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Case

Tactical Decisions at Vastrapur Car Rental Services

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"Taking into account favorable business conditions, I started Vastrapur Car Rental Services (VCRS) two years before in Ahmedabad, Gujarat State, India. Ms. Bhargava, we are happy that you have chosen to intern with a start-up like ours. After familiarizing yourself with our operations and our administrative set up, I would like your advice in helping us make some tactical decisions.

Since our inception, the demand for car rental services in Ahmedabad has been steadily increasing. In fact, there have been days when all our cars would be out for trips and we had to turn down customer requests. Given the favorable market conditions, I am wondering if we can do any better. Rental car business is rapidly expanding and newer business formats are emerging. So, as you work on our daily revenue estimates, I also want you to evaluate some opportunities available for us."

—Ashwini Patel, Founder, Vastrapur Car Rental Services.

Vastrapur Car Rental Services, Ahmedabad

Ahmedabad is the largest city in the State of Gujarat, India with more than 6 million inhabitants in 2015. Being one of the fastest growing cities in the world, the public transportation network has been unable to adequately cater to the needs (of the public). The lack of viable ground transportation alternatives has made car rental services a preferred choice. Accordingly, several micro enterprises have mushroomed to take advantage of the commercial opportunity.

Ashwini Patel was born and reared in the city of Ahmedabad, Gujarat State. After graduating in Commerce from Gujarat University in 2010, he joined his father to help him manage the auto spare parts business. After working with his father for about five

years, Mr. Patel incorporated Vastrapur Car Rental Services (VCRS) in March 2015 as a sole proprietorship company.¹

A full-time receptionist, who also served as the telephone operator, managed the day-to-day operations of VCRS. The primary job of the receptionist was to acknowledge and receive customer orders by telephone and find an appropriate vehicle to meet the customer requirements. A part-time certified accountant kept records and accounts of VCRS.

VCRS, in Vastrapur Lake area on the outskirts of Ahmedabad, started its commercial operations with a fleet size of five vehicles. Based on the business model proposed by VCRS, a state-owned bank advanced 80% of the cost of vehicles as a long-term loan. Each vehicle cost ₹5,00,000^{2,3} (\$8,000 approx.).

Swathi Bhargava is from the capital city of Bangalore, Karnataka State. She received her Bachelor's degree in automobile engineering (2014) from Bangalore University. In 2015, she was pursuing her MBA at a management institution in the western part of India. She aspired to start her own business after completing her education.

Swati met with Ashwin for a brief introduction to VCRS. In the next few days, after interacting with the receptionist and the accountant, she collected information related to VCRS operations. (See Exhibit 1.)

Meeting with Ms. Jahnvi Trivedi, Receptionist

Swati met with Ms. Jahnvi Trivedi, who handled the rental reservations usually by telephone, to learn about the daily operations of VCRS.

Swati: How many customer requests does VCRS get in a day?

Jahnavi: We get anywhere between 0 and 10 calls a day. About 50% of the time, we receive about 3–5 calls, 4 being the most common. Please take a look at our call history.

Swati: I see. What happens if there is a customer request when all the cars are out on calls?

Jahnavi: This happens very rarely and if it does, we ask for the customer's contact details so that we can call them back as soon as one of our cars comes back. Customers are generally patient, and wait for one of the cars to come back. If we know the cars would not return by the end of the day, then we politely turn down the customer request.

Swati: Thank you. I had a look at your current options (refer Table 1). Are the limits on distance and time (parameters) specified in the option strictly adhered to by the customers?

Jahnavi: Usually the limits attributable to the option are respected. But about 30% of our customers do tend to go over the limits.

Swati: How do you bill the customers when they go over the limits? How do you account for their excess use? Do you charge them at the next higher option?

Jahnavi: No, we just prorate it. If the customer exceeds the limits on distance, the distance use is rounded to the nearest tens of km. For time, it is rounded to the nearest hour. The excess use is then prorated at the rate of ₹25 per km and ₹150 per hour for final billing.

Swati: Yes, that will make the billing easier. From your experience by how much do they exceed the limits?

