B Com (Hons) II Semester

E content

1. Human Resource Management
2. Banking Operations Management
3. Statistical Methods
4. Business Environment
5. Business Communication & Office Management
6. Management Information System

the students of

B. Com. (Hons), Sem: II

Name of Paper Human Resource Management

Prepared by: Deepak Verma

Performance Management

Performance can be understood as the resultant outcome of utilizing the knowledge and skills to complete any job in accordance with the basic aims and objectives for which the task is being attended by the job or task holder. Managing the performance of the job holder in desired manner is known as performance management. Assessing the performance of individual as per the standards is knowns as performance appraisal.

In present scenario every organization must manage the performance of everyone who is the member of the organization. Usually itôs easier task to manage the performance of individuals who are working repetitive job at lower level in the organizational hierarchy. Managing the performance of the employees who are working at higher or managerial level this task of performance management becomes difficult.

Concept

There are two basic tasks for the managers and team leaders who have responsibility to manage the performance of the employees;

- Assigning the job based to right man (Right man is who, has the required skill).
- Assess the job performance.

Based on above responsibilities, further fundamental concept of performance management can be explained in following manner;

- Assigning the targets to the employee.
- Performing the job by the employee.
- Assessing the performance by the oppressors.
- Rewarding/Awarding the performance of the employee.

Thus, we can say that performance management is a systematic evaluation of performance and to understand the abilities of person for further growth & development. It is a process of *assessing, summarizing and developing the work of an employee quantitatively and qualitatively.*

Definitions

Performance Management can be defined in many ways. Some definitions given by some authors are as following:

A. **Edwin B. Flippo** 'Performance appraisal is a systematic and periodic rating of an employee in methods containing to his present and future job. This definition can be understood by breaking it in to phrases.

- This is a systematic process as it follows a pattern or definite series of the activities. These activities are as following.
  (1) Assigning the job
  (2) Performing the job
  (3) Assessing the job
  (4) Awarding for the performance
- Performance Management is periodic activity as this activity is supposed to be completed within one financial cycle. Though this period can differ in different economies as all the countries donȽt follow the same financial years. Some countries follow the financial year form April to March and some countries follow the financial year from January to December.
- Based on the performance of employee management gives some rating to employee. For example, outstanding performance or dissatisfactory performance etc.
- If employees perform well, get rewarded. In the case of underperformance if need of training is detected, these employees get trained and be prepared for the future job.

B. **Dale Yorder**

"Performance Appraisal includes all formal procedures used to evaluate personalities and contribution and potential of group member in a working organization."

Process of Performance Management/Appraisal

As we discussed earlier in this chapter that performance appraisal is a part of performance management. ItȽs a cyclic process which occurs through out the year in a systematic and planned manner. The process of performance appraisal can be classified in to five steps.

1. Planning
2. Assigning the targets and goals
3. Performing the job
4. Monitoring the performance
5. Assessing the performance
6. Awarding the performance

Figurer: Process of Performance management/ Appraisal

As we discussed that the process of performance appraisal is cyclic process and one process comes after the completion of previous process.

1. **Planning:** This step has the primacy over the other steps of the performance appraisal. Planning. Planning is the process to make a bridge between present and future. Like ways performance management planning helps the managers in identifying the various job in the organization along with the detailed description of the job. Tools like job analysis and job evaluation paly a vital role in planning the performance of the employees. Tools like competency mapping, balanced score card helps in identifying the potential of the members of the organization and helps in setting goals for the individual members.

   First planning is done at corporate level and these planning are documented in the form of policies. As policies are guidelines for the managers, departmental heads use these policies to set the targets and annual goals to their employees, to monitor the performance and at last to asses the performance. Based on these assessments corporate or head office award the performance of individual.

   Two management jargons are more commonly being used at workplaces; KRA & KPA. KRA is know as Key resultant areas while KPA stands for Key performance areas.

   a. **Key resultant areas:** Key resultant areas are the general responsibilities of the member of the organization of department. Sometimes these can be common responsibilities for all the members of the department. For example, issues related to human resources is common responsibly of all the human resource managers. If any human resource manager dose something significant in the area of human resource management, this would be considered as KRA.
   b. **Key performance areas:** KPAs are individual responsibilities assigned to any employee as per the his or her competencies. Key responsibility to complete such task lies upon the holder of the job only. For example, for a Capex purchase manger, negotiating the

capital purchase proposals are KPA while cost avoidance in service purchase proposals or participating in CFT (Cross Functional Teams) are KRA.

Employers are more concern about KRAs instead of KPAs as KPAs are prime responsibilities of the job holders while KRAs shows the dedication and job engagement of the employees.

Many organizations are using the new terminologies instead of KPAs and KRAs like;

a. **Performance Indicators**: These indicators are key responsibilities of the employees. For example, for purchase managers, Savings and Cost Avoidance in purchase negotiations are performance indicators.
b. **Measurables**: measurables are actual goals for the performance indicators. For example, for a purchase manager target of saving in purchase negotiations for any performance cycle is thirty percent. It means if the manger is achieving the thirty percent average savings on purchase proposals during any performance cycle will be known as measurable.
c. **Balances Score Card**: Balanced score card is a matrix method where goals and targets related to the performance indicators and measurables of the department or any organization. These balance score card may contain following elements. (A format for balance Score card has been given at the last of the chapter as annexure). Usually balance score card is used for the strategic management, but this matrix is also used for the assessment of the targets assigned to any organization & departments. These matrices contain a detail information about the individual targets.
   i. Financial
   ii. Customers
   iii. Internal Process improvement
   iv. People & Organizational capacity

2. **Assigning the targets and goals:** After the completion of the planning part for the performance management, next task is to assign the targets to the job holders for the period of performance cycle. During this activity job holders have one to one meeting with the HODs or appraisers. HODs set the targets for the job holders after consulting the job holders. These HODs consider following elements while deciding the goals for the job holders.
   i. Past performance of the employees
   ii. Current capabilities and competencies of the employee.
   iii. Level of job engagement of the employees.

3. **Performing the job:** This step is the main stage of the performance management. Job holders perform the assigned job and try to achieve their targets for the performance cycle. Job holders perform their jobs considering the KPA, KRA, KPI and Balance Score Card which we discussed in the planning part of the Performance Management.

Job holders divide the larger goals and targets into smaller tactical goals and gradually try to achieve the larger goals for the better performance.

4. **Monitoring the performance**: It is very crucial to monitor the performance by the HODs and appraisers. Monitoring is a systematic activity which involves the periodic pre-assessment of the performance. Periodic pre-assessment depends on the organizational policies. These monitoring can be as following;
   a. Daily assessment meetings.
   b. Weekly assessment meetings.
   c. Fortnightly assessment meetings.
   d. Monthly assessment meetings.
   e. Half yearly assessment meetings (Mid Term Review)
   f. Final Review Meeting.

   During the midterm review assigned goals can be realigned for the job holders with the consultation of the job holder. Sometimes employees overestimate their potential and later realize that they are not in the position to complete the targets successfully with in given time period. During midterm review such targets can be reassigned.

5. **Assessing the performance:** This Stage is known as final stage of the performance assessment. During this stage assigned performance is compared with the current performance. On assessing the job employees are awarded as Outstanding, Good, Average, Need to improve or Poor etc.

6. **Awarding the performance:** After the final assessment of the performance of the employees its responsibility of the management to award the jobs. Outstanding performers can be awarded with the promotion, pay hike while poor performers can be punished with transfer, demotion etc.

   Sometimes management take decision of rightsizing or downsizing based on the results of the performance appraisals. After identifying the black sheeps in the organization, employees can be shown to the exit door of the organization. In simple words nonperformers are retrenched form the organization.

Establishing the performance standards

↓

Communicating the performance standards to the employees

↓

Monitor the performance of the employees

↓

Realignment of performance standards

↓

Compare the present performance with sit standards

↓

Discuss the appraisal results with employees

↓

Take corrective actions.

(figure: Process of Performance Management)

Objectives of Performance Appraisal

There may be following objectives of the performance appraisal.

1. **Settings target for employees**: Target settings is founding stage of the performance appraisal and involves two dimensions;
    a. The quality and quantity of work to be performed by an employee in the future for long term as well as short term period.
    b. The employeesôconduct/ Behaviour and engagement in the organization.

Target setting is a vital issue which involves the participation of job holder his immediate supervisor the functional head and the corporate plan.

2. **Insuring that employee's performance is on track -** Target setting only does not ensure its achievement. It requires a continuous follow up action in every department with combined efforts of the HR the respective departments.

