

Animation 1.3

A useful way of understanding how a business works is to analyse the 4V's, namely its volume of output, the variety of product or service offered, the variation in demand and the variability in terms of how much customisation is possible. We can see the impact the 4 V's has on an operation by comparing the customer processing and materials processing sectors.

Firstly we will consider two different kinds of operation in the restaurant sector.

A typical fast food restaurant may serve up to 30,000 customers per week which is a high volume. The menu is fixed and has relatively few choices giving limited variety.

Demand varies throughout each day with peaks at breakfast, lunch and dinner times.

There is no variability as it uses standard ingredients and recipes, which ensures that every item sold is consistent in quality.

A fine dining restaurant may only serve 700 customers per week but there will be a high variety. The menu will have a wide choice of different dishes which may change from one week to the next depending on what food is in season.

Demand is managed by opening at certain times and by only taking reservations.

It will offer some variability by cooking food to customers' specification.

In the automotive sector, Toyota is a global company with 53 factories making 22,000 cars per day over 40 different product types.

It has many suppliers and employs 300,000 workers. Demand is virtually continuous.

There is some limited variability within each model.

Lotus has a much lower volume, having made 29,300 Lotus Elise in 16 years, roughly five per day.

It has four models of sports car made in a factory in Norfolk, employing nearly 1,300 people and using many local suppliers. Demand for these cars is relatively constant and there is individual customization possible within the manufacturing process.

Despite these differences both Toyota and Lotus are at the leading edge of automotive engineering.