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# UNIT 15 OPERATIONS MANAGEMENT

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## 15.0 OBJECTIVES

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After reading this Unit, you will be able to:

- define operations management,
- understand the importance of operations management,
- learn about the designing of operations system, and
- know about quality controls.

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## 15.1 INTRODUCTION

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The essential characteristic of the production function is to bring together human resources, physical resources, financial resources, technology, etc. to produce goods or services in order to satisfy the consumer needs. Thus, **production is the process through which an organisation creates goods or services.** In simple words **operations refer to the way an organisation transforms inputs into outputs i.e. transforming resources into goods or services.** This Unit attempts to familiarise you with the various aspects of Operations Management. For explaining to you in simple terms we have kept citing the functions of an operations manager in a travel agency. However, the concepts discussed are relevant for both manufacturing as well as service sectors.

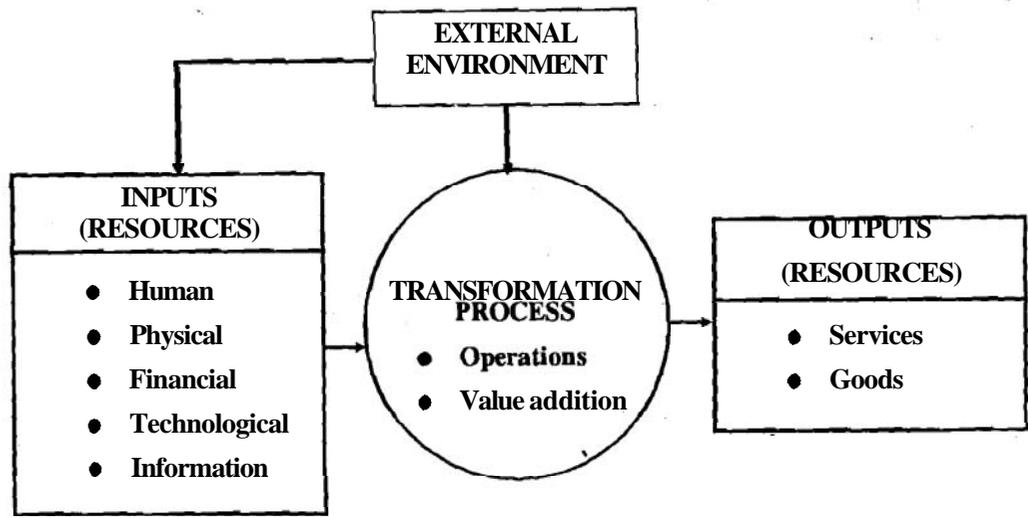
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## 15.2 OPERATIONS MANAGEMENT: DEFINITION AND RELEVANCE

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Operations are purposeful activities of an organisation. Each operation adds value to some entity through a variety of means. This may include a change (physical or sensual) in the form or state of inputs, or value addition through location or inspection. A taxi available at the exit of an airport adds value to the service in comparison to a person **walking** a distance to the taxi stand.

All **production** or operation functions are a part of the conversion process which transforms entities **into** goods or services through value addition. The quality of the service and the effectiveness and efficiency of an organisation take shape through operations. The following figure explains the transformation process of inputs into outputs.



It should be noted here that the transformation process varies according to the nature of the organisations. A service organisation produces intangible products whereas a product organisation produces tangible products. The output of the service organisation is immediate and it cannot be stored. Thus, if not consumed immediately it goes waste. Here the consumer contact is direct, customer participation is essential and the nature of work is labour intensive. In a product organisation the output consumption is over time and can be stored. Customer contact is indirect and customer participation is minimal. But in all organisations operations have to be managed. **Operations Management refers to the complex set of management activities involved in planning, organising, directing and controlling an organisation's operations.** The relevance of Operations Management is because it helps an organisation to:

- improve productivity, and
- meet the consumer's competitive priorities.

In fact the main objective in Operations Management is to produce goods or services in quantitative as well as qualitative terms to meet the consumers' wants at affordable prices at a given time. Quality, quantity, price and timing are the factors that determine the competitive priorities of the consumer. Hence, operational productivity has to be balanced with customer satisfaction. We can say that Operations Management has performance objectives as well as cost objectives.

Take the example of an operations manager in a travel agency. The manager balances the resources (human, equipment, ticket stocks, money) in order to provide the best services to the customer. In order to satisfy customer needs an optimum deployment of resources is made, proper use of friendly systems is designed with appropriate control mechanisms. All operations are geared towards customer satisfaction which builds up brand loyalty, brings in repeat business and earns a good image.

