

PROJECT REPORT
ON
AUTOMOBILE SERVICE CENTRE - PLA MOTORS
(REVENUE OPTIMIZATION)
FOR

REVENUE MANAGEMENT

Under the guidance of

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Master of Business Administration

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DECLARATION

We hereby declare that the project report titled “**Automobile Service Centre – PLA Motors**”, submitted in the partial fulfillment of the requirement for the award of degree of MBA, and is our original work.

This has not been submitted in part or full towards any other degree or diploma.

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MBA: 2010 - 2012

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1 OVERVIEW

To apply revenue management to PLA Motors to unleash the hidden and undiscovered profits. It includes cutting on the un-necessary costs incurred. This project aims at introducing revenue management plans into the existing system, forecasting techniques, new pricing strategies, introducing new products, classification of revenue classes, allocation of seats, revenue optimization and network optimization.

Expected Profit increase:

By implementing RM, **the profit is expected to increase by upto 50%** of the profit obtained without implementing RM.

The discipline of revenue management combines data mining and operations research with strategy, understanding of customer behavior, and partnering with the sales force.

PLA Motors faces important decisions regarding what type of services to sell, when to sell, to whom to sell, and for how much. Revenue Management uses data-driven tactics and strategy to answer these questions in order to increase revenue.

2 BACKGROUND OF THE COMPANY

PLA Motors is a leading service provider for Maruti cars in Central & Southern Tamil Nadu.

It has centres in Trichnapalli & Dindigul with a presence in Pondicherry.

Headed by Mr. M. Kalanidhi, PLA Motors aspires to be the first choice for customers when it comes to servicing of larger Maruti four wheelers like Maruti Suzuki. Instead of the usual cost based pricing strategy, they intend to position themselves differentiating from their competitors on the basis of their superior customer servicing riding on the back of their satisfied clients.

Maruti Suzuki is India's number one leading automobile manufacturer and the market leader in the car segment, both in terms of volume of vehicles sold and revenue earned. Until recently, 18.28% of the company was owned by the Indian government, and 54.2% by Suzuki of Japan. The Indian government held an initial public offering of 25% of the company in June 2003. As of 10 May 2007, Govt. of India sold its complete share to Indian financial institutions. With this, Govt. of India no longer has stake in Maruti Udyog.

Maruti Udyog Limited (MUL) was established in February 1981, though the actual production commenced in 1983 with the Maruti 800, based on the Suzuki Alto kei car which at the time was the only modern car available in India, its only competitors- the Hindustan Ambassador and Premier Padmini were both around 25 years out of date at that point. Through 2004, Maruti Suzuki has produced over 5 Million vehicles. Maruti Suzukis are sold in India and various several other countries, depending upon export orders. Models similar to Maruti Suzukis (but not manufactured by Maruti Udyog) are sold by Suzuki Motor Corporation and manufactured in Pakistan and other South Asian countries.

The company annually exports more than 50,000 cars and has an extremely large domestic market in India selling over 730,000 cars annually. Maruti 800, till 2004, was the India's largest selling compact car ever since it was launched in 1983. More than a million units of this car have been sold worldwide so far. Currently, Maruti Suzuki Alto tops the sales charts and Maruti Suzuki Swift is the largest selling in A2 segment. Maruti Suzuki has been the leader of the Indian car market for over two decades.

Its manufacturing facilities are located at two facilities Gurgaon and Manesar south of Delhi. Maruti Suzuki's Gurgaon facility has an installed capacity of 350,000 units per annum. The Manesar facilities, launched in February 2007 comprise a vehicle assembly plant with a capacity of 100,000 units per year and a Diesel Engine plant with an annual capacity of 100,000

engines and transmissions. Manesar and Gurgaon facilities have a combined capability to produce over 700,000 units annually.

More than half the cars sold in India are Maruti Suzuki cars. The company is a subsidiary of Suzuki Motor Corporation, Japan, which owns 54.2 per cent of Maruti Suzuki. The rest is owned by the public and financial institutions. It is listed on the Bombay Stock Exchange and National Stock Exchange in India.

During 2007-08, Maruti Suzuki sold 764,842 cars, of which 53,024 were exported. In all, over six million Maruti Suzuki cars are on Indian roads since the first car was rolled out on 14 December 1983.

Maruti Suzuki offers 15 models, Maruti 800, Alto, WagonR, Estilo, A-star, Ritz, Swift, Swift DZire, SX4, Omni, Eeco, Gypsy, and Grand Vitara. Swift, Swift DZire, A-star and SX4 are manufactured in Manesar, Grand Vitara is imported from Japan as a completely built unit (CBU), remaining all models are manufactured in Maruti Suzuki's Gurgaon Plant.

Suzuki Motor Corporation, the parent company, is a global leader in mini and compact cars for three decades. Suzuki's technical superiority lies in its ability to pack power and performance into a compact, lightweight engine that is clean and fuel efficient.