3. **Assessing performance at the end of the year -** once the follow up action or monitoring process is taken to ensure the attainments of the target ultimately at the end of the year a performance audit is to be made that will provide a feedback on the actual performance , targets, and the deficits if any.
4. **Identifying top talent and those members who need to improve their performance -** monitoring the performance, evaluating performance of individuals and the overall performance of the organization will enable the HR to identify star performers & member who need to be given support to improve their performance. And, to identify people with high potential for the purpose of job relocation.
5. **Linking the rewards received by employees to their performance -** rewards in an organization are not to be gifts of management to the employees in fact reward should not be given as gift. They must be linked with performance and as such linking the rewards with the performance is one of the objectives of performance management.
6. **Identifying training needs of employees -** performance management includes another important activity that is imparting training to the employees. Training itself has three basic objectives namely providing and enhancing knowledge, developing skills and modifying behavior. These training objectives can easily be attaining by the activities which are performed under the larger umbrella of performance management.
7. **Maintaining the constant dialogue with employees and their supervisor -** in an

organization there is a system of performance evaluation of employees normally at the yearend either to reward the good performance or to punish for bellow slandered performance or anything wrong that the employee has committed during the previous one year period as such the performance evaluation emerges as an annual ritual and does not lead any scope of improvement in employees performance. Very often the objective of performance appraisal in the corporate world is to determine and declare employees monitory work for coming one year or six months.

We can summaries the objectives of Performance Management as following

- To plan and set the performance goals for the employees.
- To assess the performance of the employees according to standards.
- To identify areas for appropriate training and developmental is needed for the employees.
- To determine salary increments.
- To help the employees to overcome their weaknesses and improve their strength.
- To build up skills in employees to perform future jobs.
- To enhance the communication between employees and their superiors.

Methods of Performance Appraisal

We can classify methods & techniques of performance appraisal into 2 categories:

(1) Modern Method
(2) Traditional method

Traditional Method

(1) Confidential report
(2) Graphic rating and scale method
(3) Straight ranking method
(4) Paired comparison method
(5) Grading system
(6) Checklist method
(7) Forced distribution method
(8) Critical incident method
(9) Free essay evaluation method

Modern Methods

(1) Management by objective
(2) Behaviorally anchored rating system
(3) Assessment centers
(4) 360" evaluation
(5) Forced ranking bell curve method

Traditional method

(1) Confidential report

Confidential report is a traditional method of performance appraisal. During the British age confidential reports were used to be sent about the performance or the *Viceroy* to the Britain. Based on performance of the *Viceroy* further tenure was used to be decided. Appraiser makes a confidential report without discussing with the appraisee and send the same report to the management for further action. Though this is a traditional method still in some government sector this method is being used for important jobs.

(2) Graphic rating scale method

In this rating system some grades are determined by the appraiser and then performance of the employees is placed under such grades. A rating scale treats and range the performance of employees after evaluating the scores of the employee performance. Performance can be assessed based on various criteria.

Performance Level → Work Dimension ↓	Very Poor	Poor	Fairly Good	Good	Excellent
Targets Achieved					
Behaviour					
Attendance					
Cooperation					

(3) Straight Ranked/Ranking method

Under this method appraiser evaluate performance of employees and prepare a merit list of employees according to their scores. Sometimes appraiser calculate the scores with the help of average method where scores are gathered after gathering it from more than one supervisor. According to the scores obtained, appraisers make a merit list. Employee present at the top of merit list is considered as top performers.

Employee ID	Supervisor A	Supervisor B	Supervisor C	Total Score	Average Score
1					
2					

(4) Paired Comparison Method

In the method of paired comparison every employee is compared based on individual traits. Under this methods pairs of employees are formed and then they are compared with each other. This method can work where number of employees are less. For large workforce it would be practically impossible to make pairs and compare each employee with others.

Number of pairs = N(N-1) / 2 *(N= number of employees)*

(5) Grading System

The method of grading system is very similar to graphic scale method and straight ranking method but here we assign some grade to the employees for their performance. Employees are places under certain grades. For example, A grade will be given to outstanding performers, B grade will be given to good performers, C grade will be given to average performers while D grade will be given to poor performers.

Grade A = Outstanding

Grade B = Good

Grade C = Average

Grade D = Poor

(6) Checklist Method

Here, we as an appraiser, decide few goals or targets for the employees to judge their performance. At the end of financial cycle, appraiser analyze that how many tasks has been successfully completed and employeeȇs performance is rated based on the number of tasks completed.

There are two types of checklist methods

- **a.** Simple checklist
- **b.** Weighted checklist

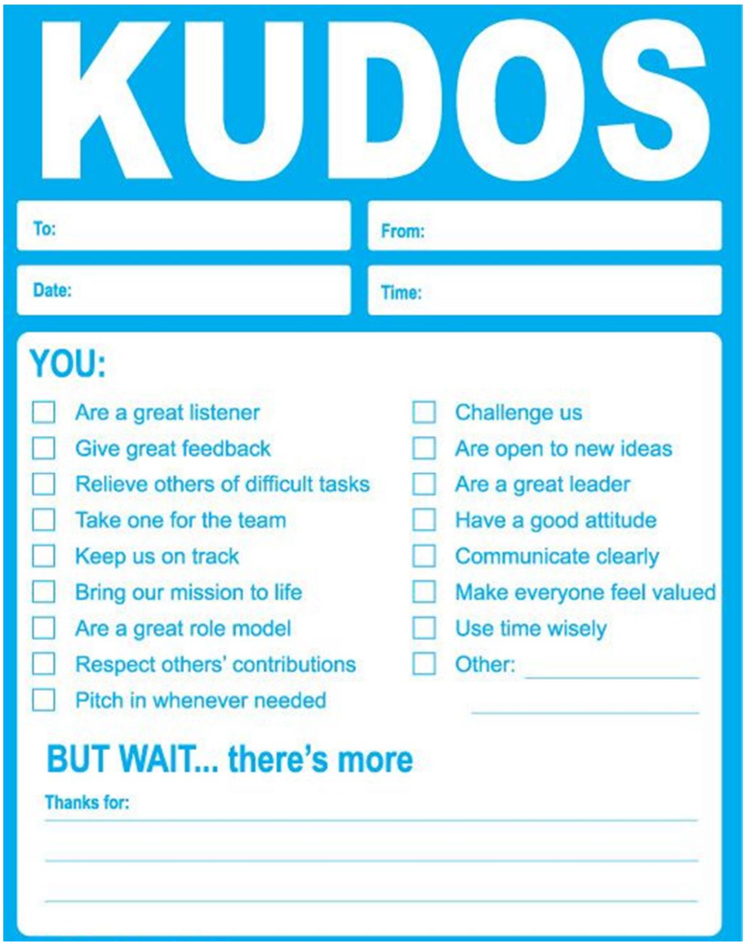
In simple checklist method simple scoring is done based on number of targets have been assigned to the employees. While in weighted checklist method some weightage has been assigned to some crucial targets. Weighted checklist method motivates the employees to achieve the crucial targets first.

(7) Forced Distribution Method

Under this method appraiser has to classify the employees according to their performance ranging from excellent performance to poorest performance. Appraiser has to place every employee into categories among outstanding to poor performer. This method is bias free method. Demerit of this method is that poor performer of a good team could be outstanding performer of a bad team.

(8) Critical Incident Method

Managers keep records whenever employees achieve something during the period of performance cycle. At the end of performance cycle employees are rated based on those critical incidents or achievements, employees achieve. Kudos cards or diary method are used to record the critical incidents.



(figure: Kudo card)

(9) Essay Appraisal Method

Supervisors or appraiser write a detailed report about the employee and their performance. While writing an essay based on the performance of employee following points should be covered;

a. Employees' duties and targets
b. Employees' potential and competencies
c. Employees behaviour as an individual and in the group
d. Any incident or contribution made by the employee which affected the productivity of the organization.

Modern Methods

(1) Management by Objective

This concept was given by Peter Drucker in 1954. Management by objective approach tends to emphasize a participative and joint determination the objectives followed by the employees and evaluated by managers/ appraisers. It consists of basic steps

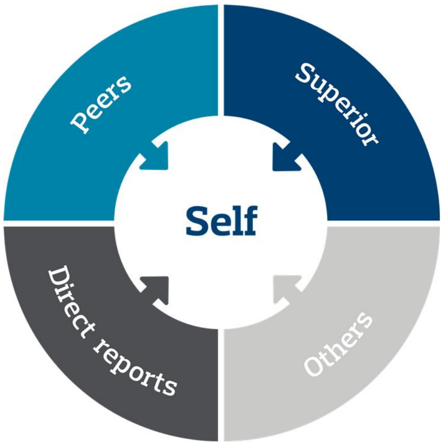
a. Set the organizational goals
b. Joint goal setting (Between employee and employer for short period of time)
c. Performance review (Frequent meetings should be conducted between employee and employers to review the ongoing performance and find out any shortcomings in performance.)
d. Feedback (On the basis of review process supervisors provide feedback to the employees and try to improvise it.)

