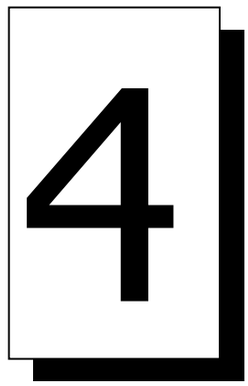
Performance Measurement



Unit Introduction

Business organizations are involved in producing goods and or services. To produce effectively and efficiently, management must establish goals for evaluating employee performance. No doubt, business success depends on how well the employees perform to pursue their goals. These goals are translated into standards. A production and operations standard is a quantified criterion for measuring or judging output. The standard can be set for quantity, quality, cost or any other attribute of output, which becomes the basis for control. Performance measurement is, therefore, an essential tool to ensure that the organization is moving in the right direction. In the business organization various methods of performance measurement are available. However the method of choice often depends on the purpose of the measurement. A manager may even use more than one method to obtain needed information. The various aspects of performance measurements that are covered in this unit are, the need to measure performance, techniques of performance measurement and benchmarking.

Lesson One: The Need to Measure Performance

Lesson Objectives
After completing this lesson you will be able to:

- Understand the concept of performance measurement
- Explain the importance of performance measurement
- Identify the reasons for measuring production performance

The following news clip will give you an idea of performance measurement, which is nothing but a comparison of actual output or performance with that of standard (standards are, by definition, simply criteria of performance).

Exports keep showing strong growth

Target beaten by 4.67 pc during July-January period

The country's export till January of the current fiscal year fetched US$ 3855.20 million, which is 4.67 per cent above the target and 20.94 per cent higher than last fiscals same period. The target for the first seven months of FY01 was $ 3,683.17 million, official sources said.

Export increased by 18.65 per cent in terms of volume while the price index rose by 2.29 per cent during the period.

Source: *The Daily Star, March 21, 2001.*

Performance measurements are of various kinds: These are,

(a) In terms of activity area- financial performance measurement, production performance measurement and sales performance measurement and so forth;
(b) In terms of responsibility area- individual performance measurement, department performance measurement and so on.

Each class of performance measurement has its own purposes. For instance, as a financial performance-measuring rod, organizations compute or measure ROI (Return on Investment) or IRR (Internal Rate of Return) or RI (Residual Income) to see how productive its investment is, i.e., how much the investment can actually yield in comparison to the predetermined standard. Again, the operations manager compare actual sales volume with forecasted sales volume to measure the efficiency or performance of the sales work force. So, at this point it is apparent that the manager measures performance in almost every activity area of the business organizations.

Naturally, the purpose of measuring performance in one activity area would be different from that of another activity area. For example, the purpose of financial performance measurement would be different from that of the production performance measurement. Since, here managers are exclusively dealing with operations activity area therefore we will confine our discussion up to the factory operations boundary. That is, the manager will shed light or focus on the

necessity of production & operations performance measurement either in terms of individuals (when performance is measured for each individual) or the department as a whole (when performance is measured for each department, like the performance of production department in cutting production cost through increasing efficiency).

Why Performance Measurement is an important tool?

Last summer Yellow Corp., the No. 1 trucking outfit in the U.S., got a peek into the future of the freight industry- thanks to a youthful wizard named Harry. Scholastic Inc. needed 150,000 copies of the latest Harry Potter Book shipped to stores across the country, and it needed them delivered just minute before midnight on July 8. A late delivery would disappoint thousands of kids lined up for Harry Potter and the Goblet of Fire; conversely, if the books arrived too early, leaks about the plot twists might ruin the hoopla that Scholastic had painstakingly built up around the title's release*.

The performance Yellow Corp. showed, as needed by Scholastic Inc. can be measured through its Just-in-time delivery. Think, what would have happened if Yellow Corp. failed! Doesn't it justify the importance of performance measurement?

*Source: *Business Week, January 8, 2001*

There might be a number of reasons why an organization does measure production performance. Some of which are:

Performance measures help an organization to be more effective and efficient in the product operations.

