Economics of Business Research on Customers' Retention and Sales Improvement in Supermarkets

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Abstract

In recent times, the supermarkets around the globe have been so supper among markets that their activities have caught the mercy of various professionals and have attracted much attention. The competitive eloquence is an embellishment of the mystery surrounding their survival. This study has aimed at succinctly contributing to successful operation of these supermarkets through business research. A particular supermarket was taking as a case study, which can be adjustably applied to any other supermarket. A business research was initiated, collecting data on various business activities, customers and competitors. The recency, frequency and monetary (RFM) model was used to sieve various customers who can score RFM of about 280 out of a total of 555 thereby inferring customers with loyalty and hence are those that matter. The regression model was used to initiate a sales forecast from the research data and subsequently where the sales target is derived. Other various aspect of the philosophy of retaining, and winning more customers, dovetailing to improving sales, from experts and professional, formed the dynamic force behind the achievement of the business research outcome. It is recommended that supermarket managers should study the findings in the paper and apply to their situation giving the latitude for necessary adjustments.

Keywords: Business Research. Supermarkets. Recency, Frequency and Monetary (RFM) Analysis. Sales Forecast.

1. Introduction

A supermarket is a business enterprise that provides a service. It does not produce a physical product of its own in the usual sense. Instead, it adds value by acquiring existing products from remotely-located suppliers, assembling them in regional warehouses, distributing them to local stores, and finally selling the supplier's products to local customers. The supermarket typically comprises meat, fresh produce, dairy, and baked goods aisles, along with shelf space reserved for canned and packaged goods as well as for various non-food items such as kitchenware, household cleaners, pharmacy products and pet supplies.(Wikipedia. N.d.) A supermarket's customers are primarily local residents and small businesses that periodically need to replenish their stock of household products. A supermarket's suppliers are primarily producers of household products that are established far from the locations of their final customers. In effect, the supermarket provides a virtual marketplace that brings remote suppliers together with local customers. Supermarket is a self-service store offering a wide variety of food and household merchandise, organized into departments. It is larger in size and has a wider selection than a traditional grocery store and it is smaller than a hypermarket or superstore. Every part of the supermarket from parking lot to checkout counter is designed to make you spend more money and buy more food than you need.

There has been series of literature on the rapid spread of supermarkets in developing as well as middle-income countries and have forecast that the trend would continue. The level of supermarket penetration especially into retail food market despite the "every day low price strategies of the supermarkets (Rajiv and Ram, 1997). The present day survival strategies of the ever competitive market at global status is much to be understood. Traill (2006) report was in tandem with the rapid spread supermarkets when he conducted a cross-sectional survey of 42 countries.

Supermarkets are no longer places where the poor feels prohibited to shop. The have spread from the wealthy suburbs of major cities to poorer areas and touch rural locations in addition to "mobile supermarkets". Customers mobility and storage are no longer limiting factors because many have the ownership of fridges and cars which facilitate supermarket shopping. Likewise, the movement in most developing countries towards liberalization of trade and investment which have brought global supermarket onto the scene. This is in addition to the economy that has resulted in buyers power in purchasing and supply chain management skills.

2. The Business Research process

2.1 The Research Problem
The overall focus of carrying out this market research is how to "retain and win more customers and **improve sales"** This is the research problem. A conjecture of winning customers and improving sales are somehow synonymous and are not separable in their treatments. These few words are powerful and are not based on "either or" probability but "both"

2.2 Research Objectives
The objectives of this paper are to use business research to retain and win over customers and to improve sales. These would be achieved by applying RFM Analysis to analyse customers and use Regression model to forecast sales thereby setting achievable sales target and install a control mechanism to compare planned with actual and take immediate necessary action.

2.3 Lunching the Research Process

Exploratory Study with SWOT : Ensuring Economy of processes, exploratory research is the initial pilot search done to get an idea and insights into the problem. Research is a relatively expensive process and which economic consciousness has to be the whole process objective, getting the best as cheaply as possible. Blended with SWOT analysis, optimal cost-benefit of alternative choices is highly underscored..Exploratory research ensures that this process is not initiated without a thorough understanding of the problem. This study is qualitative (understanding the concept) rather than quantitative (providing precise measurement). Also, this type of research does not give conclusive evidence and hence, subsequent research needs to be done. Further, the following purposes justify the use of exploratory' research:

(i). **Diagnosing a Situation**: Sometimes, the business have a situation at hand, but do not know how to define it clearly. This prohibits action to be taken. One reason for using it is to identify the exact nature of the business problem, but exploratory research is limited only to this. Successive descriptive or experimental research needs to be carried out to craft the action plan.