(2) Assessment Centers

Assessment centers are facilities or infrastructures which built outside the organization. In these facilities or infrastructures, we create similar environment as real workplace. Sometimes, managers use simulators to create such environment. Under this method, we give some tasks related to general duties of the employees and they must perform it. Any supervisor or appraiser closely monitors that how employee is performing individually and how they are performing in a group.

(3) 360^0 & 540^0 Appraisal

Under 360^0 appraisal method employee provides assessment of his performance by himself and called as self-appraisal. Including self-appraisal, appraiser collect the performance status of the employee from various internal sources. (Supervisor peer groups, team members etc.)



(figure: 360^0 appraisal)

Under 540^0 appraisal method appraisers not only collect the views about the performance of employeesô form peer groups, superior, direct reports and counterparts but also form customers and suppliers. Because of adding two more elements (180^0) in to the 360^0 collectively this method becomes $540^{0.}$

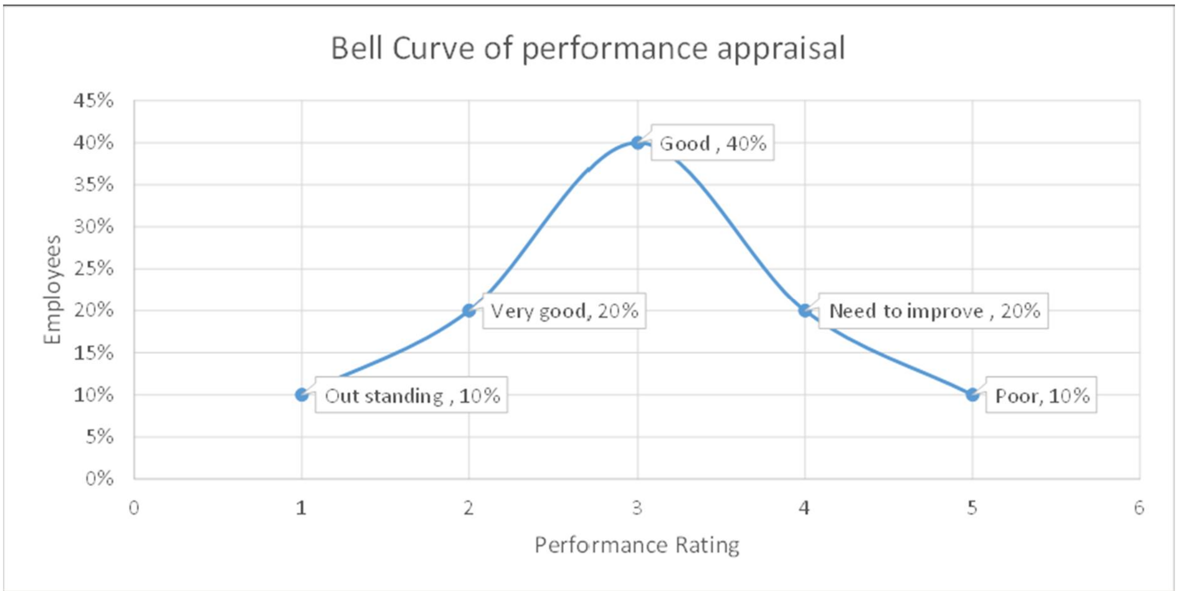
(4) Behaviour Anchored Rating Scale

Under this method, we consider the behavioural trait of the employees and incidents related to behaviour of the employees along with the performance of the employee. For example, a level 4 rating for a nurse may require them to show sympathy to patients while a level 5 rating may require them to show higher levels of empathy and ensure this comes across in all dealings with the patient in case of an appraisal of nurses in hospital.

(5) Forced Ranking Method along with Bell Curve

This method is like force ranking method we discussed in the traditional method of performance appraisal. In this method a proper graph is formed which looks like bell shape as shown in the following table and graph.

Forced Ranking Method							
Rating	**Category**	**Out standing**	**Very good**	**Good**	**Need to improve**	**Poor**	**Total**
	Code	**A (1)**	**B (2)**	**C (3)**	**D (4)**	**E (5)**	
No of Employees	Standard	10%	20%	40%	20%	10%	100%
	Actual	4	8	16	8	4	40



(figure: Bell curve method)

When a company uses a bell curve for their performance appraisal management system it implies the performance grading of all the employees is distributed along the bell curve. Here the bell curve is used to characterize the employees and group them into a top performer, average performer, and poor performer. Categories may vary from organization to organization. In order to identify the calibre of employee bell curve performance appraisal management system is often used in the different organization. The bell curve process makes it easy for HR to provide rewards to the top performer and put an extra effort for the average performance. The low performers are identified quite easily, and the action plan can be implemented to improve the performance.

(6) Cost based Method

Under this method appraisers evaluate the performance based on cost invested in the form of CTC (cost of company) being given to the employees and what is the contribution of employee to the organization. For example, if a company is investing 10,00,000 as CTC expectation of organization would be to get return of more than 10,10,000.

Balance Score Card

Vision	World Class Leadership				
	Objectives	**Measures**	**Targets**	**Initiatives**	**Results**
Satisfy Shareholders	Increase Customers	Number of Customers	% increase		
	Increase Order Size	Average Sale	% increase		
	Increase Frequency	Frequency of Sale	% increase		
	Increase New Product Revenu	# New Products % New Revenue	% increase		
Delight Customers	Increase Customer Satisfactio	Customer Satisfactio	% increase		
	Reduce Customer Complaints	Complaints	% reduction		
	Increase Referals	Number of Referrals	% increase		
	Increase Frequency	Frequency of Sale	% increase		
Effective Processes	Reduce Cycle or Lead Time	Cycle Time	% reduction		
	Reduce Defects	DPMO	% reduction		
	Reduce Costs	Cost of waste & rewo	% reduction		
Motivated & Prepared	Increase Core Skills	Training	% increase		
Workforce	Reduce Employee Turnover	Turnover	% reduction		
	Increase Systems Availability	Unavailability	% reduction		

Illustration: Goal Sheet

Name of the employee:
Employee ID:
Name of the department:
Assessment Year:

Strategic Goals	Measure	Target	Weightage	Remark	Status
Process Improvements	As per mile Stones	1	20 %		
Tactical Goals	**Measure**	**Target**	**Weightage**		
Saving through Negotiation for Capex	wrt L1 vendor	23%	30 %		
Cost Cutting Project	No's	2			
Uniform		2			
Consolidation		1			
Individual Goals	**Measure**	**Target**	**Weightage**		
Capex Negotiation	10 days Average Time	100%	50 %		
A- MIS (Capex) B- Top Projects of Capex	Weekly Reports	100%			

KRA Review for Performance Assessment

Sr No	KRAs	Weightage in %	Quarter 1			Quarter 2			Annual Review	
			Target	Achieved	Ratings	Target	Achieved	Ratings	Target	Achieved
a	**KRA 1:** Description:									
b	**KRA 2:** Description:									
c	**KRA 3:** Description:									
d	**KRA 4:** Description:									
e	**KRA 5:** Description:									
Quartertly Ratings										
Average Rating										

Scale	Rating System	Score
5	Significantly Below Average	1
4	Below Average	2
3	Average	3
2	Above Average	4
1	Outstanding	5

Asset-liability management in commercial banks

Concept of ALM

- ALM is a concept which tries to match Assets and Liabilities in terms of Maturities and Interest Rates. It tries to minimize Interest Rate Risk and Liquidity Risk.
- It is concerned with management of net interest margin ratio (net interest margin is ratio of net interest income to total earnings) to ensure the compatibility of the risk-return objectives of bank.
- This is done by matching of liabilities and assets in terms of maturity, cost and yield rates. The maturity mismatches and disproportional changes in the level of assets and liabilities can cause risk of both liquidity and interest rate.
- ALM is a risk management technique to maintain a comfortable surplus of assets beyond liabilities and designed to earn an adequate return. It considers interest rates, earning power, and degree of willingness to take on debt and therefore is also known as Surplus Management
- Therefore, the focus of ALM is not only on building up of deposits and loan/assets alone but also on net interest income and recognizing interest rate and liquidity risks. This is essentially a guide to survive in an environment which is deregulated.
- ALM is an integral part of the financial management process of any bank.
- ALM is concerned with strategic balance sheet management involving risks caused by changes in the interest rates, exchange rates and the liquidity position of the bank.
- In the process of management, these three risks form the crux of ALM. Credit risk and contingency risk are also part of the ALM.