- To *save cost* by increasing efficiency (man and machine) and effective production scheduling.
- To *increase efficiency*. As pay and benefit is directly related to performance, and evaluation against performance encourage competition among employees, it ultimately results in increased efficiency.
- To *improve communication* between employees and management. When performance is measured against set standards and practices and communicated to the employees, there remains little scope of misunderstanding and communication breakdown. Because employees know what is expected from them.
- To *get workers informed* and participate in change. This gives a view where the workers stand and where they should be. And ensures required change in efficiency, or production system (if required).
- To *establish new methods*, set time standards for increasing efficiency and adapting new technology etc.
- To *allow management to measure work* and continuously keep track of the production process and to respond immediately to bottlenecks or productivity slumps.
- To *estimate and costing of products* and services produced, in each step, to analyze variance, pricing, and measure contribution etc.

- To *prepare production scheduling* to smoothen flow of production, and to avoid bottleneck. This is also required to reduce workers idle time and to reduce inventory cost.
- To *create a new pay system* and establish wage incentives against individual and departmental performance. When the most efficient method is identified during the performance measurement, a new and better pay system can be formulated by utilizing the standard obtained. Also, criteria for wage incentives can be established.
- To *evaluate process design*, layout, and work methods. The purpose of this is to identify any scope for improvement and to implement a better strategy.
- To *find out the production rates*, i.e. the input-output ratio.
- To *capacity planning* and utilization. It enables managers to quantify production capability in terms of input/output and helps to answer the questions. Such as: what kind of capacity the firm is needed, or how much is needed or when is it needed?

Performance measurements are an integral part of any organization. Properly developed and implemented, the performance measurement can help the organization achieve its goals by developing productive employees with an efficient and effective system. To measure performance we must keep in our mind for which area of activity the technique is developed. An inefficient and improperly developed technique will give wrong picture to the organization.

Performance measure can help organizations achieve their goals by developing productive employees.

Discussion questions

1. Explain performance measurement and its importance.
2. Point out the reasons for performance measurement.
3. Do you think performance measurement can be an important tool for setting company strategy for competition, product standards, and quality control? Explain.
4. How would you evaluate the performance of Yellow Corp.?

Lesson Two: Performance Measurement Techniques

Lesson Objectives
After completing this lesson you will be able to:

- Identify the basic criteria for work measurement
- Explain different techniques of measuring performance
- Discuss the advantages and disadvantages of different performance measurement techniques

In the organization job design determines the content of job, and method analysis determines how a job is to be performed. Work measurement is concerned with determining the length of time it should take to complete the job. In the operations measurement job times are vital inputs for manpower planning, estimating labor costs scheduling, budgeting, and designing incentive systems. Overall company productivity, of course, is the result of the productivity achieved by all components of the company. In order to achieve high productivity, managers must be concerned about the productivity of all resources. Work measurement is the application of technique to determine the amount of time necessary for a qualified worker to perform a particular task.

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Many jobs in offices and factories may be studied and measured. There are four basic criteria for measurable jobs:

- The work must be done in a repetitive, reasonably uniform manner.
- The work must be homogeneous in content over a period of time so that it is consistent from one period to another.
- The work must be countable, that is, it should be describable in precise and quantitative terms: so many cases, forms, and letters.
- There must be sufficient volume of work, done in regular manner, to make it worthwhile to count and maintain records.

There are six (6) basic ways of measuring performance. These are described below:

1. Ignoring Formal Work Measurement
For many jobs in many organizations, especially in the labor-intensive service sector, formal labor standards (as defined in the law, usually 8-hour) are simply not set at all. The issue of a fair day's work for a fair day's pay is ignored. Even though there is no explicit basis for criticism, workers may be blamed for poor performance and inefficiency. Often, because management has not established a work (time) standard, some informal standard is established by default. Since this informal standard generally compares unfavorably with those sets by other techniques, prudent managers do not recommend using this ignoring formal work measurement technique. But in many businesses such as, readymade garments industry in Bangladesh, formal labor standard is absent. Here any study related to time and motion is yet to be done. In the absence of formal labor standards the workers are losing their actual wages.