(ii). **Screening Alternatives**: Consider a situation where there are several options, but budget restrictions do not allow implementation of all of them. Exploratory research helps choose the best alternatives in this case.

(iii). **Uncovering New Ideas:** Many a times, consumers do not know what they need which is especially true in case of technology. Prior to the invention of the first smart phone in the early nineties, an average person did not feel the need for it or understand how pervasive the device would become. Exploratory research is used in cases like this to induce new ideas. A widely used method for executing exploratory research for this purpose is Concept Testing. Here, target consumers are introduced to an idea and asked how they feel about it, whether they are likely to use it. Etc (Atakan, Richard and Carolyn, 2014). It tests the likeability or acceptability of the new product before investing in its research and development (Uma, Baba and Brian, 2015)

If available, internal secondary data may be obtained with less time, effort and money than the external secondary data. In addition, they may also be more pertinent to the situation at hand since they are from within the organization. The internal sources include

Accounting resources-This gives so much information which can be used in the researcher. They give information about internal factors. Such includes revenue generation, expenses, ratio of expenses to revenue, debtors profile, inventory and individual pricing, purchases and creditors, invoicing and terms, assets maintenance, etc.

Sales Force Report- It gives information about the sale of a product. The information provided is of outside the organization.

Internal Experts and Staff. These are people who are heading the various departments. They can give an idea of how a particular thing is working. General staff attitude to work, behaviours ; knowledge of supermarket business, how smarter they are because to be smarter is better than to work harder, though hard-work is a different virtue. Whether staff are innovative or having self-limiting beliefs, positive or negative, etc.

Miscellaneous Reports- These are information needed from operational reports.

If the data available within the organization are unsuitable or inadequate, the research should extend the search to external secondary data sources.

Report on Accident History - As much as possible, the research should get the records on accident history- the type of accident, cause(s), of the accident, cost and legal outcome, effects on the supermarket goodwill etc. The research would evaluate each of the possible causes of accidents. .Every dis-incentive must be removed. The research should also review the following possible accident causes.

Lacerations (cuts) from damaged grocery carts

Bunched, improperly positioned, or missing entrance and exit floor mats
Slippery floors from leaks at produce and refrigerated sections
 Faulty entrance and exit doors
 Items falling from grocery store shelves
 Aisle obstructions from boxes, pallets, and food » Cracked and uneven outside pavem
 Food poisoning from out-of-date products and rotten food
 Supermarket accidents injure thousands of people each year. Although normally well-maintained, supermarkets and grocery stores are still a haven for customer injuries. With thousands of people shopping each day, accidents will happen.
Even with strict governmental regulation, insurance company monitoring and company inspections, shoppers continue to get injured in record numbers. Calisi (ret.) enumerates the following causes of supermarket accidents, which can result in mild to serious injuries.
The laws in all 50 states follow similar lines. Supermarkets have a legal obligation (duty of care) to make their premises safe from undue harm. This does not mean every imaginable harm. It means harm that is reasonably foreseeable

External Sources of Data
External Sources are sources which are outside the company in a larger environment. Collection of external data is more difficult because the data have much greater variety and the sources are much more numerous. For example some data on customers and competitors are externally sourced.

2.4 SWOT Analysis
SWOT Analysis is a useful technique for understanding the Strengths and Weaknesses, and for identifying both the Opportunities and the Threats (SWOT) faced by the supermarket. It will go hand in hand with the exploratory study. Most importantly, the area of weaknesses and threats are of utmost attention in the supermarket. .
What makes SWOT particularly powerful is that, with a little thought, it can help to uncover opportunities that the supermarket is well-placed to exploit. And by understanding the weaknesses of the supermarket, it would be easy to manage and eliminate threats that would otherwise catch the supermarket unawares.
More than this, by looking at business and the competitors, using the SWOT framework can help a start to craft a strategy that helps distinguish the supermarket from its competitors, to guaranty a proportionate share of the market. The greatest of the challenges facing supermarkets is the singular highly competitive industry. It is a prioritize area of research, but the researcher
understand that in examining opportunities and threats the researcher needs to recognize a point made by Johnson and Scholes (1988, 77) that:
they can never be viewed as 'absolutes'. What might appear at first sight to be an opportunity may not be so when examined against the organization's resources, its culture, the expectations of its stakeholders, the strategies available, or the feasibility of implementing the strategy. At the risk of oversimplification, however, the purpose of strategy formulation is to develop a strategy which will take advantage of the opportunities and overcome or circumvent the threats.

