

Retro Automation Solutions

Retro Automation Solutions (RAS) is a New Delhi based mid-sized industry which manufactures a variety of industrial and automation tool. Mr. Gaurav Kaushik is the product head of CNC machine tool division of RAS.

RAS operates in B2B domain and supply CNC tools to large Indian and multi-national manufacturing companies. CNC machine tools are used to perform a variety of manufacturing operations. Since the manufacturing processes where CNC tools are used are very complex, the customers of RAS demand very high quality specifications in multiple attributes. Gaurav's task is to first identify the attributes which are most important to customers, and then identify the levels for each attribute that the company is willing to design and offer to a customer.

As per the market research team and his previous sales experience, Gaurav has identified three attributes of a CNC machine tool that are important:

- 1. Setup time in minutes:** This is the time it takes to prepare or setup the machine for operations.
- 2. Delivery period in days:** This is time manufacturer needs to deliver after the customer has placed an order.
- 3. Number of different tools the machine can accommodate:** This is a measure of machine flexibility in performing different operations.

The levels of operation of these attributes are:

- 1. Setup time** – 3 minutes, 6 minutes, 9 minutes, 12 minutes (4 levels)
- 2. Delivery Period** – 18 days, 22 days, 28 days (3 levels)
- 3. Number of tools** – 4, 8, or 10 (3 levels)

Since we have 4, 3, and 3 levels of the three attributes, we get a total of $4 \times 3 \times 3 = 36$ different combinations of attribute levels.

Questions:

1. Help Gaurav to determine the importance of each attribute from a potential customer's point of view.
2. Gaurav also wants to know that how much utility a customer derives from a given combination of these levels of attributes.