2. Historical Data Approach
This method assumes that past performance is normal performance. In the absence of other formal techniques, some managers use past performance as their main guide in setting standards. The standard is developed by counting the output

Past performances of the employees are used to measure performance standard.

of a department, person, or work center over some time during which a consistent type of work is being performed, then dividing the output by the number of worker hours expended. The major advantages of this technique are quick, simple, inexpensive and probably better than ignoring formal work measurement altogether. But it tends to be less accurate because it disregards adjustments for the workers pace and delays and other factors. For example if a worker produces 40 units of certain type of output per hour and ignoring any other kind of factors related to the work a standard of 40 units/hour is set, it may be erroneous. Because the worker may not be motivated enough to work at highest efficiency level, coworkers may keep him under pressure not to produce more than what other produce, the workers may not be satisfied with the working environment which will hinder productivity, or even the machine with which he produces may not ran at capacity. Ignoring all these will certainly provide a wrong standard.

3. Direct Time Study

Typically in a time study time is measured in hundredths of a minute.

Direct time study often called a time study, a stopwatch study, or clocking the job. This method is certainly most widely used technique for establishing work standards in manufacturing. However, direct time study is a work measurement technique that involves observing the job, determining the job cycle, stopwatch-timing the job cycle, and calculating a performance standard. Typically in a time study time is measured in hundredths of a minute. Two timing methods are common. The first method is to start the watch at the beginning of the study and let it run continuously, observing and recording the times at the end of each task element in sequential fashion.

The other method, called *snapback* timing, is to read the time at the end of each task element and then reset the time to zero by depressing the crown for the next task element. The general procedure for this system is as follows:

(a) Standardize methods for the operation; i.e., determine the standard method, specifying work-place, layout, tools, sequence of elements, and so on. Record the resulting standard practice.

(b) Select for study an operator who is experienced and trained in the standard methods.

(c) Select a job cycle and identify the elements and tasks that constitute a complete cycle.

(d) Observe and record the actual time required for the elements, the pace at which the observed person works is noted and referred to as *performance rating*. This is a subjective estimate based upon the experience of the operations analysts. For each elemental task, the speed of the worker is estimated. A performance rating of 1.00 indicates that the worker is working at normal speed, the speed at which a well-trained worker would work under ordinary working conditions. A performance rating of 1.20 indicates 20% faster than normal, and a performance rating of 0.80 indicates 20% slower than normal.

(e) Determine the number of observations required yielding the desired precision of the result based on the sample data and obtain more data as required. To be 95% confident that the observed times will be within 5% of the actual required times. As an example, the table (Table 4.2.1) below can be used. This chart is relatively simple to use. For example, if the

number of annual cycle is more than 10,000 and if the cycle time is 5-minute, then the number of observation should be twenty (20).

Table 4.2.1: Number of observations required yielding the desired precision

Cycle time (min)	If annual number of cycles	
	<10,000	>10,000
0.25	40	80
0.50	30	60
01	20	40
05	10	20
10	07	13
20	05	09
50	03	06
100	02	04
400	01	02
1000	01	02

(f) Compute normal time, i.e. the time it should take a person working at a normal pace to do the job.

Normal time = Average observed actual time x Performance rating and,

Average observed time = Sum of the cycle time recorded/number of cycles observed.

(g) Determine allowance that is added for personal time, rest periods, possible delays and fatigue. 15% is used as an average allowance.

(h) The final result is the standard time for the job, expressed in minutes per piece or in units to be produced per hour. That is: Standard time = Normal time for elements + Time for allowances.