2.5 Economics of Business Research
The exploratory study blended with SWOT analysis is a cost reduction strategy and the economy of carrying out market research must be prime if ends would justify the means. The current competitive landscape calls for firms to consider rivals in current markets and invisible competitors across the far reaches of the globe. According to Wanasika (2011) "the playing field is increasingly more uneven as a result of structural and resource diversity across global markets.

Firms have to compete with rivals that have significantly different cost structures" ." Economizing considerations must be embedded in research and strategic decisions so that supermarkets can sustain competitiveness. Transaction cost economics offers a viable framework for evaluating economizing by considering internal and external dynamics while putting into context unforeseeable future events and acknowledging behavioral shortcomings of organizational actors (Wanasika, 2011). For supermarkets, economizing is an effective fundamental strategy, from market research to implementation of research outcomes. Though large firms such as hyper markets with market power are better off implementing an economizing-strategizing sequence, supermarkets can be constantly efficiency-seeking rather than in an ideal state of economizing.

2.6 Types of data to be collected

Marketing research like any other research is highly involving. Experience from some research processes involved have shown that the process is a pathfinder which reveals many other processes and information not ever planned for. Another aspect of note is that the type of data to be collected dictates the data collection method vis a vis the exploratory and SWOT analysis. Data needed include:

Internal Data-
   (i).Miscellaneous- individual prices of all produce, suppliers history and commitment, eco-labelling, display strategy and sizes, point of purchase material sizes, weakly advert, weekly sales weekly expenditures and types, accurate and quality measurement where lead time on supplies, placing orders and reorder system,
   (ii).Staff- Departmental heads, collectors, floor, 'accounts and audit, staff remuneration, motivational strategies, staff attitudes and behaviours on operationl processes and customers etc.
External Data
Despite that customers are external to the business, some data on customers are at the disposal of the supermarket and if not realisably kept, should be activated. The followings are very important.
   (i). The records of all purchases by customers analysed weekly, monthly and quarterly
   (ii). The records of the RECENCY of customers-customers who purchased more recently are more likely to purchase again than customers who purchased further in the past.
   (iii). The records of customers who purchased more frequently reffered to as FREQUENCY and are more likely to respond than are those who have made fewer purchases.
   (iv).The records of total amount spent by each customer, referred to as MONETARY. Customers who have spent more (in total for all purchases) in the past are more likely to respond than those who have spent less.
   (v). Customers identity variables in numerical type
   (vi).Transaction files for customers. It shows each time and the number of times a customer makes transaction
Transaction history:
   (i) Indicates user preferences - which products they're most inclined to buy, when and how often.
   (ii). Reveals how valuable a customer they are: how much they spend and how often.
2.7 Data to be sourced from customers

This is a very difficult aspect of data collection. It needs expertise. The more detailed a picture you have of your target customers, the more effective and targeted your marketing can be. And if we know which individual customers are the most valuable, we can go that extra mile to encourage them to spend with your business.

First and foremost, do not harass customers for data. Endless form filling is enough to put a consumer off a purchase. Data collection has to be either un-intrusive or incentivised. Collect it bit by bit to build up a fuller picture of your customer gradually and in a non-annoying way.

Collect Data without Holding up the Line! We understand the importance of a speedy checkout.

2.8. Checkouts technology data collection methods provide the unique ability to collect tons of customer data without holding up the line. By using multiple data collection tools, such as the (i).Pad Kiosk, SMS Keywords, and mobile contact forms; customers can provide their phone number at checkout and finish their registration on their mobile device. According to Smarta (2014), data to be collected include:

(i). Name and contact details:
- Allows to market directly to them.
- Also help to make communications personalized.
- Also to contact them if an order is running late

(ii). Communications from you to customers and any response they make:

Keeping records of this to make sure a space out of communications correctly (i.e. not too often).

It also lets you monitor how effective different types of communication are and which the customer best respond best to. If you compare their transaction history with the communications record, you may find one method of communication encourage them to buy more than others.

(iii). Profile: age, gender, profession, income, hobbies, and so on:

This information is harder to obtain but can be useful for more advanced marketing strategy.

Once you have the information for a number of customers, you can build up clearer picture of who exactly your target customer is.

It allows you to better focus your advertising and marketing efforts, as well as affiliate opportunities and sponsorships. If you know your target customer goes to the gym three times a week, it opens up a new place to advertise, a new line of gym-related products and an opportunity to do a deal with the local gym to offer discounted membership if they shop with you X number of times.

Knowing their age and profession (and so an idea of their income) helps with pricing strategy.

The better and more detailed picture you have of your target customer, the more you can tailor and develop products to please them.

