

Operations Management

Introduction to Operations Management

Operations management is an area of management concerned with designing, and controlling the process of production and redesigning business operations in the production of goods or services. It involves the responsibility of ensuring that business operations are efficient in terms of using as few resources as needed and effective in terms of meeting customer requirements.

It is concerned with managing the process that converts inputs (in the forms of raw materials, labor, and energy) into outputs (in the form of goods and/or services). The relationship of operations management to senior management in commercial contexts can be compared to the relationship of line officers to highest-level senior officers in military science.

The highest-level officers shape the strategy and revise it over time, while the line officers make tactical decisions in support of carrying out the strategy. In business as in military affairs, the boundaries between levels are not always distinct; tactical information dynamically informs strategy, and individual people often move between roles over time.

History of Operations Management

The various contributors who have played a very important role in the formation and also the development of operations management are as under:

1. Adam Smith (1776)

The world has observed Adam Smith as one of the world's best Scottish economist – who was the very first person to draw some attention towards the scientific operations management. He was the one for advocating the importance of division of labor in his book 'The Wealth of Nations'. According to Adam Smith the division of labor was a very handy tool having the following benefits –

- Higher skill accompanied with greater degree of dexterity is achieved by the workmen who are performing work in repetition.

2. Charles Babbage (1883)

The English mathematician Charles Babbage was the first one to follow the concept advocated by Adam Smith. He advocated the concept of specialization of tasks as the next stage (logically related) to the division of labor. Babbage considered specialization in tasks as a very important advantage of the division of labor.

3. F.W. Taylor (1859 to 1915)

F.W. Taylor is known as the father of scientific management – he was the one who explained the concept of functional management. Four duties of management given by Taylor are:

* Work is to be divided between the workers and the management – each of them has to take responsibility for the work for which each is best suited.

* Science of every element of the work done by man is developed in order to replace the old rule-of-thumb methods.

The four principles discussed above over a period have developed into great expansions, and without these four expansions the organization is inconceivable. Taylor also contributed towards the work of direct advantage to operations management.

The rules devised for time study by Taylor are as follows: –

- (a) Every element of the task under study should be analyzed.
- (b) Examination of the elements should take place and the one found not to be a part of the work cycle should be dropped.
- (c) Timing of the elements should be accurate and should be done with the help of a stop watch.
- (d) Classification of elements should be done carefully, leading to convenience for future reference.

4. Frank B. Gilbreth (1917)

Frank B. Gilbreth is known as the founder father of work study. He laid emphasis on explaining the importance of the correlation between the physical effort and the operators output through his two books 'Motion Study' (1911) and 'Applied Motion Study' (1917). He was the one to devise a very famous method for the classification of motions into 17 basic divisions, referred to as Therbligs by him.

5. Henry Ford (1913)

The concept of mass production and organized work stations into a conveyerised assembly line was given to the world by Henry Ford.

6. Henry Gantt (1913)

His main contribution is the "Gantt chart" – which is a very important practical tool even in today's world, in order to chart the production schedules and also the machine load schedules.

7. F.W Harris (1914)

The first economic lot size (EOQ) model was developed by Harris – F.W Raymond also made a very important contribution in this regard.

8. Walter Shewhart (1924)

In 1924 Walter was the one to introduce the concept of statistical quality control.

9. F.H Dodge (1931)

Developed the concept of sampling inspection and published statistical sampling tables.

10. L.H.C Tippett (1937)

The phenomenon of work sampling was developed by Tippett in order to know the manpower and machine utilization and also for setting performance standards.

What does Operations mean?

The term Operations is generally used as an umbrella term to refer to the corporate area responsible for actually producing goods and services.

This includes all the activities required to create and deliver a product or service, from selecting suppliers and/or raw materials to supply chain management and distribution.

The organization of these different activities within the company implies a vision of the business as different processes. Of all the corporate divisions, operations tends to require the greatest number of employees and assets.

Generally in charge of product and service quality, operations is also the key basis on which the company's long-term performance rests.

For this reason, operations is increasingly seen as a source of competitive advantage because correctly managing this area is fundamental to ensuring the company's carefully crafted strategy becomes reality; without operations, corporate strategy would run the risk of remaining a merely theoretical exercise.

Operations Management Definitions

There are many differing definitions of operations management; we have picked a range for you to look at below. Depending on your specific area of operations management, some may suit your role or understanding better, but overall they all make a similar point.

- The efficient and effective implementation of the policies and tasks necessary to satisfy an organisation's customers, employees, and management (and stockholders, if a publicly owned company)
- The management of systems or processes that create goods and/or provide services
- "The on-going activities of designing, reviewing and using the operating system, to achieve service outputs as determined by the organisation for customers" (Wright, 1999)
- Management of main business activity: the organising and controlling of the fundamental business activity of providing goods and services to customers
- Operations management deals with the design and management of products, processes, services and supply chains. It considers the acquisition, development, and utilisation of resources that firms need to deliver the goods and services their clients want.
- Tactical issues include plant layout and structure, project management methods, and equipment selection and replacement. Operational issues include production scheduling and control, inventory management, quality control and inspection, traffic and materials handling, and equipment maintenance policies.

