

Indian Institute of Technology Madras

Bs in Programming and Data Science

Capstone Project Proposal

On Topic

Sales Planning for “2K market”

For course

Business Data Management

By

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Executive Summary

To analyze the trend in sales of “2K market”, a shopping complex in NIT Tiruchirappalli, I am using sales data from the shopping complex. Using Analysis, Manager of “2k Market” will be smartly able to manage inventories and get an idea about practical fields for Improvement

It will help the shopping complex to make more revenue by fulfilling dynamic customer demand. As “2k market” is the only shopping complex on my college campus, my intention is to provide “can do” services to the customers. Every product which customers may need, or need must be available in the complex. It all could be possible if you predicted the dynamic nature of the customer.

To move in the direction of analysis of sales data available by shopping complex, I will do univariate, Bivariate and multivariable analysis along with permuting different factors for statistical and mathematical analysis. Some of those factors are like time of sales, customer gender, hostels which booking more online deliveries, company products like by customer etc. Final results will be presented in a PowerPoint presentation.

I am hoping that the results will surely be helpful for the manager of the shopping complex to make effective planning for sales and Inventories. The Analysis recommendations will be helpful to increase revenue and customers will be more comfortable to get services. Also, big e-commerce companies like Amazon, Flipkart, Big Basket won't be able to capture customers of “2K market”.

Organization Background

I am Adarsh Kumar Gupta. pursuing my Btech at NIT Tiruchirappalli, Tamil Nadu, India. I am collecting my data for a BDM project from “2K Market”. “2K Market” is a B2C retail shopping complex located in National Institute of Technology, Tiruchirappalli, Tamil Nadu, India. It is also known as “Kaavya Home Needs” with the GST no is: 33AAMFK2373G1ZD. This complex is for students and professors of NIT Tiruchirappalli and the students can get almost everything they need under the sun here. In-store pickup along with online delivery are available services. It is open at 9Am to 8:30PM, 24X7.

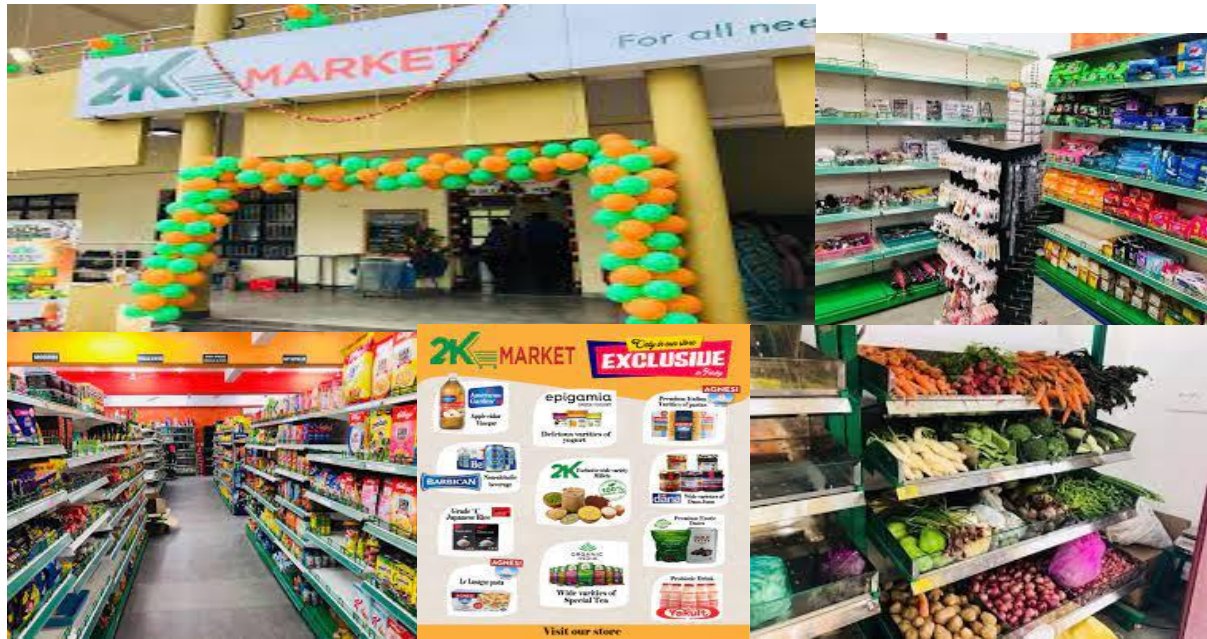


Figure: Picture with products at 2K shopping complex.