(iv). Spending habits: how your customers shops - such as impulse buys, considered purchases, comparing the prices from different businesses, always with you on a regular basis, and so on:

You can display goods and structure deals around consumers' spending habits - think of how supermarkets put magazines and chocolate bars at the checkout: impulse buys.

Can be difficult to assess - you may need the help of a market research agency or detailed surveys with trusted customers. Or you can try out different strategies and see which work.

(v). Birthdays:

Sending out a birthday text or card can add a personal touch and make a customer feel valued. In fact it was one of the author's banker that reminded a birthday sometimes.

(vi). Whether or not they pay on time:

This is obviously important for cash flow reasons rather than marketing ones, but it's worth adding to the list anyway if one is thinking about data collection.

2.9 Data/Information on business competitors.

Who are the major competitors? Carry out their SWOT analysis. Every strengths and opportunities of competitors are the business weaknesses and threats and vise-versa. Information on how they are successful, their best practices, what works best for them, customers support and marketing tactics. Information on their products and services, prices and discount policies. clients, marketing strategies, strong attributes, technical specifications, distribution channels

Generally, it is documented that the followings should be collected (Berry, 2005: Koonec, 2010; Info-Entrepreneurs, 2015)

i. To visit competitors' clients and ask them about the strengths and weaknesses of the competitors' products

ii. To perform purchases or pseudo purchase pretending to be the competitors potencial customer

iii. To study the competitors products and test for functional, technical etc differences. Weaknesses

(iv) To study the technical and legal weaknesses of the competitors patients.

(v). To check the competitors website

(vi). To collect advertisements , catalogs , promotional materials, annual reports, and users manuals distributed by the competitors.

(vii). To attend major specialized trade fairs.

(viii). To subscribe to the competitors newsletters.

3. Data collection techniques/tools

Having got a glimpse of the data to be collected, the following tools would be used in collecting data from customers, competitors and data relating to the supermarket operations and the law.

3.1. Observation: Direct observation of customers, observation of department managers and staff in dealing with customers and attitudes on the supermarket operations. Noticing things when you see customers face-to-face can of course also give you a very general idea about who the bulk of your customer are and what demographic and age group they're part of.

3.2. Interview: Conducted with departmental heads and staff especially on area of challenges and on-line with customers who care.

3.3. Surveys:

Competitors: Survey can be used to get information from competitors especially the most successful ones. Spying competitors now and then, buying their products and pose like

customers, visit to the supermarkets find out their weaknesses. Use Internet, the Yello Pages, specialized magazines, directories and lists, virtual communities and forums, trade fairs,etc. Keep data collected and organized in a database such as Excel or Acces . Information on their products and services, prices and discount policies, clients, marketing strategies, strong attributes, technical specification, distribution channels.

On Customers - If you run a survey on your business, you can obtain a fair amount of information by asking details about their profile (gender, age, etc). While some respondents may be reluctant to give their name, some will. For those that don't, one would still get a clearer picture of the overall target customer anyway, which is the aim here.

Online survey: can help to track spending habits and user preferences, though, may only be able to get an overall picture of our target customer rather than profiles of specific users - use Google Analytics. If the transaction is happening online, add in an optional section requesting more information. Phrase it in a way that appeals to the customer, such as:"So that we can learn more about you and provide you with a service more suited to your personal needs, please fill in...." This method is also valuable if a customer has to register an account with the business at any point.

Survey from orders:
Obtain contact details and name from orders and begin building a transaction history, whether on or offline (although online makes things even easier as data can automatically be entered into a database). You can add in a birth date as optional.

3.4. Motivational research techniques:
(i). Competitions: Run a competition asking for email address and a couple of other details - customers will be more inclined to share personal data when they have something to gain from it.
.(ii). Birthdays: Sending out a birthday text or card can add a personal touch and make a customer feel valued
(iii)Appreciation: Tactics such as "thank you" to a customer and/or sending thank you note to customers' mail.

3.5. Checkout technology:
By using multiple data collection tools, such as the iPad Kiosk, SMS Keywords, and mobile contact forms; customers can provide their phone number at checkout and finish their registration on their mobile device.

4. Analysis of Data and Inferences

4.1 The sales response model, more precisely, the RAF (**Recency, Frequency, Monetary**) analysis will be used to know valuable customers and how to win over the customers There are some advance methods like the proposition of neural measurements t method—electroencephalography (EEG) according to

4.2 The sales forecasting model, more precisely the OLS Regression Model would be used based on sales data generated by the research. The forecast may be segmental or total on all departments.

4.3 How RFM Analysis Works

.Recency Score Customers are assigned a recency score based on date of most recent purchase or time interval since most recent purchase. This score is based on a simple ranking of

recency values into a small number of categories. For example, if you use five categories, the customers with the most recent purchase dates receive a recency ranking of 5, and those with purchase dates furthest in the past receive a recency ranking of 1.