Asset Liability Management in Banks

- In banking institutions, asset and liability management is managing various risks that arise due to mismatches between the assets and liabilities (loans and advances) of the bank.
- Banks face various risks and ALM helps to manage these risks. Banks face risks associated with assets, interest, currency exchange risks.
- ALM is nothing but efforts taken by bank board and senior management team to carefully balance the banks current and long-term potential earnings.

- The need is to maintain adequate liquidity and appropriate interest rate risk (IRR) exposures.
- Every bank has a different strategy, customer base, product selection, funding distribution, asset mix, and risk profile. These differences make the assessments of risk exposures and risk management necessary practice.

Mismatch of assets and liabilities:

Management of the risks of bank is done by matching various assets and liabilities according to the maturity pattern, matching the duration and by hedging the securities.
Increasing integrated risks is done on a full mark to market basis rather than the accounting basis that was at the heart of the first interest rate sensitivity gap and duration calculations.

Definition of ALM:

ALM is defined as, ñthe process of decision ï making to control risks of existence, stability and growth of a system through the dynamic balances of its assets and liabilities.ò

The other definition of ALM:

It is ña risk management technique designed to earn an adequate return while maintaining a comfortable surplus of assets beyond liabilities. It takes into consideration interest rates, earning power and degree of willingness to take on debt. It is also called surplus- managementò.
ALM is all about managing three central risks:

Interest Rate Risk

Liquidity Risk

Foreign currency risk

The banks which are engaged in forex operations also includes managing Currency risk

ALM information system

- Information is the basis of the ALM process. Large network of branches is there, and lack of an adequate system exists to collect information required for ALM. This will take time for banks to get the required information.
- The core activities of commercial banks are measuring and managing liquidity needs. liquidity management can minimize the probability of development of an adverse situation by making sure that bank has the ability to meet its liabilities as and when they become due.

The importance of liquidity:

- Liquidity shortfall in one institution can affect the entire system thus it helps to transcend individual institutions.
- Bank management should examine how liquidity requirements are likely to evolve under crisis scenarios.

- ALM measures not only the liquidity positions of banks on an ongoing basis but also tries to match the assets and liabilities and minimizes the interest rate risk and liquidity risk.

Overview of Asset Liability Mismatches:

- The future cash inflows & outflows of the bank are represented by the assets and liabilities of the banksôbalance sheet.
- Under Asset Liability Management these inflows & outflows are grouped into different time bundles. Each of the bundle of assets is matched with the corresponding bundle of liability.

The differences in both these bundles are known as mismatches.

Is complete matching of Assets and Liabilities in the Balance sheet necessary?
No, complete matching of assets and liabilities in balance sheet is necessary because banks can make money sometimes even as a result of such mismatches. Alam Greenspan, ex-Chairman of US Federal Reserve has once observed ñrisk taking is necessary condition for wealth creationò. However, keeping large mismatches is a risky proposition it can lead to massive losses in a volatile market. Therefore, practically the idea is not to aim at zero mismatches but to limit the mismatches

Evolution of ALM in Indian Banking System:

- Under regulated environment in India in 1970s to early 1990s, there was no interest rate risk as the interest rate were regulated and prescribed by RBI
- Spreads between deposits and lending rates were very wide. At that time banks themselves did not balance their balance sheets as they were being managed through prescriptions of the regulatory authority and the government.
- After deregulation of interest rates, banks were given a large amount of freedom to manage their Balance sheets. Thus, necessity to introduce ALM guidelines arose so that banks can be prevented from big losses from ALM mismatches.
- First ALM Guidelines was introduced in February 1999 by Reserve Bank of India which was made effective from 1st April 1999.
- Guidelines covered the interest rate risk and liquidity risk measurement reporting framework and prudential limits. Gap statements were to be prepared by scheduling all assets and liabilities according to the stated or anticipated re-pricing date or maturity date. At this stage the Assets and Liabilities were required to be divided into 8 maturity bundles (1-14 days; 15-28 days; 29-90 days; 91-180 days; 181-365 days, 1-3 years and 3-5 years and above 5 years), based on the remaining period to their maturity (also called residual maturity).
- All the liability figures were considered as outflows while the asset figures were considered as inflows.

As a measure of liquidity management, banks were required to monitor their cumulative mismatches across all time bundles in their statement of structural liquidity by establishing internal prudential limits with the approval of their boards/ management committees. As per the guidelines, in the normal course, the mismatches (negative gap) in the time buckets of 1-14 days and 15-28 days were not to exceed 20 per cent of the cash outflows in the respective time buckets

Later, RBI made it mandatory for banks to form ALCO (Asset Liability Committee) as a Committee of the Board of Directors to track, monitor and report ALM.

Objectives of ALM

- The main objective of ALM is to manage the risk in such a way to minimize the impact of net interest income fluctuations in the short run and protect the net economic value of the bank in long run. The other objectives of ALM are:
- To control the volatility of net interest income and net economic value of a bank.
- To control volatility in all target accounts.
- To control liquidity risk.
- To ensure an acceptable balance between profitability and growth rate.

Utility of ALM for commercial banks

- Utility of ALM for banks lies in its effectiveness to enable the management to achieve the banks objective of maximizing income while controlling its risk exposure.
- ALM allows banks to plan for risks well ahead of time.
- ALM facilitates the bank management to enhance the quality of its earnings by imparting stability to its interest margins.

FOR THE STUDENTS OF

BCOM (HONS) SEM 2

NAME OF PAPER-STATISTICAL METHODS

PREPARED BY-PUNEET KUMAR SRIVASTAVA

Correlation Analysis

Correlation

Correlation refers to connection, in correlation analysis we study the connection or the relation between two or more variables. If two variables vary in such a way that the change in one variable is accompanied by changes in other variable, these variables are said to be correlated. For example, relationship between the height and weight of students in a class, there exists some relation between earning of family and amount spent on luxurious items, relationship between dose of insulin and the blood sugar, etc. There may be ónô number of variables which may affect each other and relationship might exists among all of them for example there are three Variables X, Y and Z, X may be related to Z and Y both and Z may relate to Y, hence we can state that the correlation is a statistic tool to find out the relationship between two or more variables.

Definition:

Tuttle defined correlation as: ñAn analysis of the co-variation of two or more variables is usually called correlationò. Correlation is the degree of inter relatedness of two or more Variables. It is a process to determine the amount of relationship between variables with the help of tools and techniques provided by statistics. Many authors have given different definitions of correlation in simple terms correlation is the scale of relationship between variables.

Types of correlation:

1.On the basis of direction correlation is of two types:

i. Positive Correlation

ii. Negative Correlation

When the increase (or decrease) in one variable results in a corresponding increase or decrease in the other (i.e., the two variables tend to move together in the same direction), the correlation is said to be positive or direct correlation. For example, demand and price.

2. On the basis of ratio of change correlation is of two types : (i) linear correlation and (ii) non-linear correlation.

If the ratio of change between the two variables is uniform i.e., when the amount of movement in one variable bears a constant ratio to the amount of change in the other, the correlation is said to be linear otherwise it is called non-linear or curvilinear.

3. On the basis of the number of variables correlation is of three types: (i) simple correlation, (ii) multiple correlation and (iii) partial correlation.

The correlation between two variables is called simple correlation, when the number of variables is more than two we study multiple correlation and partial correlation.

Simple Correlation:

When in a problem we only study two variables, the problem is said a simple correlation problem. For example if we study the wheat production in an area and the degree of rainfall in that same area, it will be considered as an example of simple correlation.

Multiple Correlation:

When more than two variables are studied then the problem is of multiple correlations. For example if we study the production of rice in an area, the amount of rainfall and the amount of fertilizers used in the same area, it will be treated as a problem of this correlation.

It is of two types as per the influencing nature of Variables-

Partial Correlation:

Partial Correlation arrives where in a problem we identify more than two variables but consider only two variables to be influencing each other, assuming other variables as constant.

Eg. In the problem of wheat production, rainfall and temperature if correlation analysis is conducted between wheat production and rainfall and is limited to time periods when a certain average daily temperature existed.

Total Correlation:

When we study all the existing variables it is a problem of total correlation. However it is normally impossible or close to impossible.

Linear Correlation:

Linear correlation is based on the ratio of change and its consistency between the variables under study. Variables are said to be linearly correlated when the ratio is constant. In other words if the degree of change in one variable and amount of change in the other variable results in the same ratio, then the correlation is said to be linear.