**Check Your Progress-1**

1) Define Production, Operations and Operations Management.

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2) Discuss the importance of Operations Management in a service organisation.

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### 15.3 DESIGNING OPERATIONS SYSTEM

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We have discussed earlier that inputs are converted into outputs through operations and operations management. For this an operations manager has to design an operations system. This involves taking decisions about:

- what products or services will be produced?
- what would be the quality of the produced products or services?
- how will they be produced?
- who will produce them? and
- where they will be produced?

For answering these questions, decisions have to be taken in certain areas which are mentioned in the following Sub-sections.

#### 15.3.1 Planning Design

This is a 'strategic process which has long term impacts. Planning for products and services involves following steps:

- i) generating ideas,
- ii) selecting those ideas which are technologically feasible, marketable and are in tune with the organisation's objectives and overall strategies,
- iii) making the final design of the product or service.

In spite of providing necessary inputs by finance, marketing, human resources, etc. it is the operations manager who performs the major decision making role about the **actual feasibility** of producing the product or service. For doing this the **producibility** of the product or service is weighed against competitive priorities of the levels of quality, pricing and reliability. The product or service has to be produced economically in the prevalent operations system keeping in view the acceptable levels of quality and reliability. If this is not feasible, it has to be decided that what type of adjustments should be made or whether a new product or service design is required. Such planning is crucial because choosing a wrong **product/service** or a poor design can make the operations system ineffective and non-competitive. For example, the operations manager in a travel agency has to decide whether the travel agency will cater to the entire gamut of customer demands or will limit the operations to ticketing or tours or facilitation. The basic guidelines regarding minimum performance level are also to be set at this stage itself.

#### 15.3.2 Capacity Planning

Another decision in designing the operations system is regarding capacity i.e. how many products or how much service will be produced. In other words **operations decision concerned with the quantity of goods or services to be produced is termed as capacity planning**. The steps in this include:

forecasting demand,

- translating forecasts into physical capacity requirements i.e. measuring the existing capacity with the demand, and
- deciding the resources needed, to meet the demand and, if needed, to work out suitable alternatives.

Capacity planning is very important in tourism operations system design. For example in a travel agency there is frequent "bunching" of customers during set hours. This pattern becomes **discernible** fairly early in the operations, and needs to be addressed in order to avoid chaos. Systems and staff need to be responsive to this phenomenon.

Capacity planning is related to **scheduling, capacity utilization and the psychology of waiting**. The following three examples are related to tourism operations in this regard.

#### Example 1

IGI Airport, New **Delhi**, gets maximum international **flights** between 11 p.m. and 5 a.m.. A **good Operations** Manager must ensure landing and runway slots, aircraft parking and quick turnaround and take offs after routine maintenance, baggage reclaim facilities, security/customs/immigration checks, check-in by airline, etc. The system must not collapse under this pressure of passenger facilitation and security requirements.

The **Management/Operations** Manager must work out the expense of space and balance it against requirement. Space today is at a premium - prices are going up everyday. Nevertheless, keeping business potential in view excess capacity has to be built in. Today time is the essence - customers want "on time" **delivering** and no one has time to spare - particularly in a service industry such as tourism.

Queue management and analysis simulated passenger flow models can all be worked out with the assistance of Information Technology. The focus of this exercise should be the customer. Queues are boring and smack of regimentation. If anything can be done to make this a less tedious wait, than the Operations Manager should integrate creativity into this.

#### Example 2

**Disneyland at Anaheim, California USA**. During vacation time the queues for the various **rides** are endless. So queuing is zig-zag and not straight. This makes the wait seem shorter. **Also** Disney characters come and shake hands with children and sing and dance in order to create another focus. Thus psychologically the waiting time does not seem so long.

#### Example 3

At a Bank in Hong Kong while **waiting** in line there are tent cards at counters which advertise holidays/excursions/shopping Malls etc. besides newspapers and magazines. This gives people something to pick up and read while waiting.

The psychology of queuing and waiting has been explained by D H Maister. His thesis is that "unoccupied time feels longer than occupied **time**" and "unexplained waits are longer than explained waits". This comes up again and again where an Airlines comes in for criticism when a flight is delayed. If the position is explained to the customer, it is accepted as such. If constant announcements are made of "delay due to technical reasons" it makes for irritation and **disgruntled** passengers.