Two key Terms for Operations Management

There are two big terms that can help answer the question of what is operations management more precisely: **supply chain management** and **logistics**. Operations management has firm foundations in both areas. For example, understanding global trends in supply chain management in order to meet client demand is often critical. With logistics, the careful and considered use of resources, as well as cost-effectiveness, has become increasingly important in an era in which resources can often be in short supply and customer expectations have skyrocketed.

Skills Required of an Operations Manager

There are strong parallels between the skills required for effective operations management and those needed in both logistics and supply chain management. Consummate organizational ability is crucial in successfully enhancing efficiency and driving productivity as an operations manager.

One must be able to understand the series of processes within a company in order to get them to flow seamlessly, and in this sense the role is directly related to supply chain management. Meanwhile, the coordination involved in setting up these processes in practice represents logistics; the combination of understanding and coordinating the work of a company are therefore central to being a successful operations manager.

Benefits of Operation Management

The discipline offers various benefits, including better profitability tracking, manufacturing expertise and regulatory compliance.

Profitability Management

- Sound operations management causes corporate leadership to challenge conventional wisdom or employees' sense of what's operationally correct. Simply put, senior executives rely on this activity to question existing processes and ask personnel to come up with new ideas to do business and increase sales. In fact, companies with experienced, competent operations managers are generally adept at monitoring their revenues and expenses. They do so by delving into corporate statements of income, profitability trends and budget reports, to name a few.

Competitive Advantage

- Businesses adequately manage their operations to get a handle on key internal and external factors. Internal factors include operating policies, intellectual capital and the average attrition rate. This reflects the number of employees leaving as a result of resignations, retirements and deaths. Forced workforce reductions, such as terminations, do not count as attrition-rate components. Intellectual capital represents various abilities, expertise and knowledge that a firm has gathered over time. External factors that

operations managers heed include the state of the economy and rivals' strategies. By helping a firm understand its internal and external conditions, operations management improves the company's competitive standing.

Manufacturing Edge

- Operations management allows a manufacturing firm to change or improve the way it produces goods, as well as how it stores items such as raw materials, work-in process merchandise and completely finished products. This important benefit helps the manufacturer prevent a deterioration in debt affordability, which may happen if the firm incurs losses and cannot repay its existing liabilities.
- Manufacturing tools used in operations management include computer-aided production software, defect-tracking programs, warehouse management software and process re-engineering applications.

Regulatory Compliance

- By studiously analyzing operating activities, corporate management waves goodbye to the days of hefty government fines and adverse regulatory decisions. Department heads and segment chiefs set adequate internal controls to make sure rank-and-file personnel perform tasks in accordance with the law.
- For example, adequate operations management helps improve workplace safety, a key criterion that the U.S. Occupational Safety and Health Administration watches closely.

Role of Operational Manager

Management of Resources

Operations managers play a leading role in managing both raw materials and personnel. Oversight of inventory, purchasing and supplies is central to the job. Human resources tasks include determining needs, hiring employees, overseeing assignment of employees and planning staff development.

Financial Management

Operations managers play a key role in budgeting, controlling costs and keeping the organization on track financially. Their management of the supply chain and other resources helps minimize costs of production. They study business forecasts, sales reports and financial statements to find ways to maximize results. They use methods such as cost-benefit analysis to improve efficiency. Modern operations management even includes sustainability in the financial equation.

Goal-setting

Operations managers set goals and objectives and establish policies for various departments in the organization. For example, operations manager duties include sales forecasting and planning of sales promotions. In cooperation with other managers, they help establish procedures and put them into effect.

Communications

Operations managers need good communication and interpersonal skills to help the different parts of an organization work together. Their job includes creating a positive culture where the work can get done. They facilitate communication between employees and departments. At times, operation managers help resolve disputes or disagreements. Operations managers cooperate in high-level decision making with other top executives of an organization, such as the president, chief financial officer and chief executive.

Salary

Operations and general managers averaged an annual income of \$113,100 in 2010, according to the Bureau of Labor Statistics. Managers at the 10th percentile received \$47,280 per year, while those at the 75th percentile got \$142,030 per year. The government does not report a specific figure at the 90th percentile, stating only that it was at least \$166,400 annually.

Disadvantages of Operations Management

Operations management depends on many different components within the organization working together to achieve success. Even if operations management implements an effective plan, if operations management does not carry out the plan properly, the plan will most likely fail.

Within an organization, mistakes often occur during the chain of events from manufacturing to sale. Therefore, operations management requires the coordination of operation functions, marketing, finance, accounting, engineering, information systems and human resources to have success within the organization.

This poses the primary disadvantage of operations management because if an organization's individual components do not work well together, operations management will have limited success within the organization.

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