Non-Linear correlation:

When the amount of change in one variable does not hold a constant ratio to the amount of change in the other variables, it is said to be nonlinear correlation.

Eg.- Doubling the rainfall will not result in increasing the production of rice wheat by two times. This correlation is also referred as curvilinear relationship between the variables.

Various techniques of studying correlation:

Following are the techniques used to study correlation:

1.Scatter diagram technique of correlation

2.Karl Pearson's Coefficient of correlation

3.Spearman's Rank Correlation

1.Scatter diagram technique of correlation

It is a easy and attractive technique of diagrammatic representation. Here, the given data are plotted on a graph sheet in the form of dots. The X variable is plotted on the horizontal axis and y variable on the vertical axis, now we can know the scatter or concentration of the various points. X and Y variables are generally referred as independent and dependent variables respectively.

2.Karl Pearson's Coefficient of correlation

While we study two variables a few immediate questions come in mind, first is there any relationship between the behavior of these two variables second if there is any relationship between the variables whether it is statistically significant enough third what is the type of relationship (+ve or – ve) between the variables and the fourth is that can the value of one variable be predicted based on the change in other variables? If these questions can be answered correctly we can measure and predict the behavior of two variables. Correlation analysis answers the first three questions and the last question is answered by regression analysis.

It not only tells about the strength of the relationship among the two variables but also about their direction of change.

It is widely used in practice and is popularly known as Pearson's coefficient of Correlation .It is denoted by 'r'. It is a mathematical method used for measuring the degree of linear relationship between variables. It gives a number that states the strength and the direction of the relationship between the variables.

Karl Pearson's coefficient of correlation can be measured in two ways:

When deviation is taken from Actual Mean, the formula is-

$r = r(x, y) = \Sigma xy / \sqrt{\Sigma x^2 \Sigma y^2}$

Illustration 1:

Find the Karl Pearson's Coefficient of correlation between the sales and expenses from the data

given below:

Roll No.	Marks in Subject A	Marks in Subject B
1	48	45
2	35	20
3	17	40
4	23	25
5	47	45

Solution:

Let the marks in subject A be denoted by X and that in subject B by Y.

X	(X-34) = x	x^2	Y	(Y-35) = y	y^2	xy
48	14	196	45	10	100	140
35	1	1	20	-15	125	-15
17	-17	289	40	5	25	-85
23	-11	121	25	-10	100	110
47	+13	169	45	10	100	130
×X = 170	×x = 0	×x^2=776	×Y = 175	×y = 0	×y^2= 550	×xy =280

$$r = \frac{\sum \square\square}{\sqrt{\sum \square^{\square}}\sqrt{\sum \square^{\square}}} = \frac{\square\square\square}{\sqrt{\square\square\square}\sqrt{\sum \square\square\square}} = \frac{\square\square\square}{\square\square.\square\square\square\square\square.\square\square} = 280/653.08 = 0.429$$

Since r = 0.429 it means that there is moderate positive correlation between the both the subjects A and B.

Properties of Coefficient of correlation:

Karl Pearson’s Coefficient of correlation has got following observational properties like-

1. The value of r is always in between -1 to +1 or -1 ≤ r ≥ +1.
2. Degree of correlation is expressed by the value of r for example is the value of r is +1 variables are high positively correlated or perfect positive correlation, if it is -1 variables are high negatively correlated or perfect negative correlation and if it is 0 there is no correlation between the variables.
3. Direction of change is indicated by sign (+ve) or (-ve).

4. It is expressed as the geometric mean of two regression coefficient r= √ bxy x by

---

For the students of

B. Com. (Hons), Sem: II

Name of Paper - BCH 205 STATISTICAL METHODS

Prepared by: Ravi Kumar Tolani

Topic – Regression analysis

Regression Analysis

- Å *"Regression analysis is a mathematical measure of the average relationship between two or more variables in terms of the original units of the data."*
- Å Regression is a set of techniques for estimating relationships between variables.
- Å It is used to predict continuous (dependent) variable given a set of independent variables.
- Å It is used for denoting the estimation and predicting the average value of one variable for a specified value of the other variable.
- Å This type of estimation is done by deriving a suitable equation on the basis of available bivariate data.
- Å The equation derived is called as ***Regression equation.***
- Å Its geometrical representation is known as the ***Regression curve***.

For exampleé ..

- Å In a country like India, the quantity of agricultural produce depends upon rainfall.

Å Like quantity demanded of a product, depends upon many factors.
Å And so many other examples are there where one event/thing is dependent upon other for its occurrence.

Applications/Uses of Regression Analysis

Å It helps in predicting the value of dependent variable from the value of the independent variable.
Å It helps managers to make smart, beneficial and more accurate decisions.
Å It helps to forecast future opportunities and risks is the most prominent application of regression analysis in business.
Å It is also used for optimizing business processes.
Å It helps in identifying errors in judgment by managers.
Å Can give new insights about a relationship between variables.

Types of Variable in Regression

Å There are two types of variables in regression analysis ï
a. Dependent Variable
b. Independent Variable
Å The variable whose value is to be predicted is called the Dependent Variable.
Å And the variable which is used for calculating/predicting the value of the dependent variable is called the Independent Variable.

Å 1. Simple Regression ï When regression analysis is done for only two variables (one dependent variable and other independent variable), it is called Simple regression.
Å 2. Multiple Regression ï When regression analysis is done for multiple variables, or when a particular phenomenon gets affected by multiple factors, i.e. regression for more than two variables is called Multiple regression.

Å 3. Linear Regression ï When relationship between variables can be represented by a straight line, it is called a linear regression.

Å 4. Non-Linear Regression ï When relationship between variables can be represented by a curve rather than a straight line, then it is known as non-linear or curvilinear regression.

Difference between Correlation and Regression

Correlation	**Regression**
Correlation studies the degree & direction of relationship between variables	Whereas regression studies nature and extent of relationship between variables
Correlation may show a no cause and effect relationship	Whereas regression assumed a cause and its effect
Itôs a relative measure	Itôs an absolute measure
Coefficients of correlation are symmetric	Regression coefficients are not symmetric.

Regression Lines

Å Line of regression is the line which gives the best fit estimate of relationship between the given variables.

Å In case of two variables, there are two regression lines ï one regression line of **Y on X** and other line of **X on Y**.

Å The regression line of Y on X gives us the value of Y for the given value of variable X.

Å Whereas, the regression line of X on Y gives us the value of X for a given value of variable Y.

Regression Equation

Å A mathematical equation/function which tell help us find out the relationship between variables is called the regression equation.
Å It means these are algebraic expressions of the regression lines.
Å In case where two variables are give, there would be two regression equations.
Å Since, there are two regression lines, there are two regression equations of Y on X and X on Y.

The regression equation of X on Y is ï
X = a + bY.
The regression equation of Y on X is ï
Y= a + bX.

Regression Coefficient

Å The regression coefficient is a statically measure used to measure the average functional relationship between variables.
Å This means that it measures the degree of dependence of one variable on the other variables.
Å Regression coefficients are also known as the slope coefficient.
Å It is because it determines the slope of the line which is the change in the independent variable for the unit change in the independent variable.

Properties of Regression Coefficient

Å It is denoted by ÒbÓ.

Å Both regression coefficients have same sign.
Å Regression coefficients cannot be greater than one.
Å Regression coefficients will be independent of change of origin, but not independent of scale.
Å If regression coefficients are negative, then correlation coefficients are also negative, and if positive, then they will also be positive.

For the students of

B. Com. (Hons), Sem: 2

Name of Paper: BCH 206 BUSINESS ENVIRONMENT

Prepared by Raman Srivastava

ECONOMIC POLICY- LIBERALIZATION, GLOBALIZATION & PRIVATIZATION

Former Prime Minister Manmohan Singh is the father of New Economic Policy (NEP) of India. Manmohan Singh introduced the NEP on July 24,1991.
The main objectives behind the launching of the New Economic policy (NEP) in 1991 by the union Finance Minister Dr. Manmohan Singh are stated as follows:

- Main objective was to develop Indian Economy in the terms of 'Globalization & to give it a new thrust on market orientation.
- NEP aimed to bring down the rate of inflation
- Meant to move towards higher economic growth rate and create sufficient foreign exchange reserves.
- Achieve economic stabilization and to convert into a market economy by removing all un-necessary restrictions.
- To permit the international flow of goods, services, capital, human resources and technology, without many limitations.
- Increase participation of private players in the all sectors of the economy.
- Beginning with mid-1991, the govt. has made some radical changes in its policies related to foreign trade, FDI, exchange rate, industry, fiscal discipline etc.
- The thrust of the New Economic Policy has been towards creating a more competitive environment in the economy as a means to improving the productivity and efficiency of the system.
- Removing the barriers to entry and the restrictions on the growth of firms.

