

**SUBJECT: ENGINEERING MANAGEMENT**

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**ASSIGNMENT # 01**

**Question 01:** Discuss how engineers can play a significant role in driving innovations that will benefit customers and increase profits for the firm?

**ANSWER:**

By designing new goods, enhancing old products, optimizing production processes, utilizing technology, and assuring safety and regulatory compliance, engineers can create innovations that benefit customers and boost profitability for the company.

Engineers can contribute to developing an innovative culture that benefits the company's long-term performance by collaborating closely with other departments.

Engineers are equipped with the technical expertise required to create new goods, enhance existing ones, simplify procedures, and carry out research and development. In doing so, they can give the business a competitive edge in the market and assist it in meeting the demands and wishes of its clients.

By working with product managers, designers, and other stakeholders to build new products, reviewing product performance to pinpoint flaws and propose remedies, streamlining processes to boost efficiency, and investigating cutting-edge technologies and applications, engineers may foster innovation.

Engineers may meet client requirements and expectations by fostering innovation in this way. They can also expand the company's income streams and profitability while building a solid brand identity and a following of devoted customers.

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**Question 02:** From your observations provide some examples of motivational theories that are being used by engineers in different firms?

### ANSWER

From my above observation, there are some theories that are used by engineers in different firms:

- ✚ Expectancy theory
- ✚ Maslow Hierarchy of needs.
- ✚ Competence theory

### Expectancy Theory

Expectancy theory suggests that **individuals are motivated to perform if they know that their extra performance is recognized and rewarded**. Consequently, companies using performance-based pay can expect improvements.

1. **Software Engineering Firm:** The company may evaluate the skills of its software engineers using a variety of instruments, including tests, interviews, and performance reviews. An interview might be used to evaluate a senior software engineer's project management skill, whereas a coding test could be used to evaluate the coding skills of a junior software engineer.
2. **Civil Engineering Firm:** Based on the assessment, the company could determine any areas where the civil engineers' competencies needed improvement and offer the necessary chances for training and growth. A structural engineer, for instance, would receive training in analysis tools and procedures, but a construction engineer, in need of improving their project management abilities, might receive training in project management tools and processes.

### Maslow Theory

This theory is used in different engineering firms like:

1. **Construction Engineering Firm:** Maslow's hierarchy of needs can be used in a construction engineering firm by providing staff with necessities like secure workspaces, cozy surroundings, and enough downtime. The company may make sure that employees have access to safety equipment, as well as offer nourishing food and comfortable places to sit during breaks.
2. **Software Engineering Firm:** Maslow's theory could be used in a software engineering company by offering chances for both professional and personal development, such as mentoring relationships, training programs, and demanding projects, to meet employees' higher-level desires for self-actualization. Employees' desire for respect may also be satisfied by praise and prizes for great performance, which will increase their sense of pride and accomplishment.

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**Competence Theory**

This theory is used in different engineering firms like:

1. **Civil Engineering Firm:** In a civil engineering firm, employees could be motivated by giving them opportunities to grow and develop professionally through certification programs or mentorship. The firm can also provide challenging projects to showcase their skills and expertise, and recognize and give feedback for outstanding work to reinforce their sense of competence and effectiveness.
2. **Biomedical Engineering Firm:** Similarly, in a biomedical engineering firm, employees could be motivated by providing them with opportunities to work with the latest technology and collaborate with other experts in their field. The company can also support employees in developing their technical and analytical skills, and recognize and give feedback for excellent work to foster a sense of competence and effectiveness.