Frequency Score In a similar fashion, customers are then assigned a frequency ranking, with higher values representing a higher frequency of purchases. For example, in a five category ranking scheme, customers who purchase most often receive a frequency ranking of 5.

.Monetary Score Finally, customers are ranked by monetary value, with the highest monetary values receiving the highest ranking. Continuing the five-category example, customers who have spent the most would receive a monetary ranking of 5. The maximum a customer can score is 555, that is 5 for recency, 5 for frequency and 5 for monetary.

The RFM analysis will help the supermarket to locate the most valuable customers and we can go that extra mile to encourage them to spend with the supermarket.

4.4 Analytical Example

Generate a transaction data – On the average, depending on location and other variable, customers patronizing a supermarket may be ranging between 250 to 400 per day. Table 1 is just an example of how to record about 300 customers' transaction data. The same thing is applicable to Table 2.

This transaction data shows the frequency under ID, recency of each customer under date column and monetary under amount.. For example, ID-1 recency is 08312015 with frequency of 5 and monetary value, a total of N1266.
.

Table 1, Transaction Data

ID	Date	Amount
1	03/04/2014	200
1	10/25/2013	250
1	07/24/2013	180
1	03/31/2013	136
1	08/31/2015	500
2	09/23/2014	300
2	11/05/2013	400
2	11/10/2014	300
2	12/03/2013	230
3	06/04/2014	200
3	05/15/2014	270

In Table 1, the dataset must contain variables that contain the following information

1. A variable or combination of variables that identify each case (customer). This is the ID in column 1

2. A variable with the date of each transaction as in column 2. ID-1 had 5 transactions, ID-2 with 4 transactions and ID-3 with 2 transactions. This analysis will be repeated for all customers.

3. A variable with the monetary value of each transaction as in column 3 for all customers.

Source: SPSS 21 Output.

Generate RFM Analysis to Evaluating the Customers

(i). The combined RFM score for each customer is simply the concatenation of the three individual scores computed as (recency x 100) + (frequency x 10) + monetary. Customer ID -3(i). The combined RFM score for each customer is simply the concatenation of the three individual scores computed as (recency x 100) + (frequency x 10) + monetary. Customer ID -3

Table 2. RFM Analysis

ID	Date most recent	Transaction count	Amount	Recency score	Frequency score	Monetary score	Combined RFMscore
1	09042015	5	1266	3	5	3	353
2	11102014	4	1230	1	4	3	143
3	06042014	2	470	1	1	2	112
4	05242014	9	1794	2	4	4	244
5	03132015	3	1278	3	2	3	323
6	07282015	8	1922	3	4	5	345
7	06202015	11	1861	3	5	4	354

Source: SPSS 21 Framework

total score is $(3 \times 100) + (5 \times 10) + 3 = 300 + 50 + 3 = 352$ (ii). The new dataset to evaluate the customers contains only one row (record) for each customer. (iii). The original transaction data has been aggregated by values of the customer identifier variables. The identifier variables are always included in the new dataset; otherwise it would be impossible matching the RFM scores to the customers.

(iv). Summary transaction amount (the default is total) Recency, Frequency, Monetary, and combined RFM scores. Maximum score is 555. Any customer scoring more than just average, 281, should be selected out of the 300 customers

(v). The inferences from the evaluation analysis is that customers ID-1, ID-5, ID-6 and ID-7 are loyalty customer signal and are the most valuable and we can go that extra mile to encourage them, to win the customers, to spend with the supermarket. Other factors to win customers include hereunder.

4.5 Retaining and winning more customers.

Employ the Right Staff - Employing the right staffs in every department of the supermarket guarantee more than 60% of winning more customers and retaining them. Thoroughly interviewing a candidate can tell a Human Resource Manager much about how this person would fit into the supermarket. A rushed interview may result in hiring the wrong person for the job.

Running background checks and drug testing employees is very important. The supermarket is no place for employees with criminal backgrounds or drug problems. For example, hiring a drug user can result in assaulting shoppers, attitudinal and behavioural discrepancies, employees' and customers' accidents and injuries, higher liability claims and absenteeism.

Training programs are effective in maintaining quality standards. There are so many things that can go wrong from inside to the check out point. For example, slips and falls can be avoided by training employees how to clean up a spill. Training the staff and motivating them on how to win over customers and make higher sales is the starting point. DelVecohio and Wagner(2011) has suggested that younger salespeople may be reacting to the autonomy and competency implications of receiving incentive-based compensation and that a salesperson's age has both an interactive and direct effect on his or her level of intrinsic motivation.