Nearly 75,000 people are employed directly by Maruti Suzuki and its partners. It has been rated first in customer satisfaction among all car makers in India from 1999 to 2009 by J D Power Asia Pacific.

Maruti After sale service:

Maruti Suzuki is one of the companies in India which has unparalleled sales and service network. As of June 2010 it currently has 800-plus dealerships across more than 500 cities in India. It plans to expand total number of dealerships to 1,000. To ensure the vehicles sold by them are serviced properly, Maruti Suzuki has 800-plus dealer workshops, 1,945 Maruti Authorized Service Stations and 30 Express Service Stations on 30 National Highways across 1,314 cities in India. The company is planning to expand the number of dealerships to 1,500 by 2015.

3 REVENUE OBJECTIVES OF THE COMPANY

Service is a major revenue generator of the company. Most of the service stations are managed on franchise basis, where Maruti Suzuki trains the local staff. Other automobile companies have not been able to match this benchmark set by Maruti Suzuki. The Express Service stations help many stranded vehicles on the highways by sending across their repair man to the vehicle.

- 1) Generation of incremental Revenue
- 2) Reduction in Cost
- 3) Simple and clear evaluation

4 **IMPORTANT FACTORS CONTRIBUTING TO REVENUE**

- Peak Days (Weekends/Holidays) vs. Weekdays
- Peak Hours (9 – 11 am, 5 – 7 pm) vs. Off hours
- Repeat vs. New Customer
- Early Booking (Booking Time)
- Warrantee
- Prioritized Service
- Differentiated Servicing (Based on Revenue Stream)

Other Factors:

- Promotions / special packs
- Change in fare
- Change in Traffic patterns
- Seasonality
- Competitor activity
- Market trends
- Holidays special events
- Economic conditions
- Schedule changes
- Hike in Fuel Costs

5 REVENUE VARIABLE & CAPACITY CONSTRAINTS

Revenue Variable:

- 1. Average Revenue Per Vehicle**
- 2. Average Revenue Per hour**

Capacity Constraints:

Bay Type	No of Bays	Max vehicles/day	Vehicles/month
Express	1	10	300
Two-Tech	3	8	720
Normal	4	2	240

The types of services offered by Maruti Suzuki Ltd are

- Free services
- Paid Services
- Running Repairs

6 AUXILIARIES

Free services are offered to new cars which have run 10000 km or age less than one year. The first free service is done at 1000 km or 1 month, whichever comes first. The second free service is done at 5000 km or 6 months and third free service is done at 10000 km or 12 months. The labor charges are not added in the free services. The other charges like Engine oil, Gear oil are imposed on the customer. The average oil charges come around Rs.750 per service. The average time taken for the free service is 1 hour.

Paid services are offered to cars which have run more than 10000 km or age more than 1 year. The average labor charge for a paid service is Rs.700. The spare part charge for the paid service varies with the km run. The Average spare part charges for the cars between 10000 km and 20000 km is Rs.1500 and for the cars greater than 20000 km is Rs.2500. The oil charges are also included in the paid services. The average time taken for paid service is 1.5 hours.

Running repairs are done on the cars which come with any faults in the Engine, Gear box, AC, or any other major repairs. The charges for repairs vary for each and every car repaired. The average charge for running repairs comes around Rs.9000 per car. The labor charges are added but there won't be any oil charges for running repairs.

There are 10 bays in the service station which we have visited. These bays are divided into 4 types.

Express Bay:

The free services and quick services are done in this bay. A maximum of 10 vehicles can be serviced in this bay per day.

Two-Tech Bay:

The paid services are done on the Two-Tech bay. It has the name 'Two-Tech' since there are 2 technicians allocated to that bay. A maximum of 8 vehicles can be serviced in this bay per day.

Normal Bay:

The cars with general repair or break down are serviced in this bay. A maximum of 2 vehicles can be serviced in this bay per day.

Support Bay:

Wheel alignment and AC services are done in the support bays. It is also used as Express, Two-Tech or Normal Bays in case of an emergency. 2 bays are allocated for support.

7 NEED FOR FORECAST

In service industries, it is known that demand for the product exhibits one or more patterns. It can be either cyclic in nature or it may follow some trend. This can be projected forward in order to estimate future demand in each market segment. Forecasting is done at 3 levels. 1. Constrained 2. Achievable 3. Unconstrained. Apart from doing forecasting at these 3 levels, it should also be done for no-shows, low levels, market influences.

Forecasting is the best tool to determine the optimum no. of bays to be allocated for each service being offered by PLA Motors. It helps maximize revenue and to minimize opportunity cost.

8 FACTORS INFLUENCING FORECAST

Seasonality:

The number of vehicles during the month of April, May and June will be higher than the other months. And more specifically, the number will be higher for the normal bays as they come for general repair. The reason is that a lot of vehicles will be passing through Trichy from Chennai to other places in south during vocation. So during those months, 3 normal bays will be allocated instead of 2.

During the weekends there will be rush for free services as the people find time to service their vehicle. So, one more bay will be added for Express.

