Engineering Management

✓ “Managing in engineering environment with the application of engineering principles, organizational and people skills to the delivery of engineering-base results.

✓ Engineering management position can be connected to long career leaders. (leading to senior management positions such as director of engineering, director of manufacturing or VP marketing)

✓ Broader issue of the enterprise, requiring more interdisciplinary, integrative, and strategic business skills, which span the wide spectrum of technology areas within the company and across the boundary.”

Skills for engineering management

• "(Badawy talks) About the skill mix needed by engineering managers, which are defined as technical skills, interpersonal skills, and administrative and conceptual skills.

• (In Thamhain’s book) on engineering management, he also describes three very similar skill categories: leadership skills, technical skills, and administrative skills.

• (Babcock) Some writers would use a narrow definition of “engineering management,” confining it to the direct supervision of engineers or of engineering functions. This would include, for example, supervision of engineering research or design activities.”


Five important reasons for engineers:

1. “Trend to give engineering management assignments earlier and earlier in a new engineer’s career.

2. NewABET 2000 recently published by the Accreditation Board of Engineering and Technology requires engineering management skills in the undergraduate curriculum (which generally precedes the first stage of an engineer’s career).

3. Everyone is looking for a competitive advantage, including the assumption that better technologies and their rapid deployment and use can be that edge.

4. Essentially changed engineering into a team sport. Being successful in a team environment requires more engineering management skills than technical skills.

5. Global competition has required that companies be at least equivalent in quality according to some international standard, such as ISO 9000.”

Dual career ladders occasionally found in high-tech companies.

1. Considered technical.
-technical ladder, one can generally stay in a narrow area of technical expertise (generally a core competence of the company) and still receive pay and promotions similar to the more typical path.

2. Normal or typical.
-In the typical path, the engineer generally moves from technical problem-solving to supervisory and managerial issues, and on then to business and industry issues.

Career phases:

1. **Engineering Phase**
   
   ((0-5) years with technical skills for engineering)

2. **Engineering Management Phase**

   ((5-25) years with Interdisciplinary skills for Engineering Management.)

3. **Management of Technology Phase**

   ((25-30) years with integrative business skills for Management of Technology.)
• Able to compare the different ideas of authors such as Hans J. Thamhain and William J. Lannes.

• Over all this is a good article, all the necessary information about engineering management skills, the different responsibilities for management levels are explained in this article.

• This article provided the differences between MSEM, MBA and MOT. Especially, this review provided me necessary knowledge and it is very necessary for me to know “How to do a plan to improve with my career paths?”

Any Question Please?

Thank You!