AFRICA POPULATION INSTITUTE (API)

BUSINESS ADMINISTRATION & MANAGEMENT TERM TWO STUDENT'S MODULES (BAM)

Contents

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Course Name	: Business Statistics

Course Description

The Course encompasses different forms of statistics, the appropriate methods of calculating the central tendency, understanding how to estimate various scales in determining range, use of variations and sequences, standard deviation and statistics related to cross tabulation.

Course objectives

- To equip students with analytical skills and statistical concepts useful in decision making.
- To improve their knowledge of describing and interpreting statistical records.
- To enable them get firm exposure to data collection, presentation, and analysis and interpretation for rational decisions on crucial matters.

Course Content

Introduction to statistics

- Definition of Statistics
- Common uses of statistics
- Relevance of statistics in an economy
- Types of statistics i.e descriptive, inferential statistics

Methods of calculating the central tendency

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- Median
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- Range
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- Cramer's V
- Lambda coefficient
- Phi coefficient
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Statistical Inference

- Definition of statistical inference
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- Exploratory data Analysis Development(EDAD)

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- Definition of variance
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- Approximating the variance of a function
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- Sample kurtosis
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Standard deviation

- Definition of standard deviation
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- Steps in calculating standard deviation
- Simplification of the formula
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Mode of delivery Face to face lectures

Assessment

Course work 40%

Exams 60%

Total Mark 100%

Descriptive statistics

STATISTICS – a body of principles and methods of extracting information from numerical data. It is divided into two broad categories: inferential and descriptive statistics.

Descriptive statistics – the methods of organizing, summarizing and presenting data in convenient meaningful and easy to interpret forms e.g tables, graphs, charts, averages, variations from averages. Are used to describe the main features of a collection of data in quantitative terms. Descriptive statistics are distinguished from inferential statistics (or inductive statistics), in that descriptive statistics aim to quantitatively summarize a data set, rather than being used to support inferential statements about the population that the data are thought to represent. Even when a data analysis draws its main conclusions using inductive statistical analysis, descriptive statistics are generally presented along with more formal analyses, to give the audience an overall sense of the data being analyzed.

Common uses

A common example of the use of descriptive statistics occurs in medical research studies. In a paper reporting on a study involving human subjects, there typically appears a table giving the overall sample size, sample sizes in important subgroups (e.g. for each treatment or exposure group), and demographic or clinical characteristics such as the average age, the proportion of subjects with each gender, and the proportion of subjects with related comorbidities.

In research involving comparisons between groups, a major emphasis is often placed on the significance level for the hypothesis that the groups being compared differ to a greater degree than would be expected by chance. This significance level is often represented as a p-value, or sometimes as the standard score of a test statistic. In contrast, an effect size is a descriptive statistic that conveys the estimated magnitude and direction of the difference between groups, without regard to whether the difference is statistically significant. Reporting significance levels without effect sizes is often criticized, since for large sample sizes even small effects of little practical importance can be highly statistically significant.

Examples of descriptive statistics

Most statistics can be used either as a descriptive statistic, or in an inductive analysis. For example, we can report the average reading test score for the students in each classroom in a school, to give a descriptive sense of the typical scores and their variation. If we perform a formal hypothesis test on the scores, we are doing inductive rather than descriptive analysis.

Some statistical summaries are especially common in descriptive analyses. Some examples follow.

- Measures of central tendency , Measures of dispersion , Measures of association , Cross-tab, contingency table , Histogram , Quantile, Q-Q plot , Scatterplot , Box plot .

INFERENTIAL STATISTICS – that body of methods used to draw conclusions about characteristics of a population based on information available from a sample taken scientifically from that population, e.g., given that UTL has 70,000 subscribers and 30,000 potential subscribers. If UTL wanted to introduce new communication methods, it my sample only 10% of its population. This leaves a chance of making errors.

However, statistical methods have ways of determining the reliability of statistical inference

Reliability: where a repeated measurement gives a similar if not exact value as before. This depends on: - the tool of measurement, -the competence of the person doing the measurement and -the consistency of the data.

The sample should be drawn using a probabilistic method (representative and luck of bias). Non probabilistic methods is not applicable in inferential statistics.

Population: is the total set of elements or characters under obsevation/study. It may consist of measurements, companies, a set of accounts, etc.

Sample: is a sub set of a population and a descriptive measure of the sample is known as a **statistic.**

ESTIMATION

Samples estimate parameters. Whereas a parameter for a specific population is a constant, a statistic is a variable.

The process of estimating, forecasting or making decisions about the population from sample information is called statistical inference and is the primary purpose of statistics. Populations are often large making it impractical to inquire from every member of a population.