KAAVYA HOME NEEDS 2K MARKET NEEDS Shopping Centre, NIT Trichy-620015 GSTIN : 33AAMFK2373G1ZD Ph 9791952761				
CREDIT BILL				
Date	10/12/2022	Bill No	93806	
Cashier	2K0006	Time	06:05:21 PM	
		Counter	BILL 3	
Description	Mrp	Rate	Qty	Amt
BRITANNIA MARIE	5.00	1.95	3	11.85
2K BADAM 50G	65.00	64.00	1	64.00
DETTOL ORIGINAL	10.00	9.85	1	9.85
E & O.E., #Incl Gst			Total :	88.70
Qty : 5			Round Off :	30
Items : 3			Total :	89.00
Wallet	:	89.00		
Tax %	Amt	Gst	SGst	CGst
12.00	57.14	6.86	3.43	3.43
18.00	20.94	3.76	1.88	1.88
You have Saved 1.30				
Thank You Visit Again				

2K MARKET KAAVYA HOME NEEDS GSTIN : 33AAMFK2373G1ZD Ph 9791952761				
CREDIT BILL				
BILL DATE :	18/12/2022	USER :	2K0004	
BILL NO. :	93467/POS3	TIME :	17:35:24	
Description	Rate	Qty	Amount	
ARUN CHOCO BAR 60M	29.40	1	29.40	
COLGATE HERBAL 100	86.25	1	86.25	
MARGO NEEM BATH SO	34.30	1	34.30	
MONKEY UV SOAP	9.85	1	9.85	
Items : 4 Qty : 4				
Incl Gst		Total -	159.80	
			Round Off:	.20
			Total Amount -	160.00
Wallet	:	160.00		
Tax %	Amt	Gst	SGst	CGst
18.00	135.42	24.38	12.19	12.19
You have Saved			3.20	
Thank You - Visit Again				

Figure: Pictures of 2K market shopping bills

Regarding Data Collection I contacted the manager of “2K market”, Miss Yamini Saxena on 3rd Dec 2021 through email. I used the Authorization letter provided by the IIT Madras BSc team for the Capstone project in Business Data Management. She confirmed the data availability for my Business Data Management Project with some constraints. I assure her about privacy and credibility of data. Thank her for support.

Problem Statement

Analysis for below 10 recurring problems is must through time by time. Using the analysis which will be provided by me, Miss Yamini will get an idea for fields of improvement. For example, more attentive and ready with inventory during peak hour, High demand goods must order time by time for ease of shopping. Also nowadays, Online services are very influential, so if “2k market “wants to earn more and more profit then ease of services, timely inventory, and introducing new products are important.

I am trying to analyze the following aspects from the provided data!

- 1- Products are in high demand
- 2- Products are least asked
- 3- Average amount of shopping (in one visit to 2k market, I shop almost 80 INR-120 INR)
- 4-Which company prefer by students for Personal, Laundry, Dishwashing and Household cleaning i.e., Colgate toothpaste over babul toothpaste.
- 5- Customer Visiting peak hour
- 6- Peak sales analysis week wise i.e., more sales on Saturdays compared to other days of week.
- 7- Payment method: Online or Cash
- 8- Sales trend of new product launching in store
- 9-Consumers are Choosing Multichannel Buying Experiences (i.e., Amazon/Flipkart)
- 10-Online order Analysis from different hostels.

Background of Problem

As “2K market” is a B2C retail business service provider. “2K market” regular product list for the general store are available in this [link](#).