Table 4.1.2: The time study of two cycles with continuous time readings

Worker: Ms. Rabiya	**Date: Feb.27, 2000**					**Times: 0.01 min**	
Task: Insurance Form	***Analyst: Mr. Kabir***					***Allowance: 15%***	
Element	*Cycle 01*	*Δt*	*Cycle 02*	*Δt*	*Average Δt (I)*	*Performance Rating (II)*	*Normal Times (I x II)*
Open Envelope	05	5	47	3	4	0.90	3.6
Papers out, Envelope trash	07	2	49	2	2	1.10	2.2
Letter stacked	09	2	51	2	2	1.00	2.0
Locate page 2	10	1	54	3	2	0.90	1.8
Snap out, separate page 2	13	3	55	1	2	1.20	2.4
Snap out, separate page 1	15	2	57	2	2	1.20	2.4
Staple, stack original	16	1	58	1	1	1.10	1.1
Staple, stack copy	44*	X	60	2	2	1.00	2.0
							Total = 17.5
Comments: * Stapler Jammed					Normal Time: 17.5		Allowance: 2.6
Standard Time: 20.1 hundredths of a minute (12 seconds).							

Example in a mail order insurance company, applicants apply for insurance by filling out a multiple copy form. The daily mail of forms is delivered to Ms. Rabiya who handles them according to a special procedure. She cuts open each envelope, lays any enclosed letters in one stack, locates the second page of the application and pulls out the snap-apart original and carbon copy, separates them on her desk, snaps out the original and carbon copy of the first page, lays them on top of the second page, staples the original together and sets them in a stack, and staples the copies together and sets them in a separate stack. The time study of two cycles with continuous time readings in hundredths of minutes is shown in the Table 4.1.2.

Direct time study is the most frequently used method for setting time standards. The method has some limitations, and its use is not appropriate for example, when setting standards for *thinking* jobs, such as a mathematician solving a problem, a teacher preparing a lecture, or an automobile mechanic diagnosing the cause of a problem etc. Also the direct time study is not appropriate for repetitive jobs, such as routine maintenance repair, in which the nature of the task differs each time.

4. Predetermined Time Study

Technique that involves observing or thinking through a job, recording job elements, recording pre-established motion units, and calculating a performance standards.

A work measurement technique that involves observing or thinking through a job, recording job elements, recording pre-established motion units, and calculating a performance standards. For setting standards for jobs that are not currently being performed but are being planned, the predetermined time study is helpful. The bases of this technique are the stopwatch time study and time study from films. One of the most commonly used predetermined data system is Methods Time Measurement (MTM). It was first published in 1948. It contains descriptions and time data for hand motions labeled reach, move, grasp, position, turn and apply pressure, disengage, and release. Other motions included are walking, turning, sitting, sidestepping, foot and leg motions, and kneeling. The motion times are given in Time Measurement Units (TMU). One TMU is one hundred- thousandth of an hour (0.00001 hours) or 0.0006 minutes.

The procedure for setting a predetermined time standard is as follows:

a. *Observe the job or think it through if it is not yet being performed*. It is best to observe under typical conditions (i.e., typical machine, materials, and worker).
b. *Itemize the job elements*. Here we don't need to be concerned about timing them; just thoroughly document all the motions performed by the worker.
c. *From a table of predetermined time standards*, record the standard for each motion units. Motion units are expressed in some basic scale that corresponds to time units.
d. Find the sum of the standards for all motions.
e. *Estimate an allowance for personal time*, delays, and fatigue, and add to the sum of standards. This total sum is the predetermined time standard for the job.

Advantages of predetermined time standards are the following:

a. They are based on large numbers of workers under controlled conditions.

b. The analyst is not required to rate performance in developing the standard.
c. There is no disruption of the operation.
d. Standards can be established even before a job is done.

A high level of *skill is required* to generate a predetermined time standard. The basic disadvantages of this technique are:

a. Some job elements may not be recorded, or may be recorded improperly.
b. Work must be broken into micro motions, making this method impractical for firms with a process focus and low repeatability.
c. Moreover the data may not reflect the situation in any specific plant: what is normal for one plant may not be for another plant.
d. Lastly the method is based on the assumption that the times associated with the micro motions simply can be summed to get the total time for a task. This disregards the possibility that the actual time may depend on the specific sequence of the motion.