Staff should not ever forget to say THANKS!. Customers will feel appreciated also if thank you note got to their mails. Find out if you are doing a good job, and if there are problems staff should react positively and quickly. Most customers do not express their complaints. T o express complaint is a gift.

Recognize that there may be others in the "buying process" that should be made to feel appreciated. Giving a small toy airplane to a boy accompanying a customer may do much to retain the customer's loyalty.

Accidents must be prevented if shoppers would not shift their loyalty. Supermarket accidents injure thousands of people each year. Although normally well-maintained, supermarkets and grocery stores are still a haven for customer injuries. With thousands of people shopping each day, accidents may happen. Since supermarket accident has a negative spiral effects on its goodwill and on other unforeseeable extents, it is therefore a serious focus of attention.

Keeping customers' data is a sure way of tracking and retaining customers. The rigour experienced in the research process in collecting data should not be repeated. A standard format system for storing customers' data should be established. This is one of the various benefits as fallouts of the research process.

   (i). Initially, data can be stored on Excel or similar spreadsheet software.
   (ii). As your data become more detailed, the supermarket needs specific database software to manage customer data.
   (iii). Consultants can recommend some software, after an audit of the system to catch both present and future needs and to make sure they provide the right level of complexity. You don't want to end up with something either far too complicated or far too basic for the system requirements.
   (iv). Data collection should spans all different departments and members of staff. Everyone should be contributing to the same document. Use CRM software to manage this.
A summary of monthly or quarterly evaluation of the number of new customer gained, number of customers lost, average volume of sales to each customer(in the mega data in table 3), particular months when customers are won or lost help to assess how the " retain and win customers" objective has been achieved.

 Generate a Customer's Mega Data: Merging Score Data with Customer Data

The data set that contains the RFM scores now also contains the name, address, and other information for each customer, for 300 customers

Table 3. Individual Custumer Mega Data

Name	Type	Width	Decimal	Label	Values
ID	Numeric	5	0	Customer ID	None
Date_ most_ recent	Date	10	0	Date of most re	None
Transaction_ count	Numeric	7	0	Number of tran	None
Amount	Numeric	8	2	Amount	None
Recency_score	Numeric	3	0	Recency score	None
Frequency_score	Numeric	3	0	Frequency score	None
Monetary_score	Numeric	3	0	Monetary score	None
RFM_score	Numeric	3	0	RFM score	None
Name	String	4	0		None
Address	String	7	0		None
City	String	4	0		None
State_Province	String	14	0		None
PostalCode	String	11	0		None
Country	String	7	0		None
Gender	Numeric	1	0		(0, Female
AgeCategory	Numeric	1	0	Age category	(1, < 25)

Source: SPSS 21 Output

This data is all embracing and will ensure contact with customers to boost sales. This has to be maintained for about 300 customers.

4.6 Sales Forecast and improving Sales

Understanding the market is the first step in developing a good sales plan and an effective sales plan is the outcome of business research. The target market segments, the type of customers in the market, the numbers in each market segment and segment classification according to previous sales volume or potential sales volume.

Using the sales history and market research, a forecast of the number and value of sales is set using regression analysis. From the sales forecast the sales target is set and then strategies to achieve it. Eighteen months sales from March 1st, 2014 to August 31st 2015 were collected using Regression Model (E-View 7.1). Because of the magnitude of the sales value, the log of Sales was used. The specified model is:

$logSALES = \beta_0 + \beta_1 NMT + \varepsilon$

where

$logSALES$ = The forecast sales representing the dependent variable.

NMT = Number of the Month with March 2014 as no 1 and August 2015 as no 18

β_0 = the constant or intercept

β_1 = the slope , the coefficient of NMT or the rate of increase in sales each month.

ε = the stochastic error term.

and the forecast is:

$logSALES = 50.0653594771 + 1.1919504644*NMT$

.Forecast sales for the month of September (Month 19), 2015 = N50.065 + N1.192(19

$= N72, 713,000$

Table A-1 in the appendix shows the E-View 7.1 Output. In a model of this sort where "period" in months is the independent variable, one may not worry seriously on such parameters as the adjusted R^2 which may be low or the Durbin- Watson (d.w.) statistics. What is most important is the F-ratio that shows a well fitted relationship that submitted a forecast of about N72, 000,000 The supermarket may now target at least, N80, 000,000 using all the research prescribed sales increase strategies.

