

# Chapter 6

## Emotional Intelligence: Its Significance and Ethical Implications in Engineering Profession

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### ABSTRACT

*Engineers are observed as an archetype of people who carry out their professional tasks through rationality and quantitative aptitude. Thus, they do not consider themselves responsible for any sort of consequences their designed products have. But in contrast to their claim, many scholars argue that engineering products cannot be judged as value neutral as they are designed for public use. The product is good when people use it and get benefit from it and bad when tragedy occurs. The tragedy can be abated or possibly avoided if engineers would incorporate Emotional Intelligence (EI) into their professional task. EI is defined as “skills” that subsume self-awareness, self-regulation, motivation, empathy, and social skills. Thus, not incorporating EI in the engineering task brings about unwanted tragedies. Against this backdrop, this chapter critically examines the salient features of EI, three models of EI, significance of integrating EI into engineering design, methods to learn and develop EI, and ethical implications of EI in engineering profession.*

### INTRODUCTION

Engineering is a profession because of two primal reasons. First, engineers have earned the mastery of a specialized body of knowledge. Second, they use that knowledge to securing or preserving the well-being of others. The engineering profession thus belongs to “professional model,” and not to the “business model.” The differences between these models are:

- a. In the business model, the priority is given to selling products and getting profit from that, whereas in the professional model, priority is given to protect ‘rights’ of the public, such as, their safety, health, and welfare, along with that getting benefit for selling products to them.
- b. Professional model does not allow professionals to take unfair advantage of the public in the name of profit. But in the case of

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business model, there may be possibilities where professionals sell products to the public without informing them merits and lacunas of the products.

- c. Professionals practicing engineering, law, accounting, medicine, come under professional model. But sales persons and manufacturers belong to the business model.

Engineers are professionals and have both ethical and technological responsibilities, which is found in their code of ethics. They innovate new technologies and take responsibility for their innovations. To adapt this condition they need to possess multiple skills known as “emotional intelligence (EI) skills.” EI skills subsume skills like self-awareness, self-regulation, motivation, empathy, and socialization.

It is observed that engineers at large do their professional tasks based on their rationality and quantitative aptitude. So they don't consider themselves solely responsible for the consequence of their designed artifacts (Coeckelbergh, 2012; Kermisch, 2012; Roeser, 2012 & 2006; Baura, 2006; Sunstein, 2005). The denial of responsibility and the attitude of engineers are not accepted to most of the scholars belonging to Science, Engineering, and Philosophy disciplines. They disagree with this claim and state that engineers are expected to abide their code of ethics and violation of it will hold them responsible, and thereby accountable. They proclaim that if engineers will design the artifacts solely based on their rationality then they won't be able to predict the consequences of the artifacts. So, along with rationality and quantitative aptitude they need to include emotions (e.g. empathy for the people who will bear the impacts of tragedy, concerns for animal deaths, environmental pollution, etc.) in their design process. As a result, they would be able to produce humane technologies and avoid the unwanted tragedies. To do so, they need multiple skills, i.e. EI skills.

## **EMOTIONAL INTELLIGENCE: A CRITICAL CONCISE REVIEW**

The expression “emotional intelligence (EI)” appears to be an oxymoron, but it is not so. It is a cooperative combination of intelligence and emotion (Roberts et al., 2001; Ciarrochi et al., 2000). It is a set of abilities, which corroborate matters of personal and emotional importance to the individuals (Zajonc, 1980). It assists in predicting consequences of events (Mayer, 2000). It is “the ability to perceive emotions, access and generate emotions so as to assist thought, understand emotions and emotional knowledge, and reflectively regulate emotions so as to promote emotional and intellectual growth” ((Mayer & Salovey, 1997, p.5). This definition is acceptable to Riemer (2003), Zeidner et al. (2004), Fernandez-Berrocal et al. (2006), and Angelidis and Ibrahim (2011). Further, EI affects a wide array of work behaviors, including employee commitment, teamwork, development of talent, innovation, quality of service, and customer loyalty (Zeidner et al., 2004, p.386). In Cooper's (1997) findings, it is highlighted that professionals having EI skills achieve career success, develop strong interpersonal relationships, and achieve the goals of their life. EI therefore plays a vital role in engineering, where engineering practice is a profession, to make engineering a success.

According to Goleman (1998), “EI is the sine qua non of leadership” (p. 4). Professionals lacking EI skills can't maintain their self-confidence. Ashkanazy and Daus (2005) state that EI skills are to identify, perceive, understand, and manage emotions in oneself and others. Van Rooy and Viswesvaran (2004) explain EI is “a set of abilities that enable professionals to generate, recognize, express, understand, and evaluate their own and others' emotions in order to guide thinking and action that successfully cope with emotional demands and pressures” (p.72).

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