

Operations Management – Introductory Session

OM-Related Professional Societies

- APICS - The Association for Operations Management and Supply Chain Management
- American Society for Quality (ASQ)
- Society of Operations Management India
- Institute for Supply Management (ISM)
- Institute for Operations Research and Management Science (INFORMS)
- The Production and Operations Management Society (POMS)
- The Project Management Institute (PMI)
- Council of Supply Chain Management Professionals (CSCMP)

OM Blogs
OM Materials
OM in News
OM Opportunities
OM Webinar
OM Conference
OM Research Seminars
OM Professional
OM Certifications

In India




- Department of Heavy Industry
- CII Smart Manufacturing
- SAMARTH Udyog Bharat 4.0
- Additive Manufacturing Society of India
- Center for Industry 4.0 (C4i4) Lab Pune
- IIT Delhi AIA Foundation – Industry 4.0 Lab

LAB Facility
Recent Developments
Startup Opportunities
Prototype Testing
Funding Agencies
Indian Schemes
Practitioners Meet
Idea Competition
Business Scaling

Operations is the set of activities that create value in the form of goods and services by transforming inputs into outputs.



Example: Operations System

Operations System	Inputs	Processing or Conversion	Outputs
Automobile Factory	Raw Material, Fasteners, Paints, Tools, Personnel, Buildings, Utilities etc.	Transforms raw materials into finished automobiles through fabrication and Assembly Operations	Automobiles
	Bread, Vegetables Spices, Meat, Utilities, Machines, Buildings, hungry customers	Transforms raw materials into fast-food products and packages	Satisfied Customers and Take-away products
	Trucks, Personnel, Buildings, Fuel, Goods to be shipped, Packaging Supplies, Utilities	Packages and transport goods from sources to destinations	Goods Delivery
	Travel-related information that travel agents access from outside sources, such as airlines, Railways, Bus, Cab Service Etc	The travel agent inputs the generic seat availability into their own systems and the algorithms process and provide dynamic price and seat availability information to the customer	Final Information of seats price and availability is provided to the customers

Key Activities of an Operations Manager

Forecasting	Facility location	Facility layout and design	Technology
Quality management	Scheduling and capacity management	Process design	Inventory management
Job/service encounter	Design	Planning and budgeting	Supply chain management

A Typical Operations Managers Question in day-to-day activity

What: What resources are needed, and in what amounts?

When: When will each resource be needed? When should the work be scheduled? When should materials and other supplies be ordered?

Where: Where will the work be done?

How: How will the product or service be designed? How will the work be done? How will resources be allocated?

Who: Who will do the work?

OM Metrics

Performance metrics

All managers use metrics to manage and control operations

- Profits
- Costs
- Quality
- Productivity
- Flexibility
- Inventories
- Forecast accuracy

Introductory Case - Narayana Health Care



Case Description - *Narayana Health Case*

Indians are three times prone to heart diseases than Europeans. By 2013, while there is a need for 2.5 million heart surgeries per year in India, we are doing only 90,000. Moreover, India produces 80 cardiologists a year compared to 800 in the US. There is a huge shortage of doctors and paramedical staff in the country. To complicate the matter even more, 70% doctors are in urban areas, whereas 70% people live in rural areas. This appears to be a serious problem of lack of adequate health-care for the citizens. However, a closer look at the story of Narayana Health (NH) suggest the mass healthcare cover is not about money but about planning, passion and compassion. Operations Management can work at its best address such Problem.

How to address this problem?

Narayana Health Care (NHC)

Business Opportunity Identified by Narayana Health Group

Market Opportunity in India -----→ 2.5 million heart surgeries are required in a year 2013 and it will increase in future. (Current stat. says 3.4 million apporx in a year 2021)

Indian produces only 90,000 surgeries per year (Currently Increased to 1,10,000 approx)

Challenges for the Narayana Health Group

1. Huge Shortage of Doctors and Paramedical Staff (*Capacity Constrains*)
2. More than 70% of the customers are in rural (*Location Constrains*)
3. Cost-effective treatment (*Cost Minimization*)

Available and Planned Capacity - NHC

2001 – 300 bed hospital

Extended up to 14 Hospital with 5700 beds

Implemented 30,000 beds in 2020

Work Force growth = 12,000 to 40,000

Strategic Thinking

Creating new facility with cost effective manner

Planning and Scheduling

Cost Minimization

Business Strategy

Process Innovation and Leveraging economies of scale

Using assembly line concepts for surgery

Reducing the average length of patient stay

Pay-per-use model

Increase volumes and Supplier efficiency

Location of the Hospital (Outskirts of the Cities)


Deploying disruptive technologies and smart use of data through cloud environment


Reengineering the design, materials, and use of medical equipment to reduce the cost of ownership.


Average Cost of
Open-Heart Surgery
at Narayana Health
Versus at a U.S.
Research Hospital





Currently


**Narayana Health**
Health for all. All for health.


 Find a Doctor

 Medical Services

 Hospitals & Directions

 Make an Enquiry

 Book an Appointment

 International Patients

 **186 0208 0208 for Appointments**

2.5 Million+

Patients Treated Every Year

 MEDICAL SERVICES

Quick Links

Find a Doctor | Book an Appointment

Feedback | Pay Online

Medical Services

24

State-of-the-art Hospitals

 FIND HOSPITALS & LOCATIONS

Quick Links

Hospitals and Directions | Make an Enquiry

Contact Us

16,000+

Associates

 CLINICAL RESEARCH

Quick Links

Academics | Clinical Research

Careers | NH Colleges

82 - Services



	Operations Concept		
Economies of Scale	Material Requirement Planning	Aggregate Planning	Quality Management
Assembly Line Concepts for Surgery	Process Analysis	Resource Planning	Inventory Planning
Average Length of Patient Stay	Scheduling		
Disruptive Technology / Data Analytics	Forecasting		
Reengineering / Reuse	Quality Control	Maintenance	
Volumes and Supplier efficiency	Sourcing	Vendor Management	Supply Chain Management
Location of the Hospital (Outskirts of the Cities)	Facility Location		

24 - Location



Operations Concept

Facility Location

Network Design

Supply Chain

Logistics and
Transportation

Facilities



State-of-the-art Infrastructure



Data Management



Central Lab



NABH Approved Facility



Data Storage



Power Backup



Ethics Committee



Networked Facilities



	Operations Concept
Facilities	Facility Layout Problem
	Optimum Utilization of Resources and Planning



Expert Clinicians



ICU & MICU Facilities



So the Operations Management is....

Managing an organization's production of goods or services; managing the process of taking inputs and creating outputs.

