Kamal Automobile Repair Shop: Resource Allocation

Kamal Automobile Repair Shop, located in Hyderabad, deals with repairing of different automobiles like cars, bikes, auto rickshaws and vans.

The shop has grown continuously since its inception in 1984, offering the best service to its clients. Its main objective is to build long-term relationships with its clients. The shop claims that it is a one-stop shop for all types of vehicle needs. The shop even has a customer-waiting lounge wherein the customers can relax with a coffee while their car is being repaired. They even have the facility of picking up the car for repairing and delivering it either at the customer’s home or office. The shop has been in this business for more than 15 years.

The staff and the mechanics in the shop take great pride in the excellent reputation they have developed with the customers in and around Hyderabad. The shop asserts that, unlike its competitors, its staff is trained to know the personal difficulties and disturbances that accompany an accident and therefore, they have a different approach in treating the automobile and the entire refinishing process. The shop’s main goal is to serve its customers with an outstanding customer-oriented service. As such, they even train their personnel in gaining good command in their specific field of knowledge.

Usually, a mechanic needs to possess the ability to work with hand tools, and is expected to have sound technical knowledge and skill as well as problem solving skills. The mechanics at Kamal Automobile Repair Shop were experts and were efficient workers, with all the needed prerequisites.

As far as the mechanics at the Kamal Automobile shop are concerned, they are always guided by their amicable and inspiring owner Jagadish Sharma (Sharma). He always advises his mechanics to constantly update their knowledge with the changes in the motor industry. Since its inception, the workshop has increased its customer base every year through its best service. From 2003 onwards, the customer base started increasing manifold and Sharma was unable to cater to all his customers. So he started outsourcing his projects to nearby small mechanics.

This case study was written by Sravanthi Vemulavada under the direction of R. Muthukumar, IBSCDC. It is intended to be used as the basis for class discussion rather than to illustrate either effective or ineffective handling of a management situation. The case was compiled from published sources.

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However, due to the recent financial crunch, Sharma has decided to cut additional costs. One day, Sharma is faced with the dilemma of assigning projects to three different mechanics, at the same time cutting costs to the maximum extent possible. There are three vehicles to be repaired – a car, a bike and an auto rickshaw and there are three senior mechanics named Ravi, Raja and Ram available to do the job. All these three mechanics are adept in their own specific set of skills and capabilities. Sharma has estimated what it will cost in wages to assign each of the workers to each of the three projects (Exhibit I).

### Exhibit I
**Duties and Tasks to be Performed by the Mechanics**

- Discussing the problems with all the vehicle operators in order to find out the faults, fixing and operating the special test equipment and taking a test drive of the vehicles
- Checking, repairing and if necessary, replacing, all the worn out parts by removing assemblies such as engines, steering gears, etc
- Testing, cleaning and fitting the parts (or assemblies) using various tools and referring to the manuals as and when necessary
- Fine-tuning engines using special electronic equipment and making fine adjustments for smoother running
- Carrying out all the minor repairs
- Using oxy welders, electric welders and even the special welders
- Examining and repairing electrical systems such as lighting, instrumentation, ignition and electronic fuel injection
- Checking vehicles and issuing roadworthiness certificates or listing the work required before a certificate can be issued.

Prepared by the author

The costs, differ because Sharma believes that each worker will differ in speed and skill while performing these quite varied jobs (Exhibit II). However, only one project can be assigned to each of the mechanics. How can Jagadish achieve his objective of assigning the three projects to the mechanics in a way that will result in the lowest cost to the shop?
Questions for Discussion

- What is the optimal assignment of the projects?
- Find out the cost at which all the three workers can finish their projects by costing minimum to the shop.