


Executive Post Graduate Diploma in Management

Introduction to Management Science

Vinay Kumar Kalakbandi
Area Chairperson and Assistant Professor
Operations Management

Monday, June 8, 2020



Institute of Management Technology
Hyderabad
Harnessing Knowledge for Businesses

1

About me

- ▶ Area Chair, OM Area
- ▶ Assistant Professor , OM Area
- ▶ vinayk@imthyderabad.edu.in

Research Interests

- ▶ Behavioral Operations
- ▶ Supply Chain Management
- ▶ Case Writing

Academic Background

- ▶ FPM, IIM Bangalore
- ▶ M.Tech, IIT Bombay


Professional Journey

- ▶ IMT Hyderabad, Since Dec 2016
 - ▶ Taught: TOS, BPM, RSCM, SOM, OM (Core)
- ▶ IIM Raipur
 - ▶ Taught: TQM, SOM, OM (Core)

Teaching Philosophy

A course is not a spa, it is a Gym and the faculty is the trainer

Monday, June 8, 2020



Institute of Management Technology
Hyderabad
Harnessing Knowledge for Businesses

2

2

Rules of Engagement

- Course website: <http://vkteaching.weebly.com/>
- Penalties
 - Seeking clarifications on announcements already made will attract penalty. Important announcements will be made at the beginning of the class. Don't miss them.
 - Put your phones away – penalty if found using. Repeat offenders will get higher penalty.
 - Plagiarism is a crime and will result in highest penalty

Monday, June 8, 2020

3



3

Rules of Engagement (Online edition)

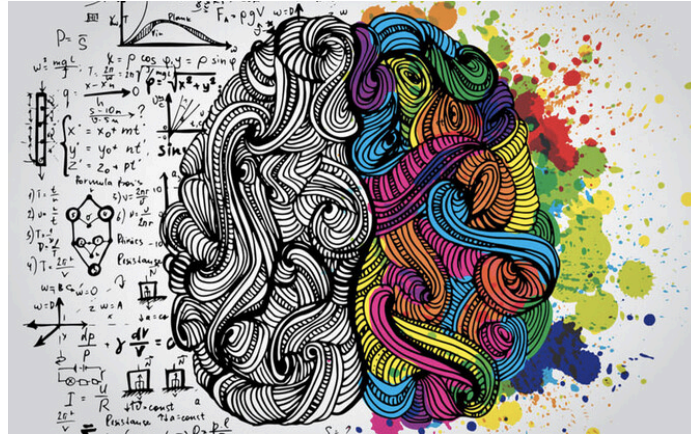
- Use a laptop/PC only. Usage of mobiles phone is strongly discouraged.
- Treat this like a real classroom session
 - Undivided attention please
 - Maintain basic decorum
- Always keep your videos on.
- Mute your audio while not speaking.

Monday, June 8, 2020



4

Thought experiment!



Monday, June 8, 2020

5

Operations Research

Scientific approach to decision making which seeks to determine how best to design and operate a system, under conditions requiring the allocation of scarce resources.

Monday, June 8, 2020

6

Origins of Operations Research

WORLD WAR II

OR Researchers helped Royal Aircraft Establishment (RAE) reduce the number of anti-aircraft artillery rounds needed to shoot down an enemy aircraft from an average of over 20,000 at the start of the Battle of Britain to 4,000 in 1941.

Operational research doubled the on-target bomb rate of B-29s bombing Japan from the Marianas Islands by increasing the training ratio from 4 to 10 percent of flying hours

Helped sink 7 times more U-boats by altering strategy on how they are attacked using depth charges

Monday, June 8, 2020

Institute of Management Technology
Hyderabad
Harnessing Knowledge for Businesses

7

Management Science

Management Science is the discipline that attempts to aid managerial decision making by applying a scientific approach to managerial problems that involve quantitative factors

Monday, June 8, 2020

Institute of Management Technology
Hyderabad
Harnessing Knowledge for Businesses

8

Relationship between OR and MS



- Doctor
 - Trained in the body of knowledge and techniques that are based on scientific foundations.
- Patient
 - Makes the final decision of which medical procedure to accept
 - May choose to use alternative remedies

Monday, June 8, 2020



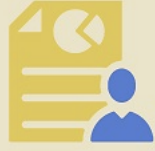


9

A collage of various logos and images on a dark blue background with a glowing rainbow arc. The logos include: Barack Obama's portrait, Akshaya Patra (with a golden pot and the tagline 'Unlimited food for education'), ZARA, CDC (Centers for Disease Control and Prevention), NBC peacock logo, American Airlines logo, and the movie poster for 'Moneyball' featuring Brad Pitt and Jonah Hill. The text 'APPLICATIONS?' is written in large white letters across the center.

Monday, June 8, 2020


10

Categories of Analytics

Descriptive Analytics	Predictive Analytics	Prescriptive Analytics
		
What has happened?	What could happen in the future based on previous trends and patterns?	What should a business do?

Monday, June 8, 2020

Dezyre
www.Dezyre.com


 **Institute of Management Technology**
Hyderabad
Harnessing Knowledge for Businesses

11

Model

- Approximate Representation of a real-life phenomena
 - Mathematical Model
 - Spreadsheet Model

Monday, June 8, 2020

 **Institute of Management Technology**
Hyderabad
Harnessing Knowledge for Businesses

12