From the mega data above, it is easy to generate weekly, monthly or quarterly sales. The monthly sales for 18 month in Table A-2 were used. This would be appropriate to allow enough lags that would not seriously affect forecast. The target should be achievable so that managers are not discouraged of coercing them to achieve impossibility.

Since most of the customers' information are available on the mega data, –attitudes, buying behaviours , taste, financial status etc will help to improve sales. Therefore to improve sales,(to meet the target), there must be sales promotion series as a means of building market share

Not only do sales promotions win and help to maintain the patronage customers but they also build the goodwill of dealers and distributors who enjoy increases in store traffic and rates of stock turn.(Wilson and Gilligan, 1999).

While sales incentives such as price markdowns are used to boost sales of product line it should be remembered that the majority of the boost can only be temporary. Buyers may switch loyalties only for the period of the promotions offer and then revert to their normal brand purchase. The real benefit of a good promotion is to convert some of the brand switchers to loyal

repeat purchasers of the supermarket brand. In this way market share can be increased by a series of promotions (targeted towards back-to-school rush, feast periods like Easter and Yuletide), as illustrated in Figure 1 in the appendix.

The positions (troughs below the line) are the pre- and post-promotion sales troughs, while those above the line represent the promotional peaks. It can be seen that the trough below the line settles progressively at a higher sales point due to the retention of a proportion of the previous promotional increase. The straight line indicates steadily rising sales stimulated by the series of product-line promotions starting from about N53,000,000 forecast in March 1, 2014 heading towards above N72,000,000 sales value in August 30, 2015. Note that the right scale from N40Million to N90Milliom is used for the upper graph and the left scale of –N20Million to +N20Million value for the lower graph.

4.7 Sales increase strategies includes.

(i). Products should be accepted by customers - un-acceptable product cannot attract customers. A widely used method is to ensure this when executing exploratory research for this purpose using Concept Testing. Here, target consumers are introduced to an idea and asked how they feel about it, whether they are likely to use it. etc. It tests the likeability or acceptability of the new product before investing in its research and development

(ii) Using supermarket loyalty card data to analyse the impact of promotions - Advertising on the point of sales, through posters and displays; how the shelves are distributions on the establishment and also the product on them

(iii). Cross-selling is the art of getting a customer to buy something else along with the product they've already chosen. The well-worn textbook example of cross-selling is the McDonald's all time great: 'Do you want fries with that?' Simple, yet incredibly effective for upping revenue.
(iv). Position wisely to catch buying behaviours. Always have gum, chocolate bars and magazines by the check-out is magical. Placing a cheap impulse purchase where people queue is enough in itself to prompt a purchase.

(v) Incentivise customers. Tempting offers such as 'free postage on orders more than N40' incentivise customers to just buy that little bit more. You might also try a discount or gift voucher for orders over a certain amount, or, the reward card favourite, double loyalty points (or similar) for a certain spend. Liyin and Yunhui (2014) confirm that increasing the economic benefit or decreasing the social costs associated with monetary rewards, restores the effectiveness of monetary rewards as incentive.
(vi) Change your product or service mix. Adding or subtracting to what you sell can help grow your typical ticket size.
(vii) Bundle your offerings. Encourage customers to spend more by giving them a package deal on multiple products or service that fits virtually together at an attractive price point.
(viii). Feed Forward Control - Control is a process of comparing planned with actual and immediate actions taken in case of un-favourable deviation from planned. Feedforward controls are desirable because they allow management to prevent problems rather than having to cure them later. Unfortunately, these control require timely and accurate information that is often difficult to develop, which the research process must have made available in this focus..

Feedforward control also is sometimes called preliminary control, precontrol, preventive control, or st eering control. The supermarket should not allow adverse (unfavourable) deviations from target sales to thwart sales objectives before taking necessary control. Control should be pro-active rather than re-active. Feedforward controls involve identifying and preventing problems in a supermarket before they occur. Feedforward controls are proactive and preventative. Such control controls are helpful to departmental managers because they allow these managers to plan work effectively; they can regulate resources like employees, raw materials and capital ahead of time. This means that future problems can be avoided. All envisaged limiting factors identified in the research process should be built into all the supermarket systems. Although feed forward controls can be costly and can slow down the planning process, they help to avoid problems later on.

(i) Planning ahead of peak periods such as religious festivals, back to school rush and the yuletide may require efficient queuing model to reduce customers frustration outright purchase of the rapid scan.

(ii). Unlike ordinary scanners, which only emit a laser from one angle, the Rapid Scan is a 360-degree scanner, so can read the barcode on the item no matter how you place it on the conveyor belt - even if the barcode is on the base of the item because the conveyor belt is divided in one place and a laser comes up through the divide. This frees the operator to unload your basket for you, so you can be ready, waiting at the other end, to bag it up in no time. The rapid scanner would, in no distant future, metamorphosize itself into a robotic giant that would create more global unemployment hazards.