Main Measures Adopted in the New Economic Policy
Following steps were taken under the Liberalization measure:

- Free determination of interest rate by the commercial Banks
- Increase in the investment limit for the Small Scale Industries (SSIs)
- Freedom to import capital goods
- Freedom for expansion and production to Industries
- Abolition of Restrictive Trade Practices and various Act's

1. **Liberalisation**
    a. **Removal of Industrial Licensing and Registration**: Previously private sector had to obtain license from Govt. for starting a new venture. Now they are free from licensing and other restrictions.

b. **Industries licensing is necessary** for following industries:
    - Liquor
    - Cigarette
    - Defence equipment
    - Industrial explosives
    - Drugs
    - Hazardous chemicals

2. **Privatisation:**
   - Privatisation means permitting the private sector to set up industries which were previously reserved for the public sector.
   - Under this policy many PSU's were sold to private sector. Factually speaking, privatisation is the process of involving the private sector-in the ownership of Public Sector Units (PSU's).
   - Main reason for privatisation was PSU's were running in losses due to political interference.
   - The following steps are taken for privatisation:
     - Sale of shares of PSUs
     - Disinvestment in PSU's
     - Minimisation of Public Sector: Previously Public sector was given the importance with a view to help in industrialisation and removal of poverty. Number of industries reserved for public sector was reduces from 17 to 2.
       - Railway operations
       - Atomic energy

3. **Globalization:**
   - Globalisation means to make Global or worldwide, otherwise taking into consideration the whole world.
   - Generally speaking, Globalisation means the interaction of the domestic economy with the rest of the world with regard to foreign investment, trade, production and financial matters.

Following steps are taken for Globalisation:

- **Reduction in tariffs**: Custom duties and tariffs imposed on imports and exports are reduced gradually to make economy appealing to the global investors.
- **Long term Trade Policy**: Forcing trade policy was enforced for longer duration.
  - Main features of the policy are:
    - Liberal policy
    - All controls on foreign trade have been removed
    - Open competition has been encouraged.
- **Partial Convertibility of Indian currency:**
  - Partial convertibility can be defined as to convert Indian currency (up to specific extent) in the currency of other countries.
  - In order to maintain the flow of foreign investment in terms of Foreign Institutional Investment (FII) and foreign Direct Investment (FDI).
    - This convertibility stood valid for following transaction:
      - Remittances to meet family expenses
      - Payment of interest
      - Import and export of goods and services.
- Increase in Equity Limit of Foreign Investment:
  - Equity limit of foreign capital investment has been raised from 40% to 100% percent.
  - In 47 high priority industries foreign direct investment (FDI) to the extent of 100% will be allowed without any restriction.

- o Hence Foreign Exchange Management Act (FEMA) will be enforced.

<u>If the Indian economy is flashing at the world map currently, its sole attribution goes to the implementation of the New Economic Policy in 1991.</u>

All Five-Year Plans of India

- The first five-year plan of India was launched in 1951.
- There were 12 Five-year plans have been launched by the Indian Government.
- Concept of economic planning in India is derived from Russia (then USSR).
- Now the present NDA government has stopped the formation of five-year plans. So the 12th five-year plan would be called the last five-year plan of India.
- The decades-old Five-Year Plans will make way for a three-year action plan, which will be part of a seven-year strategy paper and a 15-year vision document.
- The Niti Aayog, which has replaced the Planning Commission, is launching a three-year action plan from April 1, 2017.

- **First Five-Year Plan:**
  - The duration 1951 to 1956.
  - Based on the Harrod-Domar model.
  - Focus was on the agricultural development of the country.
  - Plan was successful & achieved growth rate of 3.6% (more than its target)
- **Second Five Year Plan:**
  - The duration 1956 to 1961.
  - Based on the P.C. Mahalanobis Model.
  - Its focus was on the industrial development.
  - Plan was successful and achieved a growth rate of 4.1%
- **Third Five Year Plan:**
  - Duration 1961 to 1966.
  - Plan was called 'Gadgil Yojna' also.
  - Main target was to make the economy independent and to reach the self-active position of take-off.
  - Due to china war, this plan could not achieve its growth target of 5.6%
- **Plan Holiday:**
  - The duration of the plan holiday was from 1966 to 1969.
  - Main reason behind the plan holiday was the Indo-Pakistan war & failure of the third plan.
  - During this plan annual plans were made,
  - Equal priority was given to agriculture its allied sectors and the industry sector.
- **Fourth Five Year Plan:**
  - Duration 1969 to 1974.
  - Main objectives of this plan i.e. growth with stability and progressive achievement of self-reliance.
  - During this plan, the slogan of "Garibi Hatao" is given during the 1971 elections by Indira Gandhi.
  - Plan failed and could achieve a growth rate of 3.3% only against the target of 5.7%.
- **Fifth Five Year Plan:**
  - Duration was 1974 to 1979.
  - Top priority was given to agriculture, next came to industry and mines.
  - Plan was successful as it achieved a growth of 4.8% against of 4.4%.
  - The draft of this plan was prepared and launched by the D.P. Dhar. This plan was terminated in 1978.

- **Rolling Plan**: This plan was started with an annual plan for 1978-79 and as a continuation of the terminated fifth-five-year plan.
- **Sixth Five Year Plan:**
  - Was from year 1980 to 1985.
  - Basic objective was poverty eradication and technological self-reliance.
  - Based on investment Yojna, infrastructural changing and trend to the growth model.
  - Growth target was 5.2% but it achieved 5.7%.
- **Seventh Five Year Plan:**
  - From the year 1985 to 1990.
  - The objectives of this plan include the establishment of a self-sufficient economy, opportunities for productive employment.
  - For the first time, the private sector got the priority over public sector.
  - Growth target was 5.0% but it achieved 6.0%.
- **Annual Plans**:
  - Eighth five Plan could not take place due to the volatile political situation at the centre. And two annual programmes are formed in 1990-91& 1991-92.
- **Eighth Five Year Plan:**
  - From 1992 to 1997.
  - Priority was given to the development of human resources i.e. employment, education, and public health.
  - During this plan, Narasimha Rao Govt. launched the New Economic Policy of India.
  - Plan was successful and got annual growth rate of 6.8% against the target of 5.6%.
- **Ninth Five Year Plan:**
  - From year 1997 to 2002.
  - Focus of this plan was "growth with justice and equity".
  - It was launched in the 50th year of independence of India.
  - This plan failed to achieve the growth target of 7% and grew at the rate of 5.6%.
- **Tenth Five Year Plan:**
  - Duration was from 2002 to 2007.
  - Plan aimed to double the Per Capita Income of India in the next 10 years.
  - Aims to reduce the poverty ratio of 15% by 2012.
  - Its growth target was 8.0% but it achieved only 7.2%.
- **Eleventh Five Year Plan:**
  - From year 2007 to 2012
  - **C. Rangarajan** prepared
  - Main theme was "faster & more inclusive growth"
  - Its growth rate target was 8.1% but it achieved only 7.9%
- **Twelfth Five Year Plan:**
  - Its duration is from 2012 to 2017.
  - Its main theme is "Faster, More Inclusive and Sustainable Growth".
  - Its growth rate target is 8%.
  - It is the current five-year plan of India.

The three-year action plan documents only provide a broad roadmap to the government. The document does not detail any schemes or allocations as it has no financial powers. Since it need not be approved by the Union Cabinet, its recommendations are not binding on the government.

The documents of the Niti Ayog have no financial role. They are only policy guide maps for the government.