Jahnavi: That varies a lot. Irrespective of the option they choose, about 20% of the customers exceed both the option parameters. Fifty percent of these customers are billed for an excess use of 20 km and 2 hours as they almost reach the maximum limits of the next higher option. The remaining 50% of the customers (who exceed both the parameters) are billed for an excess use of 10 km and 1 hour. Among the 80% customers who exceed only one of the option parameters, one quarter of them exceed the distance limit and three quarters exceed the time limit. They are respectively billed for an excess use of 10 km and 1 hour. (Swati summarizes the excess use information in Exhibit 2.)

Swati: I noticed that you have five different options. Do you really need all of them?

Jahnavi: Each option has its own takers. Option 3 is the most popular. About one in three customers opts for Option 3. You may look at our records to get an assessment of the demand pattern.

Tactical Decisions at VCRS

Before leaving the city for a week, Ashwin elaborated on the tasks he had for Swati. Following is an excerpt from their conversation.

"At VCRS, we meet customer requests based on first come first served basis. Besides being simple, since we are not sure of future requests this is the best thing we could think of. While I am looking forward to an increased demand for our services, I am also concerned about the impact of demand fluctuations on our revenue.

If you observe the options we have, you will notice that multiple trips, that is, multiple customer requests, can be handled by the same car. But the drivers⁴ demand an additional allowance of ₹300 when they do two trips in a day. I have kept this issue down so far. But sooner or later I need to take a stand. I am not sure if we can afford to entertain this request. Alternatively, based on the financial impact, if there is negotiation with the drivers, I would like to know what the maximum additional wage is that we can pay to our drivers for executing two trips.

With a fleet size of five, as you observed from our records, we have been able to meet demand on most days. But sooner or later we are going to fall short and will need to turn down customer calls, as our cars would not return in time to attend the request. When all of our cars are in use, I know a dealer from whom I can outsource vehicles at short notice, on a need basis. Finding a driver is not a problem for us. The dealer charges us a flat fixed fee per transaction. What is the maximum fixed fee per car for which we can consider such an option?

Instead of dealing with different options and customer requests, my uncle has been urging me to consider subscribing to an online integrator who provides rental car services. Let me explain how it works. VCRS will offer availability of its vehicles to an online platform. Customers make rental reservations directly through the integrator and the payments are made by the customers to VCRS, that is the driver, at the completion of service. The integrator tells me that a typical demand per car is for 100 km per day and the customers are asked to pay at the rate of ₹20 per km. He guarantees that all five cars will be out every day. The downside is the variation in the mileage. It can range between 25 km and 175 km⁵ per customer request. When I look at the average figure of 100 km at the rate of ₹20 per km, it looks very promising but I am not sure. I am not entirely convinced by this proposal. If I go with this option, I would have to pay each driver a standard rate of ₹550 for an 8-hour shift. Furthermore, VCRS is required to pay a subscription fee of ₹3,000 per month per car to the integrator.

I need your advice, supported by adequate data and reasoning, in evaluating these important decisions of VCRS."

Swati's Approach

Swati was expected to meet Ashwin on his return in about a week. Each context and decision opportunity discussed by Ashwin has its own merits and disadvantages. With a booming rental car market, certain adjustments should be done in VCRS' present business model. As a first step, she wanted to estimate the net revenues for each of the scenarios to formulate her advice to Ashwin.

Her next task was to compute the expected daily average contribution, i.e., (Revenue – Variable Expenses) for VCRS.

If the trip requests are governed by the distribution in Tables 2 and 3, Swati thinks about the number of different revenue realizations possible every day.

She begins by fixing the number of calls received in a day. For instance, if there are 3 customer requests, then there could be 3 requests for option 1 or, 3 requests for option 2 or, 2 requests for option 1 and 1 request for option 2, and so on. In other words, there will be 125 ($5 \times 5 \times 5$) different combinations in which 3 customer requests could come. Similarly, if there are 10 customer requests, there are 5^{10} different combinations in which 10 customer requests could come.

Even if all the three customer requests are for option 3, there is the added complication of some customers exceeding the limits. The net revenue would thus depend on the number of calls, option type, and

the actual customer use. She is a little taken aback by the sheer number of combinations she must consider in her computation. Each combination would yield a different revenue figure with an associated probability.

After thinking about the problem for a while, she was convinced that there should be a simplified approach to compute the expected contribution/profit by taking advantage of the independent and identical nature of the revenue generated by each call.

Acknowledgments

The case has been developed solely for the purpose of class discussion. The case is not intended to serve as a source of primary data, or illustrations of effective or ineffective management.