5. Conclusion

Simplicity and effectiveness are prime factors in choosing the models under consideration. Other models such as Moving Average (ARIMA), and multivariate ARIMA (or transfer function models) models for time series, and produces forecasts. The procedure includes an Expert Modeler that automatically identifies and estimates the best-fitting ARIMA or exponential smoothing model for one or more dependent variable series, thus eliminating the need to identify an appropriate model through trial and error. The Multinomial model for product research and promotion response rate. For example, you can conduct a survey in which participants are asked to select one of several competing products as their favorite. Using multinomial logistic regression, you can create profiles of people who are most likely to be interested in your product, and plan your advertising strategy accordingly. Others include Cluster analysis, Prospect profile, Postcode response rate, Propensity to purchase, and a series of others. It is not how complex but how useful.

It is therefore recommended that supermarket managers should study the findings in the paper and apply to their situation giving the latitude for necessary adjustments.

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Appendix

Table A-1
Dependent Variable: LOGSALES
Method: Least Squares
Date: 10/05/15   Time: 12:09
Sample: 2014M03 2015M08
Included observations: 18

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	50.06536	3.820913	13.10298	0.0000
NMT	1.191950	0.352992	3.376705	0.0038
R-squared	0.416104	Mean dependent var		61.38889
Adjusted R-squared	0.379610	S.D. dependent var		9.864606
S.E. of regression	7.769839	Akaike info criterion		7.042815

Sum squared resid	965.9264	Schwarz criterion	7.141745
Log likelihood	-61.38534	Hannan-Quinn criter.	7.056456
F-statistic	11.40213	Durbin-Watson stat	1.228328
Prob(F-statistic)	0.003845		

E-View 7.1 Output.

Table A-2 MONTHLY SALES

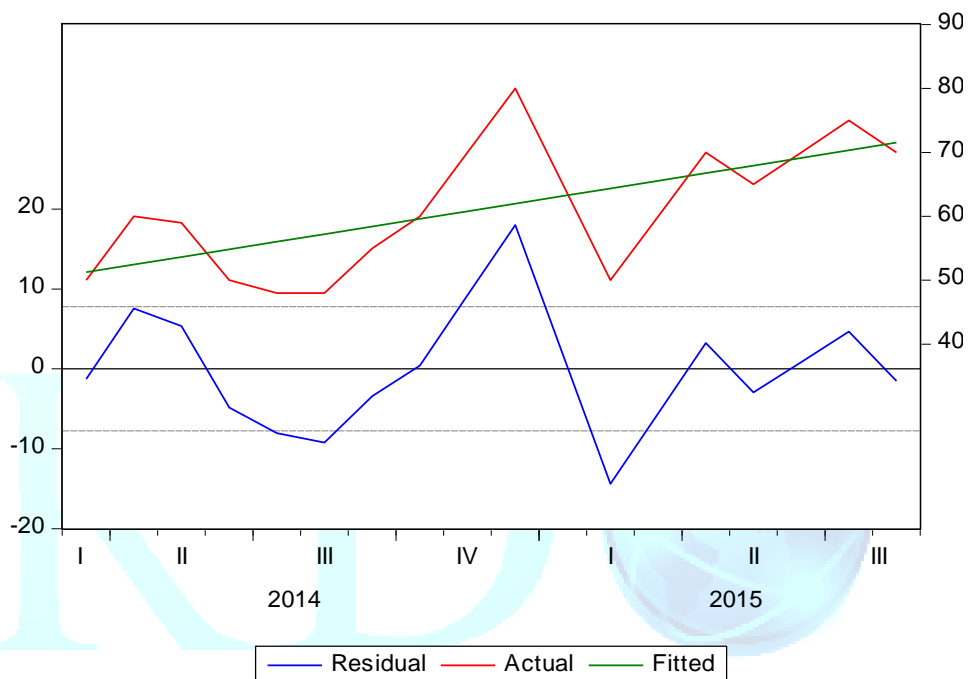| Months	SALES N'000	NMT
Mar(2014)	50071	1
Apr	60012	2
May	59543	3
Jun	50070	4
Jul	48921	5
Aug	48099	6
Sep	55112	7
Oct	61553	8
Nov	70187	9
Dec	80009	10
Jan	65022	11
Feb	50066	12
Mar	60015	13
Apr	70789	14
May	65008	15
Jun	70090	16
Jul	75080	17
Aug(2015)	70111	18

Figure 1 Graphical Representation of Forecast.