The answer to Maister's thesis of "unoccupied time feels longer than occupied time", is creative queuing. The operations manager must try and **minimise** frustration and boredom of the queuing customer. The examples of Disneyland and the Bank (above mentioned) could serve as guidelines.

### 15.53 Process Selection and Planning

**Process Selection determines how a service or a product will be produced.** Process Planning pertains to careful **detailing** of the process of resource conversion required and their sequence. Process selection involves decision making in the area of technological choice. What kind of technology and equipment should be used? How would the product or service flow through the operations system? Whether the operations have to be manual or machines are to be used? etc. are questions that have to be answered through process selection and planning.

### 15.3.4 Facility-Location Planning

One of the most important operation's system design decision in tourism is to plan the location of the **production/service** facility. Conrad **Hilton**, head of the leading **Hilton** Hotel Chain, when asked to spill three most important ingredients for success of his hotels replied "**location, location and location**". Location planning takes into account minimizing the total production and distribution costs. While evaluating the location requirements easy accessibility to the customer, nearness to ancillary activities like communication and transportation networks etc. have to be taken account of by considering all available alternatives.

### 15.3.5 Layout Planning

How to arrange the physical facilities spatially is the concern of layout planning. Space has to be provided for production maintenance and support facilities. Since tourism is a leisure time activity the system has to be pleasant and efficient and the tourist is not to be pushed. At the same time, the other aspects of consideration include:

- facilitating material flow from one department to another,
- reduction in **handling** costs,
- avoiding delays and congestion, etc.

### 15.3.6 Purchasing

Lately purchasing designs have also been included in operations management. Most of the organisations instal a purchasing system which decides on specifications, supplier identification, placing purchase orders, checking the quality of purchases made, etc.

Besides these above designs operations managers further go for **job designing** and planning for **delivery systems**.

**Check Your Progress-2**

1) Discuss the importance of capacity planning.

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2) What considerations will you have for layout **planning**?

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## 15.4 OPERATION PLANNING AND CONTROL DECISIONS

Operations **Management** is not limited to designing **operations system**. Further decisions are required to make the designed system operational. Necessary monitoring and controls have to be introduced for uninterrupted functioning as per the stated objectives. Such decisions have to be made on short term basis - monthly, weekly, daily or even hourly.

The objectives in operations planning and control include:

- **maximising** customer service,
- minimising inventory management, and
- **maximising** system operating efficiency.

An efficient operations manager would prepare plans to avoid or balance the conflicts among the three **objectives**. Further, optimum schedules and sequence of operations have to be determined.

Inventory management is another issue in this area. Inventory means the supply of raw materials, work in progress i.e. partially finished goods and finished goods maintained by an organisation to meet its operational needs. Operations managers have to decide how much inventory to **order** and when. This involves decision making in the areas of materials requirements planning and material resource planning.

**Operations Planning system in which end products are analysed to determine the materials needed to produce them is termed as materials-requirement planning.**

**Materials-resource planning compares the needs of materials- requirement planning with known resources and calculates unit costs.**

### 15.4.1 Travel Agency Example

Let us take for example the day to day management in a travel agency.

A travel agency operation must be planned impeccably and in detail. Once this exercise is over each department should be given their area of operation with some overlapping in order to provide a "fail safe" system. This really means that if one department is working critically due to manpower problems etc. another department can assist. So cross-functional knowledge is essential and should be encouraged. For example if there is pressure on Domestic Ticketing, International Ticketing Department should assist and vice-versa.

The day to day operation should proceed smoothly - from bookings to customer handling to writing of tickets and vouchers to delivery systems. Tasks must be broken down by units so that JIT (Just In Time) deliveries can be affected. Operations require, ensuring adequate ticket stock, functioning computers, travel staff in position, docket system as back up etc. The shorter the response time per customer the quicker the customer throughout. So in Some operations it is better to have front line reception, receiving bookings and making reservations with a second line writing tickets etc. This breaking up of the task will hasten the process.

#### **Tour Department**

Here the task needs to be broken down still further into accepting **bookings**, itinerary planning, tour costing, hotel bookings, issuance of vouchers etc. In management they say that the only way to "eat an elephant" is in small bits. If the tour department must operate smoothly there tasks have to be broken down into management ones. There must be **smaller** units within the Tour Department performing each task. Yet there must be synergy among them so that if one department has a problem, another can come in and assist.

#### **Facilitation**

Visas are essential for travel to foreign countries. Frequently it is observed that time taken by Embassies is longer than time at the disposal of the Travel **Agent/customer**. So an optimum flow must be worked out. Enough field staff must be deployed and their activities coordinated in such a way that no sooner is one visa received than another one is filed. This will ensure greater customer satisfaction particularly from Corporate Houses.