For the students of

B. Com. (Hons), Sem: 2

Name of Paper: BCH 204 BUSINESS COMMUNICATION & OFFICE MANAGEMENT

Note:

- **https://tyrocity.com/topic/concept-of-an-office/**
- **http://www.himpub.com/documents/Chapter871.pdf**

Prepared by Raman Srivastava

What is Office

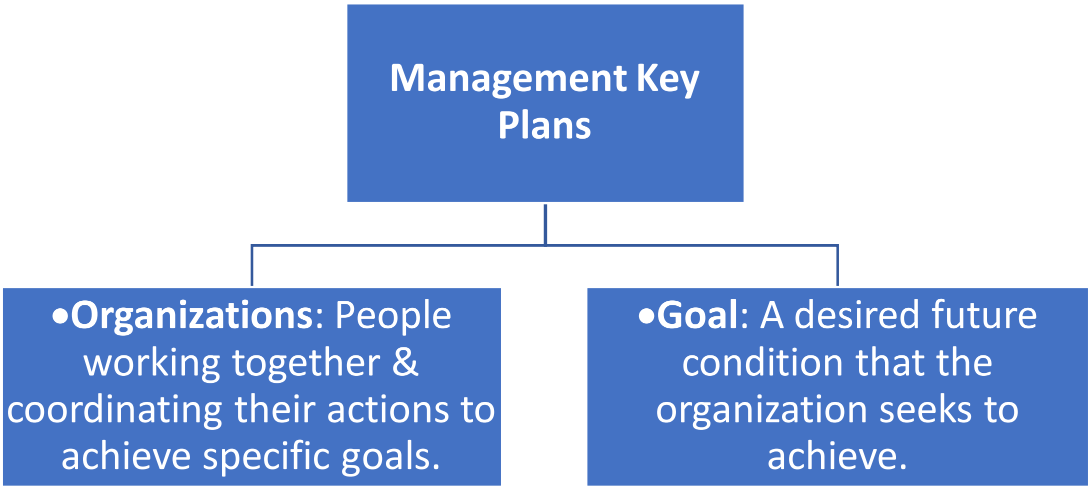
- "An office may be regarded as a place where the control mechanism of an organization are located"-George R Terry
- 'office' is a place of where business, clerical or professional activity along with personnel working in authority or trust and mainly to support functions of a major household.
- In layman terms office is the administrative centre any business.

What is Management

- Management in organizations is the function that coordinates the efforts of people to accomplish goals and objectives by using available resources efficiently and effectively.
- In layman terms it the process of dealing with or controlling things or people.

What is Office Management

- So, office management is an aspect or method where management & business integrate in order to maintain and enhance efficiency
- As said by various authors and academician office management is a profession involving the design, implementation, evaluation, and maintenance of the process of work within an office or organization, in order to maintain and improve efficiency and productivity.

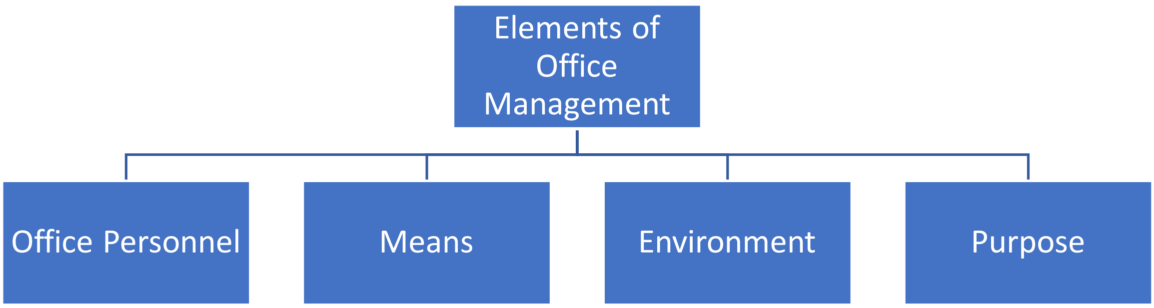


Basic characteristics of a Modern Office

- Customer Service Unit (Customer Care or act as service centre, i.e., via mail, Telephone)
- Information Tech (IT)
- Service Function
- Control Centres
- Specialization and Decentralization

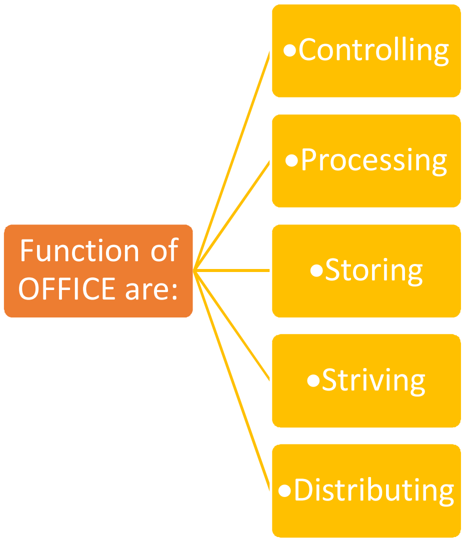
Role of Office Management

- Assist in Decision Making
- Coordination or Negotiation
- Control Centre (Accounting System)
- Motivation of other employees



What are the main Functions of an Office?

- As George R. Terry says, ***"The act of collecting, processing, storing and distributing information comprise functions of the office."***
- As modern business is complex where business organization today is faced with the ever-changing conditions and various challenge like development and advancement.



The functions of a modern office can be divided into the following categories: and they are:

1) **Basic functions of an office:**
   a) To receive or collect information
   b) To prepare records of information
   c) To process and arrange information
   d) To supply readymade information to the authorities
2) **Administrative and Management Functions:**
   a) Management function
   b) Development of office systems and procedures:
   c) Form designing and control
   d) Selection and purchase of office appliances
   e) Personnel functions
   f) Controlling office costs
   g) Maintenance of records
   h) Planning schemes and policies
   i) Safeguarding the assets
   j) Public relations

➢ **Office managers**, also called administrative service managers, are business professionals who are responsible for a diverse set of administrative tasks.
➢ **Job Analysis** is a process to identify and determine in detail the particular job duties and requirements and the relative importance of these duties for a given job. Job Analysis is a process where judgements are made about data collected on a job.

Office Accommodation

a) Office accommodation refers to the selection of must appropriate office location, office building and other facilities required for office.
b) Appropriate office accommodation helps to achieve a business objective.
c) It motivates employee to work as attractive office with all other required facilities increase performance.

The office accommodation consists of the following factors:

Office Location

- It refers to the selection of an appropriate location for business and its location is largely determined by the nature of the business.
- Different nature and size of business demand different location where the cost is minimum
- It affects the performance of the employee, the availability of resource etc.

- The appropriate selection is needed to remove inconvenience to the employees, visitor, customer and dealing with other business organization.
- There should have service facilities such as a bank, post office, insurance, markets, trade or stock exchange, transport facilities etc.
- Must be located near the sources of availability of labour.
- Should be a healthy environment where the same line of business is engaged.

Office Building

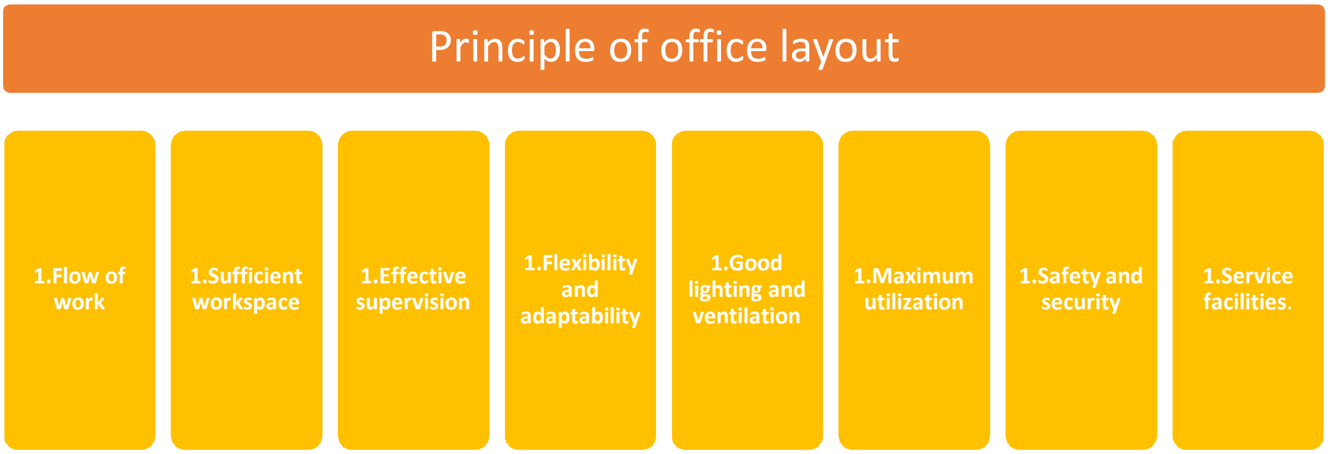
- office building must be suitable to the nature and size of business.
- It can be available through construction, rent or lease.
- There should be safety and security of the office and its staff.
- There must be facilities of lighting, ventilation, water system, free from dust, noise, smell etc.
- The cost of the office must match the budget of the office.
- It must be adaptable to append additional floor for future expansion and requirement and should meet the layout needs of machines, equipment, departments, and human resources

Office Layout

- A systematic arrangement of different amenities of office area is called office layout.
- A systematic and scientific management of machine, equipment, furniture and other resources in the office to achieve a business objective.
- Arrangements of different facilities in order to bring smoothness in work performance and motivates an employee to work hard and better in smooth nature.
- According to Hicks and Place," ***Office Layout refers to the arrangement of a workstation in the space involve so that all equipment, supplies, procedure and personal can function at maximum efficiency."***
- Allows free flow of work and free movement of an employee at work.
- Also makes maximum utilization of office space and increases profit for the business.

