and Bangalore. Freshness, product variety, fixed price, balance transfer and unique method of ordering the required products makes the model to be a one stop shop for groceries.

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