5. Work Sampling

Technique that involves defining the state of *working*, observing the job over time and computing the portion of time the worker is *working*.

A work measurement technique that involves defining the state of *working*, observing the job over time, and computing the portion of time the worker is *working*. It is based on simple random sampling techniques derived from statistical sampling theory. The purpose of the sampling is to estimate what proportion of a worker's time is devoted to work activities. The underlying assumption is that the proportion of time the activity is observed in the sample will be the proportion of time spent on the activity in general. Specifically, it proceeds along the following steps:

- Decide what activities are defined as *working*. *Not working* comprises all activities not specifically defined as *working*.
- Observe the worker at selected intervals, recording whether a person is working or not.
- Calculate the portion P of time a worker is working as:

P = Number of observations during which working occurred/Total number of observations

This calculation is then used as a performance standard. Accuracy of this technique depends keenly upon sample size. It involves a considerable number of observations in order to obtain 95% confidence. The required number of observations, N, is given by the formula:

$$N = 4p\,(1\text{-}p) / e^2$$

Where p is the percent of time the worker spends on the activity being observed and e is the allowable error in percentage points, expressed as a decimal. If an activity is to be timed that is expected to represent 20% of the working day and an accuracy of 3 percent with 95% confidence is deemed sufficient, the required sample size is:

$$N = 4(0.2)(1\text{-}0.2) / (0.03)^2 = 711$$

To get benefits from the work sampling the managers need to consider larger number of observations.

Work sampling is particularly adaptive to service sector jobs such as those in libraries, banking, health care, insurance companies and government. Some other advantages that could be derived from using this technique are: it is simple, easily adapted to service sector and indirect labor jobs, and an economical way to measure performance.

Disadvantages of work sampling are that the analyst may not be completely objective or may study only a few workers, and that 'working' is a broad concept not easily defined with precision. In short, work sampling is a useful work measurement technique if it is used with discretion. The major disadvantage to work sampling is the large number of observations required. Even though each is short, many observations are needed to provide a reasonable degree of precision for the estimate. This method is usually not as economical for setting standards for repetitive well defined jobs.

Advantages & disadvantages of Work Sampling in Comparison to Continuous Predetermined Time Study

Advantages

- Does not require extensive training to perform.
- Can simultaneously study several operators.
- Takes less of the observers time and is less costly.
- Observations are made over a more extended time, so they are more likely to take variations into account.

Disadvantages

- Does not permit as detailed a breakdown of types of activities.
- Study of a group provides an average, but no measure of individual differences.
- Workers might intentionally change activity upon seeing the analyst, whereas this distortion is more difficult to produce under the continuous observation of time study.

6. Combining Work Measurement Techniques

Combining work management techniques ensure crosschecks thus comparatively reliable.

At this point the question comes: which work measurement techniques should we use? In practice, they are used in combination, as crosschecks. One common practice is to observe a job, write down in detail all the job elements and set a predetermined time standard. Then it can be checked with the history of performance on this or similar jobs to verify that the predetermined standard is reasonable. To provide further check, a direct time study can be made of the job by element and in total. No one-work measurement technique is totally reliable. Because of the high skill level required in setting the standard, so, a crosscheck is desirable whenever possible.

Cola for Picnic Demand

Case Analysis

The students of a university is enjoying their annual picnic and coke a cola is high in demand. There is a long queue of thirsty students patiently waiting for drink. The person serving the drink is well practiced and does the whole task in a sequential matter. Keeping the opener in her hand, she takes the bottle out of the crate. Next she opens the bottle. Then she takes a straw out of a packet and puts it into a bottle. The whole task is completed when she hands the bottle to the student standing in front of the line. The timing of the events that make up this whole cycle was observed 3 times and the timings along with the rating given to the girl have been provided below.

