

# Industrial Engineering and Operations Management

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**ABSTRACT:** Industrial Engineering and Operations Management should get more importance than they currently do. Honestly, I am not much of an engineer, though I have had education at IIT, Bombay, which is in same league as MIT, USA. And while I have made a career as a software engineer, due to lack of attention to detail, I could not excel there either. However all that engineering back ground has not been of waste, since I am now pursuing PhD in Industrial engineering from University of Portsmouth, United Kingdom.

Cheaper by the Dozen - a 1950 Hollywood movie, was about the life of Gilberts. Frank Gilberth is the father of what is now known as Scientific Management with its methods of time and motion studies to achieve efficiency.

The other contributor to the area of scientific management is Frederick Taylor, who in his book - "The Principles of Scientific Management" - said that by simplifying and optimizing jobs, productivity could increase.

Now both Frank Gilberth and Frederick Taylor made their contributions in the early part of the 20th century. Since then management and business administration have started to occupy greater space in academic and business circles. Concurrently Industrial Engineering and Operations Management are also starting to make inroads into businesses and factories.

Now Industrial Engineering can be defined as the optimization of complex processes, systems and organizations of people, machines and materials. Operations Management is concerned with controlling the process of production and redesigning business operations in the production of goods and services.

Both Industrial engineering and operations management are very similar. Though some would argue that Industrial Engineering is a branch of Engineering whereas, Operations Management is a specialization in Management.

Either way neither Industrial Engineering gets central stage in Engineering, nor does Operations

management gets adequate importance in Management.

This is sad. Because admittedly in Engineering - the technologies such as civil engineering, mechanical engineering, computer engineering, electrical engineering and electronics and telecommunication engineering are important in production, the design of systems and processes as entailed in industrial engineering is equally important to induce efficiency and productivity to enhance profitability.

Similarly in management, no doubt finance, marketing, and human resources are tremendously important, but operations management can induce efficiency that can increase production, reduce costs and enhance profits.

Now in India almost 1 million engineers are trained every year. But it is safe to say that less than 3% are trained in industrial engineering. Similarly, at least 0.5 million students get an MBA every year and yet less than 2% get Operations Management Specialization.

This is not just sad but also somewhat stupid.

Because what differentiates one organization from another is not technology but the way technology is deployed in systems and processes. Similarly, marketing, finance and human resources cannot deliver the efficiency of operations management.

Look at around you there are so many examples of inefficient and sub optimal systems and processes. For instance:

1. There are so many online shopping portals. Would it not be better and cheaper if they deliver through a common system - say the postal system
2. Would it not be better if shops in Europe and America stay open after office hours and remain closed during office hours to coordinate sellers and buyers?
3. What if all banks are compulsorily made online, thus reducing costs of banks and thus reducing interest spread between borrowers and lenders.

4. What if offices and factories moved from the city centre to the suburbs, would that not reduce traffic congestion and crowding in one direction?
5. What if a compulsory 4 day week with 50 day vacation is imposed? Would that not increase leisure without reducing production?

Industrial Engineering and Operations Management is a place where Engineering meets Management. And somehow neither engineers are comfortable with neither management nor are management professionals too keen on engineering. But herein lays the possibility of cost savings thus benefiting employees, organizations, consumers and thus society, nation and economy.

If Industrial Engineering and Operations Management has to be reduced to one word then it would be OPTIMISATION. And OPTIMISATION roughly means making the best use of everything. When all resources are scarce - men, machine, money, time, material - making the best use of all these resources is the only way to improve productivity and efficiency. Of course, businesses do have roles for industrial engineers and operation managers. It is just that emphasis on industrial engineering and operations management does not commensurate with its importance and potential.