Decision makers use statistics to estimate parameters. because of the uncertainty sorrounding the estimation techniques, each statistic must be acconpanied by a measure of reliability of inference.

Average

In mathematics, an **average**, **central tendency**[1] of a data set is a measure of the "middle" or "expected" value of the data set. There are many different descriptive statistics that can be chosen as a measurement of the central tendency of the data items. These include means, the median and the mode. Other statistical measures such as the standard deviation and the range are called measures of spread and describe how spread out the data is.

An average is a single value that is meant to typify a list of values. If all the numbers in the list are the same, then this number should be used. If the numbers are not all the same, an easy way to get a representative value from a list is to randomly pick any number from the list. However, the word 'average' is usually reserved for more sophisticated methods that are generally found to be more useful. In the latter case, the average is calculated by combining the values from the set in a specific way and computing a single number as being the average of the set.

The most common method is the arithmetic mean but there are many other types of averages, such as median (which is used most often when the distribution of the values is skewed with some small numbers of very high values, as seen with house prices or incomes).[2]

Calculation

Arithmetic mean

Main article: Arithmetic mean

If n numbers are given, each number denoted by a_i, where i = 1, ..., n, the arithmetic mean is the [sum] of the a_i's divided by n or

The arithmetic mean, often simply called the mean, of two numbers, such as 2 and 8, is obtained by finding a value A such that 2 + 8 = A + A. One may find that $A = (2 + 8)/2 = 5$. Switching the order of 2 and 8 to read 8 and 2 does not change the resulting value obtained for A. The mean 5 is not less than the minimum 2 nor greater than the maximum 8. If we increase the number of terms in the list for which we want an average, we get, for example, that the arithmetic mean of 2, 8, and 11 is found by solving for the value of A in the equation $2 + 8 + 11 = A + A + A$. One finds that $A = (2 + 8 + 11)/3 = 7$.

Changing the order of the three members of the list does not change the result: A $(8 + 11 + 2)/3 = 7$ and that 7 is between 2 and 11. This summation method is easily generalized for lists with any number of elements. However, the mean of a list of integers is not necessarily an integer. "The average family has 1.7 children" is a jarring way of making a statement that is more appropriately expressed by "the average number of children in the collection of families examined is 1.7".

Geometric mean

The geometric mean of n numbers is obtained by multiplying them all together and then taking the nth root. In algebraic terms, the geometric mean of a_1, a_2, ..., a_n is defined as

Geometric mean can be thought of as the antilog of the arithmetic mean of the logs of the numbers.

Example: Geometric mean of 2 and 8 is

Harmonic mean

Harmonic mean for a set of numbers a_1, a_2, ..., a_n is defined as the reciprocal of the arithmetic mean of the reciprocals of a_i's:

One example where it is useful is calculating the average speed. For example, if the speed for going from point A to B was 60 km/h, and the speed for returning from B to A was 40 km/h, then the average speed is given by

Inequality concerning AM, GM, and HM

A well known inequality concerning arithmetic, geometric, and harmonic means for any set of positive numbers is

It is easy to remember noting that the alphabetical order of the letters A, G, and H is preserved in the inequality. See Inequality of arithmetic and geometric means.

Mode and median

The most frequently occurring number in a list is called the mode. The mode of the list (1, 2, 2, 3, 3, 3, 4) is 3. The mode is not necessarily well defined, the list (1, 2, 2, 3, 3, 5) has the two modes 2 and 3. The mode can be subsumed under the general method of defining averages by understanding it as taking the list and setting each member of the list equal to the most common value in the list if there is a most common value. This list is then equated to the resulting list with all values replaced by the same value. Since they are already all the same, this does not require any change. The mode is more meaningful and potentially useful if there are many numbers in the list, and the frequency of the numbers progresses smoothly (e.g., if out of a group of 1000 people, 30 people weigh 61 kg, 32 weigh 62 kg, 29 weigh 63 kg, and all the other possible weights occur less frequently, then 62 kg is the mode).

The mode has the advantage that it can be used with non-numerical data (e.g., red cars are most frequent), whilst other averages cannot.

The median is the middle number of the group when they are ranked in order. (If there are an even number of numbers, the mean of the middle two is taken.)

Thus to find the median, order the list according to its elements' magnitude and then repeatedly remove the pair consisting of the highest and lowest values until either one or two values are left. If exactly one value is left, it is the median; if two values, the median is the arithmetic mean of these two. This method takes the list 1, 7, 3, 13 and orders it to read 1, 3, 7, 13. Then the 1 and 13 are removed to obtain the list 3, 7. Since there are two elements in this remaining list, the median is their arithmetic mean, (3 + 7)/2 = 5.