Task elements	Cycle 1	Cycle 2	Cycle 3	Ratings
Take the bottle from the crate	2	2.5	2	0.9
Open the bottle	3	3.5	7*	0.8
Take a straw out of packet	2	1.5	2	0.8
Put the straw into the bottle	1	1	1	1
Hand over the bottle to the student	1.5	1	1.5	1.1

*The opener fell from her hand

Case questions

1. Calculate the standard time using the direct time study approach. If the predetermined time study established the standard time on the same observations same as 9.885 and the historical data approach holds the standard time to be 10.5, justify your answer by explaining the difference.
2. What more information would you need to reach an answer that is more accurate?

Mahathir's View

Case Analysis

Malaysian Prime Minister Mahathir Mohammad said that the sagging stock market is not indicative of the country's economic health and progress in corporate governance. "That is a lazy kind of assessment coming from one set of figures from a source that is unreliable," said Mahathir, following a speech on corporate governance. "I would not like to take share prices as a measure that is perfect." He noted the stock market's speculative nature: in the past, the index rose to over 1,000 points when corporate governance was less transparent. "Look at the overall economy for the past ten years at 8 per cent growth per annum," he said. The Kuala Lumpur Composite Index has lost ground in recent weeks. At the close of the Tuesday's morning session it was down nearly 1.4 per cent from Monday, and 7.3 per cent below its March 1, 01 close of 708.00 points.

AP from Kuala Lumpur; March 21,01.

Case question

1. Do you agree with Mahathir's view of stock market as an indicator of the country's economic health and progress in corporate governance? Why or why not? Can it be a tool of performance measurement?

Discussion questions

1. What are the advantages of ignoring formal work measurement process? When it is advantageous to use historical data approach?
2. Give a comparative picture of direct time study and predetermined time study techniques.
3. What is work sampling? Write down its merits and demerits.
4. Is it possible to combine the different techniques of work measurement effectively?

Lesson Three: Benchmarking

Lesson Objectives
After completing this lesson you will be able to:

- Discuss the importance of benchmarking
- Identify the advantages and disadvantages of benchmarking
- Explain the types and process of benchmarking
- Discuss the key factors of benchmarking

By the late 1970s, Xerox was losing significant market share to its Japanese competitors. Not only were the Japanese products excellent, but to Xerox's dismay, they were sold cheaper than Xerox could manufacture them. Xerox found that it had nine times as many suppliers as the Japanese companies and made seven times as many manufacturing defects. Lead times for new products were as long, and production setup times were five times as long as the competitors'. Xerox introduced benchmarking in 1980. Its processes and practices were benchmarked against the best in and out of its industry. As a result of these efforts, Xerox saved itself. Today Xerox is a world-class competitor, capable of holding its own in terms of technology, price, service, and customer satisfaction against any competition. Benchmarking at Xerox reached into every facet of the company, and remains a primary feature of the corporation.

The Above information gives you the idea about the importance of Benchmarking. Benchmarking is the process of comparing and measuring an organization's operations or its internal processes against those of a best-in-class performer from inside or outside its industry. In simple term, benchmarking means *setting standards*. Where, standard is a quantitative criterion established as a basis for comparison in measuring or judging output. That is, a production and operation standard is a quantified criterion for measuring or judging output. The standard can be set for quantity, quality, cost, or any other attribute of output, and it is the basis for control. Even the *standard* can be set for an individual or a department or a plant. Whatever the case may be the core concept is that the *standard* works as a basis for making operating decisions. For example labor time standards are used to evaluate the performance of workers and facilities, and for predicting planning and controlling operations.

Benchmarking is the process of comparing and measuring an organization's operations or its internal processes against those of a best-in-class performer from inside or outside its industry.

On the other hand, benchmarking is the process of comparing work and service methods against the best practices and outcomes for the purpose of identifying changes that will result in higher- quality output. Benchmarking incorporates the use of human resources techniques such as goal setting to set targets that are pursued, identified, and then used as a basis for future action. The benchmarking process involves looking both inside and outside the organization for ways of improving the operation. Benchmarking offers a number of benefits to organizations. These are,

Benchmarking process involves looking both inside and outside the organization for ways of improving the operation.

- It helps the organization compare themselves against successful companies for the purpose of identifying improvement strategies.
- It enables organizations to learn from others.

