



DEPARTMENT OF COMPUTER SYSTEM ENGINEERING
UNIVERSITY OF ENGINEERING & TECHNOLOGY PESHAWAR
CSE-406 Engineering Project Management | Spring 2024

Time allowed 2hrs Mid Term Examination

Total Marks = 20

This is a closed book exam. Attempt all questions. Your answer should be based on technicality and not on general discussion. The examples must have a clear connection to the answer.

Q1) (CLO-1, PLO 6,9)

(Marks=8)

You have just completed your Final Year Project and have been asked to conduct a post project review; describe some of the main issues you encountered during each process group area and how you would address these issues in your next project. How does the science and art of management define your FYP.

Explain your answer in the light of the Engineering Project Management Principles you have covered in class. In the end you should clearly state as to whether your FYP is a success or failure.

Q2) (CLO-1, PLO 6,9)

(Marks=4)

Define ethical and unethical behavior. What is the relationship between the law and ethical behavior? Can illegal behavior possibly be ethical? Clear your answer with the help of an example.

Q3) (CLO-1,2, PLO 1, 6)

(Marks=8)

Jack Armstrong's Icarus Flight: A Cautionary Tale of Unbridled Ambition

Jack Armstrong, a rising star whose meteoric ascent through the sales and marketing stratosphere was fueled by an insatiable thirst for advancement, finds himself plummeting earthward. While his raw talent and aggressive go-getter attitude initially propelled him forward, a critical deficiency in the nuanced art of engineering management has resulted in the spectacular downfall of his latest project.

Early Trajectory: A Blazing Sales & Marketing Comet

Armstrong's odyssey began in the fiercely competitive world of sales, where he swiftly established himself as a top performer. He then transitioned seamlessly into the realm of marketing, leveraging his inherent creativity to spearhead the development of a commercially successful product at a travel products company. These early triumphs stand as testaments to his keen market awareness, his uncanny ability to translate consumer desires into marketable

commodities, and his mastery of marketing tactics, employing aggressive promotional techniques to ensure market penetration.

Shifting Gears: A Missed Opportunity for Holistic Development

At the consumer products firm, Armstrong's astute eye for identifying products with latent market potential, exemplified by his championing of the dog oral hygiene rinse, further underscored his strategic acumen. However, a pivotal juncture emerged when he was presented with a unique opportunity to broaden his skillset: a special assignment leading a team tasked with adapting existing products for the burgeoning markets of developing economies. This assignment, while potentially delaying his self-proclaimed CEO aspirations, held the potential to equip him with invaluable experience in fostering cross-functional collaboration across diverse departments like engineering and production, as well as cultivating a sophisticated understanding of the complexities inherent in adapting products for the global marketplace.

Fast Track to Debacle: A Siloed Approach Leads to Catastrophe

Despite the potential for holistic development, Armstrong, fixated on his rapid ascent to the corporate summit, ultimately declined the assignment. This fateful decision proved to be a pivotal point in his trajectory. His subsequent role at the consumer electronics firm, tasked with launching a cutting-edge cellphone music player, encountered a critical roadblock – a weak cellular signal stemming from a fundamental miscalculation in antenna placement. A closer examination of this failure reveals a glaring absence of crucial engineering management skills:

- **Project Mismanagement:** An aggressive, unrealistic timeline, akin to Icarus flying too close to the sun, left no margin for error and precluded the identification and mitigation of potential issues like the antenna placement.
- **Communication Silos:** Armstrong's insular approach, bypassing the suggestion for a collaborative project team, resulted in a communication breakdown between marketing and engineering, hindering the vital exchange of information.
- **Risk Mitigation Fiasco:** There was a complete absence of a proactive approach to identifying and managing potential risks. A comprehensive risk management strategy could have anticipated and addressed the antenna placement challenge, thereby preventing product delays and compromising functionalities.

Engineering Management: The Missing Link

Engineering management operates at the critical confluence of technical considerations and overarching business goals. In Armstrong's case, a robust skillset in engineering management could have:

- **Ensured Rigorous Project Planning:** A meticulously crafted plan with transparent communication regarding timelines, milestones, and risk assessments would have

facilitated the early detection of the antenna issue, allowing for course correction before significant resources were expended.

- **Fostered Interdepartmental Collaboration:** A collaborative environment, where marketing and engineering could have worked in tandem, would have ensured that technical feasibility was carefully considered alongside marketing objectives.
- **Implemented Proactive Risk Management:** A systematic approach to identifying and mitigating risks, including the potential challenges associated with antenna placement, would have prevented delays and product compromises.

Conclusion: A Cautionary Tale

Jack Armstrong's Icarus flight, fueled by unbridled ambition and a neglect of essential engineering management skills, serves as a cautionary tale for any aspiring leader. While his strengths lie in market awareness and marketing prowess, the absence of engineering management skills, particularly in project planning, communication, and risk mitigation, proved detrimental to his project. A nuanced understanding of these critical skills can be a valuable asset for any ambitious leader aiming to navigate the complexities of the corporate landscape and achieve sustainable success.

CASE QUESTIONS

1. What management skills did Jack demonstrate as a marketing manager at the travel-products company? What management skills did he demonstrate as a VP at the consumer-products firm?
2. Should Jack have taken the special assignment offered him by the consumer-products firm? What kinds of skills was the president of overseas operations thinking about when he offered the assignment to Jack?
3. What management skills would have helped Jack avoid the catastrophe that befell his project at the company?