Definitions

Mean

Mode The most frequent value in the data set

Median The middle value that separates the higher half from the lower half of the data set

Truncated Mean The arithmetic mean of data values after a certain number or proportion of the highest and lowest data values have been discarded

Interquartile mean A special case of the truncated mean, using the interquartile range

Winsorized mean Similar to the truncated mean, but, rather than deleting the extreme values, they are set equal to the largest and smallest values that remain

Geometric mean A rotation invariant extension of the median for points in R^n

Solutions to variational problems

Several measures of central tendency can be characterized as solving a variational problem, in the sense of the calculus of variations, namely minimizing variation from the center. That is, given a measure of statistical dispersion, one asks for a measure of central tendency that minimizes variation: such that variation from the center is minimal among all choices of center. In a quip, "dispersion precedes location". In the sense of L^p spaces, the correspondence is:

L^p	Dispersion	central tendency
L^1	average absolute deviation	median

***L*²**	standard deviation	mean
***L*^∞^**	maximum deviation	midrange

Thus standard deviation about the mean is lower than standard deviation about any other point, and the maximum deviation about the midrange is lower than the maximum deviation about any other point. The uniqueness of this characterization of mean follows from convex optimization. Indeed, for a given (fixed) data set x, the function represents the dispersion about a constant value *c* relative to the L^2 norm. Because the function f_2 is a strictly convex coercive function, the minimizer exists and is unique.

Note that the median in this sense is not in general unique, and in fact any point between the two central points of a discrete distribution minimizes average absolute deviation. The dispersion in the L^1 norm, given by

is not *strictly* convex, whereas strict convexity is needed to ensure uniqueness of the minimizer. In spite of this, the minimizer is unique for the L^∞ norm.

Miscellaneous types

Other more sophisticated averages are: trimean, trimedian, and normalized mean.

One can create one's own average metric using generalized f-mean:

where *f* is any invertible function. The harmonic mean is an example of this using $f(x) = 1/x$, and the geometric mean is another, using $f(x) = \log x$. Another example, expmean (exponential mean) is a mean using the function $f(x) = e^x$, and it is inherently biased towards the higher values. However, this method for generating means is not general enough to capture all averages. A more general method for defining an average, y, takes any function of a list $g(x_1, x_2, ..., x_n)$, which is symmetric under permutation of the members of the list, and equates it to the same function with the value of the average replacing each member of the list: $g(x_1, x_2, ..., x_n) = g(y, y, ..., y)$. This most general definition still captures the important property of all averages that the average of a list of identical elements is that element itself. The function $g(x_1, x_2, ..., x_n) = x_1+x_2+ ...+ x_n$ provides the arithmetic mean. The function $g(x_1, x_2, ..., x_n) = x_1 \cdot x_2 \cdot ... \cdot x_n$ provides the geometric mean. The function $g(x_1, x_2, ..., x_n) = x_1^{-1}+x_2^{-1}+ ...+ x_n^{-1}$ provides the harmonic mean. (See John Bibby (1974) “Axiomatisations of the average and a further generalisation of monotonic sequences,” Glasgow Mathematical Journal, vol. 15, pp. 63–65.)

In data streams

The concept of an average can be applied to a stream of data as well as a bounded set, the goal being to find a value about which recent data is in some way clustered. The stream may be distributed in time, as in samples taken by some data acquisition system from which we want to remove noise, or in space, as in pixels in an image from which we want to extract some property. An easy-to-understand and widely used application of average to a stream is the simple moving average in which we compute the arithmetic mean of the most recent N data items in the stream. To advance one position in the stream, we add 1/N times the new data item and subtract 1/N times the data item N places back in the stream.

Averages of functions

The concept of average can be extended to functions.[3] In calculus, the average value of an integrable function f on an interval [a,b] is defined by

Etymology

An early meaning (c. 1500) of the word *average* is "damage sustained at sea". The root is found in Arabic as *awar*, in Italian as *avaria* and in French as *avarie*. Hence an *average adjuster* is a person who assesses an insurable loss.

Marine damage is either *particular average*, which is borne only by the owner of the damaged property, or general average, where the owner can claim a proportional contribution from all the parties to the marine venture. The type of calculations used in adjusting general average gave rise to the use of "average" to mean "arithmetic mean".

However, according to the Oxford English Dictionary, the earliest usage in English (1489 or earlier) appears to be an old legal term for a tenant's day labour obligation to a sheriff, probably anglicised from "avera" found in the English Domesday Book (1085). This pre-existing term thus lay to hand when an equivalent for *avarie* was wanted.

Statistical dispersion

In statistics, **statistical dispersion** (also called **statistical variability** or **variation**) is variability or spread in a variable or a probability distribution. Common examples of measures of statistical dispersion are the variance, standard deviation and interquartile range.

Dispersion is contrasted with location or central tendency, and together they are the most used properties of distributions.