- Create a need for change by showing the organization- how procedures and work assignments should be altered and resources reallocated.

There are a wide variety of examples in which benchmarking has helped organizations improve quality. Example of *Xerox* is one of them. Some organizations use benchmarking at the very start of projects so that all planning and organizing efforts are conducted in light of state-of-the-art developments in the industry. This strategy typically begins with the formation of a team that defines the project's goals and carefully identifies the areas in which benchmarking will be used.

Benchmarking is being used in carrying out day to day activities.

Other organizations use benchmarking in carrying out their day-to-day activities. Common examples include developing benchmarking strategies to reduce manufacturing setup time, increase the number of customers served per hour, and cut delivery time. Benchmarking is also being used in training and development to create programs that are cost effective and ensure that the personnel are performing their jobs as well as anyone else in the industry. This human resources focus is a new twist in benchmarking, but one that will receive increased attention during the years ahead.

Analysis on limitations of benchmarking found that: it is good only for relatively successful firms not for all.

However benchmarking has its limits too. A recent study found some correlation between a company's financial performance and its success at benchmarking *against* world-class role models. Moderately successful companies found benchmarking made no real difference. And companies with low financial results reported negative experiences with benchmarking against the best. Only companies that are relatively successful in their industry can find benchmarking to be fruitful. One interpretation for this may be, low performers do not have the quality infrastructure ready to support the organization-wide change necessary to emulate the best. For example, if you are the fifth in your industry, comparing yourself to the first may be discouraging and therefore it may be more realistic to benchmark the company that is fourth or third in the business.

Types of Benchmarking

Virtually, benchmarking is the search for best practices that will lead to superior performance. Benchmarking helps a company learn its strengths and weaknesses and those of other industrial leaders and incorporate the best practices into its own operations. There are two types of benchmarking in the operations management. These are,

a) Competitive benchmarking, and
b) Generic benchmarking.

Generally competitive benchmarking usually focuses on the products and manufacturing of a company's competitors and generic benchmarking evaluates processes or business functions against the best companies, regardless of their industry.

Benchmarking Process

The benchmarking process can be described as follows:

- *Determine which functions to benchmark:* These should have a significant impact on business performance and key dimensions of competitiveness. If fast market response were an important dimension of competitive advantage, then processes that might be benchmarked for potential improvement would

include order processing, purchasing, production planning, and product distribution.

- *Identify key performance indicators to measure:* These should have a direct link to customer needs and expectations. Typical performance indicators are quality, performance, and delivery. For instance, in case of medical representatives of pharmaceutical companies, individual sales are the key performance indicator.
- *Identify the best-in class companies:* For specific business functions, benchmarking might be limited to the same industry: a bank in one state might benchmark the check-processing operations of a bank in another state. For generic business functions, it is best to look outside one's own industry: a university financial aid office might benchmark a bank's loan operation. Selecting companies requires knowledge of which firms are superior performers in key areas. Such information can be obtained from published reports and articles, industry experts, trade magazines, professional associations, former employees, or customers and suppliers.

Look Far and Wide

When you look for best-in-class process owners as possible benchmarking partners, don't restrict your search to your own industry. For example, when Southwest Airlines was looking for a faster way to offload passengers and cargo and get the planes ready for their next flights, it benchmarked Indianapolis 500 pit crews. When Xerox needed major improvements in its warehousing operations, they benchmarked L. L. Bean, one of the world's best catalog sales organizations. IBM studied Las Vegas casinos to find ways to reduce employee theft.

- *Measure the performance of the best-in-class companies and compare the results to your own performance:* Such information might be found in published sources or might require site visits and in-depth interviews.
- *Define and take actions to meet or exceed the best performance*: This usually requires changing organizational systems. Simply to emulate the best is like shooting at moving target-their processes will continually improve. Therefore, attempts should be made to exceed the performance of the best.

How Square Pharmaceuticals has benchmarked its production activities to enter in the U.S. drug market?