Then again the tour department provides "meet and greet" **services** "escorted tours" etc. All this **can** be billed to the client but the service must be provided. Operations must ensure this. **If** inhouse constraints are there then these services **can** be out- source-making for one flexibility and better quality with minimum expense.

## Billing

No enterprise can succeed if its money management is askew. In a travel agency the vendors (airlines, hotels, car rental companies, guides etc.) must be paid within a certain time-frame varying from a fortnight to a month. It is important that Bills are raised on time to ensure optimal capital deployment. **If** payments are not received from customers, payments to vendors cannot be made in time thus leading to defaults and losing of IATA **recognition** and credit rating with Hotels. So the very foundation of a travel agency business depends on this. Operations must ensure that proper information is fed to the Accounts department so that Billing is on time and receipts are therefore also on time.

## 15.42 Controls

Controls are essential tools of Operations Management. They must suit the system. We **give** you examples of a travel agency in this regard.

**In** a travel agency operation controls are critical as vast sums of money are involved in an International ticket or tour voucher. So daily monitoring of the stock of cash value documents is a must. Staff must be made accountable for this and only designated **supervisors/managers** should be made in-charge. They in turn should control deployment of these cash value documents.

### Controls on Ticket Stock

International and Domestic Airlines can conduct surprise audits of ticket stock. So it is important that the Operations Manager set in place a control **system**, from the daily issuance of ticket stock in the morning to closing of stock at night - leaving just adequate stock with the Duty **Officer** for emergencies. If some tickets **are** issued on exchange orders by airlines directly then this too has to be monitored. Equally important is ensuring putting in tickets for refunds to the principals as this too is blocked capital. If refunds are received in time, this helps bring down the payment **liability** to the Carrier. Good operations management must therefore react quickly to optimise profits.

### Controls on Vouchers

These cash value documents are like "**blank** cheques". There must be adequate control to ensure safety of these. Only certain persons should be nominated to sign and issue these. These **should** be issued against authorisation etc. This way Billing **can** match the voucher - thus ensuring receipt of payment for services rendered. Sometimes client makes payments to suppliers directly. In such cases also commission on bookings has to be claimed. A voucher ensures this but follow up with principals is necessary.

### Control on Quality of Service

A good operations Manager of a travel agency will ensure customer satisfaction by "walking around" the customer handling area so as to get customer feedback. Talking informally to customers gives the best feedback. This is an accepted Management tool today - "Management by walking about".

It is also good to slip in a "customer comments" card with a ticket or tour voucher. The few responses received will give feedback on quality of service. In this day of TQM (Total Quality Management) the competitive advantage goes to quality delivery. This is more so in a service industry such as tourism. For example, all staff of the **Radisson** Hotels USA wear a "Yes I Can" badge, the thinking is positive. The feeling conveyed to the customer is one of confidence because of the positive attitude of the staff.

### Control of Billing and Payments

As emphasised earlier strict controls on this section of a travel agency operation is critical because of timely payments to airlines in **particular**. Operations will collapse if this section does not keep up with the rest of the system. **Billings** and Payments, both must form an

important part of the exercise. Operations Management must ensure that one **follows** the other. If either of these two lag then the whole fabric will collapse.

Every **organisation** develops Management Information System (MIS) for assisting in monitoring and controls.

**Check Your Progress-3**

- 1) Mention the decisions required to make functional the designed operations system.

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- 2) Discuss the importance of controls in Operations Management.

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### 15.5 LET US SUM UP

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This Unit discussed the various aspects related to operations management which help in improving efficiency, productivity, effectiveness and customer satisfaction. The process of designing operations system is related to planning design, capacity planning, process selection, facility-location planning, layout planning and purchase decisions. After designing an operations system managers must go for taking operational planning and control decisions. Examples from travel agency operations were cited in the Unit to make you understand the various aspects of and the steps involved in Operations Management.

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### 15.6 ANSWERS TO CHECK YOUR PROGRESS EXERCISES

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**Check Your Progress-1**

- 1) Base your answer on Sec. 15.2.
- 2) Base Your answer on Sec. 15.2.

**Check Your Progress-2**

- 1) See Sec. 15.3.2.
- 2) See Sec. 15.3.5.

**Check Your Progress-3**

- 1) See Sec. 15.4.
- 2) See SubSec. 15.4.2.