During winter season, the number of vehicles for repair will be less. So, they encourage paid services during winter season where an extra bay is allocated for two-tech.

Current Forecasting:

Currently they use moving average method for forecasting. They take the previous year data of the same month and add 20 percent to that and arrive at the forecast of the current month.

9 PRICING STRATEGY

When it comes to free service, PLA Motors has to conform to the uniform price set by the Car Manufacturer, Maruti Suzuki in this case.

The free service includes only the oil charges which comes to around Rs.750 per service. The labor charges are not levied for the free service.

The paid service includes the oil charges of Rs.750, spare parts charge of Rs.1500 to Rs.2500 and labor charge of Rs.700. The paid service charges for the vehicles which have run less than 20000 km comes around Rs.3000 and for vehicles more than 20000 km, it comes around Rs.4000.

The charge for running repairs varies for each vehicle. The average charge for running repairs comes around Rs.9000.

Differential pricing

Prices are not the same for all customers. Different prices to attract different customers. Charge high end customers who are willing to pay premium for extra benefits attached. Offer price sensitive customers lower fare.

Value based pricing can be used in this industry and charge customers according to their perceived value. Competition based pricing should also be taken care a bit.

10 REVENUE CLASS FOR MAXIMING REVENUE

Of all the revenue classes' namely Normal bay, Express bay and Two-tech bay, the first one contributes to a greater margin but at the same time; the capacity to service them is limited. In any case, vehicles coming under Normal bay and Two-tech bay needs to be given preference over the Express bay.

Kindly refer to the Excel sheet named 'RM_Car Service' which will deal with Assumptions, Capacity constraints, Protection and authorized unit in each and every class. The problem has been worked out for the forecast demand on a given day.

11 SOLVING PROBLEM WITH EMSR

The Expected Marginal Seat Revenue (EMSR) is an estimate of a bay's economic value to the airline. It is defined as the average fare of a service bay multiplied by the probability of getting a vehicle in that booking class. EMSR logic is used to determine the optimal allocation of bookings under various booking classes.

Consider this example where the demand for Normal bay is 6 vehicles with an error of 2. So, the probability of getting 1st customer for the above mentioned forecast and error will be 0.9937.

Note: The probability will be calculated in excel as $1-NORMDIST(1,6,2,TRUE) = 0.9937$

Hence the EMSR for 1st seat in Normal bay will be the fare for that booking class multiplied by the above said probability.

12 ASSUMPTIONS

1. YoY Growth Rate will be 15% for the period of Jan-Oct and 10% for the timeframe of Nov-Dec.
2. Capacity to serve the vehicles is fixed.
3. Same level of technical expertise is needed to service the vehicles at different bays.
4. Vehicles will be serviced in the order of decreasing revenue not on the basis of 'First Come First Served'.

13 OPTIMUM DEMAND TO MAXIMIZE REVENUE

Let us consider the following forecast demand on any given day for a capacity to serve 20 vehicles,

CLASS	FARE	FORECAST DEMAND	Error
Normal	3500	6	2
Two-tech	2000	12	4
Express	650	10	3

With the available resources, it is quite important to maximize the revenue earned by applying 'Revenue Management' principles. And the final allocation is as below,

Avg Fare	Revenue Class	Class Protections	Authorized Units
3500	Normal	7	20
2000	Two-Tech	13	13
650	Express	0	0
Total		20	

The working part has been clearly shown in the excel sheet named 'RM_Car Service'.

14 RULES & RECOMMENDATIONS

- Give priority for the vehicles from which they get maximum revenue. For example if an Alto comes for the service, the charge would come around Rs.2000 but if a Swift is serviced, the charge would be around Rs.4000. So they give priority to swift customers.
- Charge a premium of Rs.500 if the customer expects the delivery of a vehicle within 1 hour.
- Offer bundled offers like Teflon coating, rubbing polish and under chase anti rust coating at a reduced price.
- Provide a reduction in the total amount if the customer has serviced the vehicle for past 5 times in their service station itself.
- A special discount can be given to the customers who bought vehicles from other showroom and give for servicing here

Revenue Opportunity model can be used to measure the effectiveness of revenue management. To explain further, we first need to measure the revenue obtained by allowing the vehicles to be serviced on the basis of their arrival pattern till the capacity is reached. On the other hand, revenue need to be calculated on the basis of vehicles giving 'decreasing revenue' till the constraint point is touched. If the latter is greater than the former, it is understandable that the 'Revenue Management' techniques have yielded good results. In this case, the revenue opportunity metric which is the difference between the revenue achieved by deploying RM techniques and the revenue obtained in normal course of action will become the measure of effectiveness.

- RMS** – **Revenue Management System**
- YM** – **Yield Management**
- EMSR** – **Expected Marginal Seat Revenue**
- MUL** – **Maruti Udyog Limited**
- RASKM** – **Revenue per Available Seat Kilo Meter**
- SLA** – **Service Level Agreement**

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