

IE & OR

Industrial Engineering – Definition:

- The official definition of the American Institute of Industrial Engineers reads as follows: industrial engineering is concerned with the design, improvement, and installation of integrated systems of men, materials, and equipment; drawing upon specialized knowledge and skill in the mathematical, physical, and social sciences together with the principles and methods of engineering analysis and design, to specify, predict, and evaluate the results to be obtained from such systems

-Finding ways of utilizing input resources in a more cost-effective manner

-Has been originated out of the need of businesses and military organizations.

-IE uses engineering concepts, mathematics, economics, and principles of human behavior to design and implement more efficient, more productive systems.

- *What is more efficient?
- *What is more productive?
- *How can you quantify them?

IE – OR

- Traditional IE and OR can be considered as a continuum where IE is at one end and OR is at the other
- Traditional IE tends to be more applicable to problems in a manufacturing environment
- OR has a broader scope
- OR has more mathematical approaches than traditional IE

IE vs OR

- Somewhat separate histories
- Common mission:
 - * Providing effective, efficient answers to questions relating to design, analysis and evaluation.
- N. Barish says OR is the applied science for managerial systems, whereas IE is the engineering of managerial systems.
- Each student will develop their own philosophy of the relationship between the two areas in time.

- Reading Assignment:

- Operations Research and Industrial Engineering: The Applied Science and Its Engineering Author(s): Norman N. Barish

Source: Operations Research, Vol. 11, No. 3 (May - Jun., 1963), pp. 387-398

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