On talking to customers of “2k market”, NIT Tiruchirappalli has a total of 3585(UG)+ 1511(PG)+ 1500(other courses) + 298(Faculty)= 6894 Human beings. Additionally, 4115 belong to Male gender. In online delivery requests by students, to offer fast service as NIT campus is spread on 800 acres with 22 boys and 6 girls’ hostels, we must be ready to deliver services in less time. In NIT Tiruchirappalli. More than 35% students are from North India, and they search for north Indian goods to buy, additionally the campus has 230+ foreign students which demands some new products.

In conclusion we could focus on different customer segments and improve sales by focusing on segment-wise requirements by delivering smooth and quick shopping for an experience.

Problem solving approach

Detail about methods used with justification

- **Define Problem**

1. Identify the problem
2. Main cause of Problem
3. Who is causing the problem
4. How competitor make problem more intense
5. Weakness of our competitor and us
6. Strength of competitor and us
7. Role of Data to solve the problem

- **Clarify the problem**

1. Factor for origin of problem
2. How data is related with the problem
3. How data can be used to solve problem
4. Other factors which affecting the problem

- **Define the Goals**

1. What we are trying to solve: sales and revenue increment
2. Customer Loyalty
3. Customer Satisfaction with fast and better experience

- **Identify the root cause of problem and develop action plan**

1. Why problem is causing

2. Who making the problem tougher
3. Main reason that problem is not solvable yet
- **Execute action plan**
 1. Implement action plan to address the problem
 2. Verify actions are completed
- **Evaluate the Results**
 1. Monitor and collect data
 2. Has the desired goal been achieved? if not then repeat the above steps
 3. If the problem is resolved, remove the activities that were added previously to contain the problem.
- **Continuous Improvement**
 1. Look for additional opportunities to implement solution
 2. Communicate the lesson learned

Methods for Data Analysis

I collected sales data from a shopping complex, where I was interested in analyzing data using MS-excel.

Some methods for justification which I will use:

- Diagnostic Analysis to answer pattern which is happening under point 8 “sales trend of new product launching in store”, does it relate with other factors like gender, hostel, timing, average amount of shopping, etc.
- Predictive analysis of sales trend for point no 1: “Products in high demand and low demand” and online order analysis from different hostels. The same analysis will be done while launching new products and purchasing responses by gender. Prediction of preferred company for products in future.
- Prescriptive analysis for point no 4: Which company is preferred by students for Personal, Laundry, Dishwashing and Household cleaning, to analyze which company products we should stock more. Bivariate analysis of the above point can be done with other points to check its dependency with other variables i.e., gender, timing, day etc.

- Statistical Analysis for variables like average amount of shopping by different genders, day timing and payment method. Statistical analysis will be done for variables like visiting peak hour, online order analysis from different channels.

Details about the intended data collection with Justification

As data collection is done through a shopping complex “2K market”, I have variables like sales of product, company of product, amount of purchase done by customer, timing of shopping, day of shopping, payment method, mode of shopping and other background variables.

I am interested in increasing sales of this shopping complex by analyzing data. We have a good student customer segment, and we should not let them go with MNCs for online shopping. We should make available products in advance which customers can think of. I personally am very disappointed because during emergency needs products are out of stock or not available. So, through analysis, I could help the manager Miss Yamini to make more profit.

Details about the analysis tools with Justification

I will use MS-excel to analyze the data with different tools. I will use tools like sum, average, ifs, sum if, countify, plot, Pivot table and other descriptive and visualization tools to analyze the provided dataset. Also, MS word and MS PowerPoint will be used for the presentation of results. I am excited to learn and present results to manage Yamini for better performance of the shopping complex.

Expected Timeline

Project Proposal	20 December 2022
Midterm Submission	30 December 2022
Final Presentation	20 January 2023
Project Viva	20-24 February 2023

Expected Outcome

I am hoping that the results will surely be helpful for the manager of the shopping complex to make effective planning for sales and Inventories. The Analysis recommendations will be helpful to increase revenue and customers will be more comfortable to get services. Also, big e-commerce companies like Amazon, Flipkart, Big Basket won't be able to capture customers of “2K market”. Some other points are:

- Effective Sales Planning
- Intelligent Inventory Planning with high operational efficiency
- Customer Satisfaction will Increase
- Increasing customer base and loyalty
- Brand Building of “2K Market”
- Spreading branches across other campus