Endnotes

¹ A sole proprietorship is a company run by a single person in which there is no legal distinction between the owner and the business.

² The Indian Rupee (₹) is the official currency of India. The exchange rate for 1 USD is approximately equal to ₹63 (as of 2015); in terms of PPP, 1 USD is approximately equal to ₹18 (as of 2015).

³ The Indian numbering system groups the rightmost three digits and then groups every *two* digits.

⁴ Refer to the footnote in Exhibit 1 for the role of drivers.

⁵ It may be easier to consider this as $\pm$ three standard deviations for a Normal distribution (mean = 100, SD = 25) within which most of the scenarios are covered (99.7%).

Exhibit 1⁶

VCRS currently provides five options under which a person can rent⁷ a car. The following table presents the option features and associated price.

Table 1. Option Features

Option #	No. of Km (max)	No. of hours (max)	Price (₹)
1	20	2	1,000
2	40	4	1,250
3	60	6	1,500
4	80	8	1,800
5	100	10	2,000

Source. Conversation between Swati and Jahnavi.

Based on company records for the past three months, Swati summarized the demand distribution in Tables 2 and 3.

Table 2. Demand Share of Various Options

Option #	1	2	3	4	5
Percentage	10	25	30	25	10

Source. Compiled from internal records of VCRS.

Table 3. Number of Calls in a Day

#	0	1	2	3	4	5	6	7	8	9	10
%	3	5	7	10	15	20	15	10	7	5	3

Source. Compiled from internal records of VCRS.

VCRS pays its drivers a daily fixed wage of ₹200 (irrespective of whether they go out on a call).

VCRS incurs ₹8 per km on fuel and maintenance expenses related to a vehicle.

Interest charge is 1.5% per month.

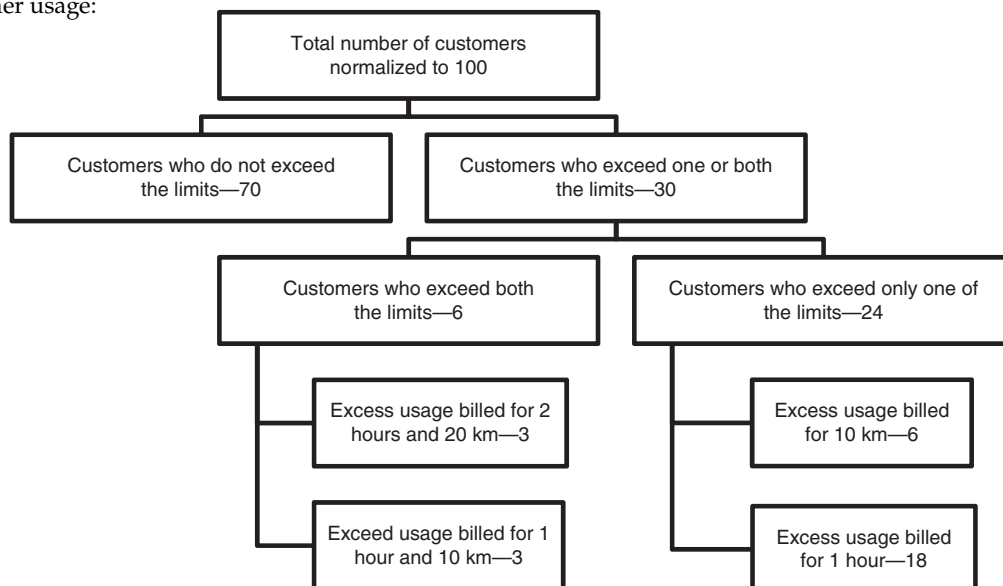
Staff wages (Receptionist + Accountant) are ₹30,000 per month.

The variable wage component of drivers is as follows:

- For options 1–3, ₹50 per hour of option limit.
- For options 4 and 5, ₹50 per hour for the first 6 hours (Option 3 limit) and thereafter, ₹25 per hour of option limit beyond 6 hours.
- The variable component is NOT adjusted for the actual use by the customer. The customer's actual use may be higher or lower than the option limits. This does not affect the drivers' pay.
- For Options 4 or 5, since the drivers are engaged for a longer duration of time, they are paid an *additional* fixed allowance of ₹200 per trip.

Exhibit 2

Actual customer usage:



Source. Conversation between Swati and Jahnavi.