Principles of Office Layout

There is a certain factor that must be considered before designing the office layout. The basic requirement like the free flow of work, appropriate space, effective supervision, service facilities etc. helps to achieve office objective easily.




Objectives of Office Layout
•Utilization of floor space
•The smooth flow of work
•Minimize risk
•Maintain safety and security
•Effective supervision and control
•Provide facilities to employee and customer

For the students of

B. Com. (Hons), Sem: _2__

*Name of Paper **MANAGEMENT INFORMATION SYSTEM***

Prepared by: Dr. Saifuddin Ahmad

Internet & e – commerce, Internet, Extranet & Enterprise Solutions, Data, Information

Concepts of Networking and Data Communication.

Data communication means the transmission of data in digital form between two or more computer systems with the help of a computer network or data network and network of telecommunications which helps the computer to exchange data.

This this connection in physical form between two computer devices is established or formed using cables for wireless mediums

One of the most well-known computer network is internet is internet but before it you have to understand what is the concept of network engineering how this interconnection between computers helps in the transfer of information among them and provides data access to all connected devices

Network engineering

Network engineering is is a high-level task ok which involves software hardware firmware, Chip Level engineering and electronic pulses

the whole of networking and its concept is is divided into different layers each layer is responsible for some different task and they are all independent of others and all of the networking depends on these layers as they share data between them and take input it and deliver output to the next player

Internet

combination of networks is called and internet work ok or famously as the internet it is the largest network which can be found on this planet it connects all the wide area networks home networks and connection to all the local area networks it uses IP as its addressing protocol and various levels and layers of network engineering are utilise to perform different tasks and sharing of input and providing of output to the other layers in the network

By the usage of internet users have access and sharing of information from various sources all over the world it uses email services face2face video conferencing audio and video streaming are allowed on it social media and its various different platforms have have resulted in a very different platform in which we view the internet connected industries electronic marketing E-Commerce internet is the basic platform which we have all over the world sharing of information and content is viewed in real-time by various different connected users

Uses and applications of Computer Network

Various computer systems there peripheral systems interconnected to form a network the different advantages the offer are as below

- Helps in the sharing of printers and storage devices
- Transfer and exchange of information by email
- using the world wide web
- videoconferencing instant messaging and parallel computing

Types of computer networks

In various computer networks data is transferred or passed in the form of packets the devices which transfer or retrieve or receive this data examples phone aur computer are known as notes

Three main types of networks

1. Local area network LAN basically a small network which is limited to a small geographical area for examples computer network available in a residential building or a big home
2. Wide area network networks which cover a larger area and are used to connect various local area networks together so that people and devices can communicate with each other internet is very e easily applicable example of wide area network
3. Metropolitan Area Network which is larger in a geographical area then and a local area network but smaller than a wide area network and the number of connected users are also larger then Local area network but smaller than from a wide area network

Components of a computer networks

1. Computer servers. These are computers that that store and hold the shared programs files photos data within the connected network they provide access to all resources in the network examples are like file servers print servers mail servers database servers Fax service to name a few
2. Clients are those computers that use and access the network and the shared resources they are also known as uses of the network as the receive services from the Computer servers
3. transmission media are the facilities used to connect computers in a network for example optical fibre cable coaxial cable twisted pair cables and these are also known as channels
4. Shared data these are the data which the server's provide to the users for example data files and emails photographs which are shared on the computer network
5. Shared computer peripherals these are devices such as share printers or speakers or different hardware which are simultaneously used by the users of the network they also include data files software for or any other items used by different clients present on the network
6. local operating system it helps to allow a personal computer to have access two different files to print them to use the various types of disks and drives and USB ports located on the computer
7. network operating system it is a program which runs on a computers there connected servers and helps the computers to connect and communicate on the network

8. Hub is a device which a single network connection into multiple computers and works like a distribution system when information is requested from a network the hub receive the request and transfer it to the entire network the computers connected on the networks have to figure among them weather the coming data is for them or not

Extranet

Extranet are private portals or privately controlled network where persons outside the organisation for example customers vendors partners suppliers and outside businesses can access information in unauthorised way from the organisations network

It is a restricted user network where members or the authorised users can access the information submit orders communicate with the business or solve their problems produce documents and access support information

E-commerce

Also known as Electronic Commerce mobile commerce internet commerce refers to the buying and selling of goods and services and also show the transactions related to money and data using the internet

It is not only restricted to the sale of physical products but covers all kind of commercial activities which can be done online for on the internet transaction of goods and services was it's one of the vital parts

It can be dated back to August 11 1994 where a man sold a music CD through his website net market which was an American retail platform this was the first instant where a person purchase a product from a business in a virtual world or through world wide web so the term e commerce or Electronic Commerce came out today

The present generation is more widely aware about different organisations such as Amazon eBay Flipkart which are widely doing E-Commerce transactions Global Giants like Alibaba and aliexpress are facilitating E-Commerce in a truly Global format it is one of the largest business categories and helps in trade movements and sales growth we can and say that it in today's world it is very easy to even purchase a sack of wheat and have it delivered to your home in a few hours with payment can be facilitated by the usage of different options each and every one of them safe secure and trustworthy the uses of these e commerce are also very much thoughtful about the information which they are putting on the Internet these Electronic Commerce Giants and their businesses are constantly upgrading the security systems Computer service and connected networks to find any fault and rectify it so that no customer should lose his information it

Global E-Commerce retail sales are expected to reach 30 trillion dollars by the end of 2020

ERP, CRM & SCM

Enterprise resource planning (ERP) ERP
ERP or enterprise resource planning is a form of software which organisations and businesses use for managing their various different daily activities for example accounting procurement project management planning budgeting and reporting of the organisations finances
These systems all software air are made and designed around the defined data heads or common database so that the information which is used across the organisation is from a common source and these database or information points are used by different departments in the organisations for example the Finance Department Human Resource Department Marketing department engineering department operational department and the people who work there.
ERP helps in integration of all the organisations processes available Technologies and integrating the workforce into one system
ERP helps in higher productivity streamlining of business activities automation of business processes provides different types of insights helps in faster decision making provides more control and transparency which results in better risk management the organisation

CRM
Customer relationship management or CRM is a process or an approach which are divided into different practices guidelines how an organisation should interact and connect with their customers and improve their existing relationship with an organisation can be a success when it retain their old customers by providing repetitive sales to them and the word of mouth of these old customers regarding the services and benefits which particular organisation is providing to them would eventually help in bringing new customers.
CRM integrate customer information in one single place and covers various different aspect related to the personal information that past purchase history their grievance redressal their feedbacks on the Purchase on the product usage on the various aspect the product was rated by them and how they think the organisation or the business can work to provide a greater customer satisfaction to them. these information points are available on every customers by the organisation and to the incorporation of cloud computing are available across the businesses offices all over the world.
The CRM softwareӧs main goal is to make communication with the customers productive fruitful and efficient a dedicated team of personals look after the CRM objective of an organisation it is one of the largest tools it covers the organisation mission Technology information processes the collaboration that strategy and the customer experience available worldwide as a solution.

SCM
SUPPLY CHAIN MANAGEMENT SCM is the overall management of the movement of goods and services from the initial stage of procurement of raw materials today last placed where the product or service is consumed by the end consumer it is the streamlining of an organisation supply side and various activities connected to it it includes all the processes that

transform raw goods into final ready product supply chain management covers every aspect of transfer of goods by production product development and usage of information system to direct these efforts.

With the usage of supply chain management organisation can efficiently control the procurement production shipment and distribution of finished goods.

Where the goods are stored in what quantity they would be needed what organisations have thought of demand in the future date these all inputs are very easily covered under the supply chain management. Where is the anticipated demand of goods in the future what are the trends in the industry what government restrictions are there for procurement of raw materials what areas are having conflicts and from where we can source are goods efficiently handled by SCM.

SCM covers every product which is manufactured and traces the complete journey from manufacturing to consumption phase and every Point where they are stored. Distribution of good sales available in when trees different vendors having different quantities of goods is all covered under SCM . Organisations running SCM tools and modules have value added to the operations and saving time resources and money and efficiently utilising the available at hand resources.