Production function has been benchmarked against the Federal Drug Administration's (U.S.A.) requirements, which is a must to enter the U.S. market. The total function consists of procurement of raw materials, manufacturing, and storing.

- Key performance indicator is quality, which is ensured through quality control and quality assurance.
- Identification of pharmaceutical companies, which manufacture drugs under FDA (U.S.A.) approved regulation.
- Measure the performance against the companies and compare the results. Reports are also available from FDA.
- Construction of a FDA approved drug-manufacturing plant at Kaliakoyre, Gazipur.

Role of Management, Prerequisites and Obstacles to Successful Benchmarking

Role of management in benchmarking

- For benchmarking to be productive, management must be committed to change.
- Management must provide the necessary funding.
- Management must allocate the appropriate personnel.
- Management must provide information required to benchmarking.
- Top level managers must themselves be directly involved in benchmarking activities

Prerequisites of benchmarking

- Will and commitment
- Vision/Strategic objective link.
- Goal to become best – not simply improved
- Openness to new ideas
- Understanding of existing processes, products, and services.

Obstacles to successful benchmarking

- Internal focus
- Too broad benchmarking objective
- Unrealistic timetables
- Poor team composition
- Improper emphasis
- Settling for *OK-in-class*
- Limited top management support.

Key Factors to Remember About Benchmarking

Some factors that drive companies to benchmark are commitment to total quality, customer focus, product-to-market time, manufacturing cycle time, and financial performance at the bottom line. Key points to remember about benchmarking, as it relates to continuous improvements, are as follows:

- Today's competitive world does not allow time for gradual improvement in areas in which a company lags way behind.
- Benchmarking can tell a firm where it stands relative to best-in-class practices and processes, and which processes must be changed.
- Benchmarking provides a best-in-class model to be adopted or even improved upon.
- Modern customers are better informed and demand the highest quality and lowest prices. Companies have a choice to either perform with the best or go out of business.
- Benchmarking supports total quality by providing the best means for rapid, significant process/ practice improvement.

The benchmarking approach: The following basic questions that might be asked by the business organization to get the answer of the Benchmarking approach.

- What organization does it the best?
- How do they do it?
- How do we do it now?
- How can we change or match or exceed the best?

There is an IBC of Houston who build a database to ensure the best practice of Benchmarking around the world.

Companies like AT&T, Digital Equipment, Ford, IBM, Motorola, Xerox Corporation, Federal Express, Chrysler Corporation have attained success through benchmarking. It is becoming more and more popular day by day. The International Benchmarking Clearinghouse (IBC) of Houston has built a database of best practices. The database is available on an electronic bulletin board that

can be accessed by IBC members. It ensures the flow of information among more than 100 companies that are members of IBC. Except few organization most organizations of our country does not set up benchmarking or standards. This is mainly because of ignorance, short-term policy, lack of awareness, and the like. That's why eventually they fail to be competitive in the global market place. In fact, benchmarking provides an extra edge to be competitive in the global market.

Case Analysis

S&U Foods Business

S & U foods are planning to introduce a range of ice cream to their line. The process is still at the planning stage and the management is trying to study the market and establish standards. There are three major market players. *FREEZE World* is currently the market leader in terms of market share. Their product is easily available and is reasonably priced. However even though their ice cream is not bad but lacks creamy taste that true ice cream lover look for. The second market leader *ICE DELIGHT* offers a varied range of creamy soft ice creams however they are relatively highly priced and are available only at big retail shops. The third market player, *SAVOURY* sells ice cream those are low on prices and do not compromise on quality. However their products are not easily available.

Case question

1. In setting standards which company should be used as a benchmark?

Discussion questions

1. What is benchmarking? How does it help in performance measurement?
2. What are the benefits of benchmarking in an organization?
3. Give examples, one each, of competitive and generic benchmarking
4. Elaborate the benchmarking process.
5. Tell the name of the functions to be benchmarked in the following companies: DHL, ACI, BRAC Dairy, Biman Bangladesh, PDB.
6. Identify key performance indicators of a teacher, sales representative, and finance manager.