Measures of statistical dispersion

A measure of statistical dispersion is a real number that is zero if all the data are identical, and increases as the data becomes more diverse. It cannot be less than zero.

Most measures of dispersion have the **same scale as the quantity being measured.** In other words, if the measurements have units, such as metres or seconds, the measure of dispersion has the same units. Such measures of dispersion include:

ESTIMATES OF SCALE

- Standard deviation
- Interquartile range
- Range
- Mean difference
- Median absolute deviation
- Average absolute deviation (or simply called average deviation)

These are frequently used (together with scale factors) as estimators of scale parameters, in which capacity they are called **estimates of scale.**

All the above measures of statistical dispersion have the useful property that they are **location-invariant**, as well as linear in scale. So if a random variable X has a dispersion of S_X then a linear transformation $Y = aX + b$ for real a and b should have dispersion $S_Y = |a|S_X$.

Other measures of dispersion are **dimensionless (scale-free)**. In other words, they have no units even if the variable itself has units. These include:

- Coefficient of variation
- Quartile coefficient of dispersion
- Relative mean difference, equal to twice the Gini coefficient

There are other measures of dispersion:

- Variance (the square of the standard deviation) — location-invariant but not linear in scale.
- Variance-to-mean ratio — mostly used for count data when the term coefficient of dispersion is used and when this ratio is dimensionless, as count data are themselves dimensionless: otherwise this is not scale-free.

Some measures of dispersion have specialized purposes, among them the Allan variance and the Hadamard variance.

For categorical variables, it is less common to measure dispersion by a single number. See qualitative variation. One measure which does so is the discrete entropy.

Sources of statistical dispersion

In the physical sciences, such variability may result only from random measurement errors: instrument measurements are often not perfectly precise, i.e., reproducible. One may assume that the quantity being measured is unchanging and stable, and that the variation between measurements is due to observational error.

In the biological sciences, this assumption is false: the variation observed might be *intrinsic* to the phenomenon: distinct members of a population differ greatly. This is also seen in the arena of manufactured products; even there, the meticulous scientist finds variation.

The simple model of a stable quantity is preferred when it is tenable. Each phenomenon must be examined to see if it warrants such a simplification.

Association (statistics)

In statistics, an **association** is any relationship between two measured quantities that renders them statistically dependent.[1] The term "association" refers broadly to any such relationship, whereas the narrower term "correlation" refers to a linear relationship between two quantities.

There are many statistical measures of association that can be used to infer the presence or absence of an association in a sample of data. Examples of such measures include the product moment correlation coefficient, used mainly for quantitative measurements, and the odds ratio, used for dichotomous measurements. Other measures of association are the tetrachoric correlation coefficient and Goodman and Kruskal's lambda

In quantitative research, the term "association" is often used to emphasize that a relationship being discussed is not necessarily causal (see correlation does not imply causation).

Cross tabulation

A **cross tabulation** (often abbreviated as **cross tab**) displays the joint distribution of two or more variables. They are usually presented as a contingency table in a matrix format. Whereas a frequency distribution provides the distribution of one variable, a contingency table describes the distribution of two or more variables simultaneously.

The following is a fictitious example of a 3 × 2 contingency table. The variable “Wikipedia usage” has three categories: heavy user, light user, and non user. These categories are all inclusive so the columns sum to 100%. The other variable "underpants" has two categories: boxers, and briefs. These categories are not all inclusive so the rows need not sum to 100%. Each cell gives the percentage of subjects who share that combination of traits.

	boxers	briefs
heavy Wiki user	70%	5%
light Wiki user	25%	35%
non Wiki user	5%	60%

Cross tabs are frequently used because:

1. They are easy to understand. They appeal to people who do not want to use more sophisticated measures.
2. They can be used with any level of data: nominal, ordinal, interval, or ratio - cross tabs treat all data as if it is nominal.
3. A table can provide greater insight than single statistics.
4. It solves the problem of empty or sparse cells.
5. They are simple to conduct.

Statistics related to cross tabulations

The following list is not comprehensive.

- **Chi-square** - This tests the statistical significance of the cross tabulations. Chi-squared should not be calculated for percentages. The cross tabs must be converted back to absolute counts (numbers) before calculating chi-squared. Chi-squared is also problematic when any cell has a joint frequency of less than five. For an in-depth discussion of this issue see Fienberg, S.E. (1980). "The Analysis of Cross-classified Categorical Data." 2nd Edition. M.I.T. Press, Cambridge, MA.
- **Contingency coefficient** - This tests the strength of association of the cross tabulations. It is a variant of the **phi coefficient** that adjusts for statistical

significance. Values range from 0 (no association) to 1 (the theoretical maximum possible association).

- **Cramer's V** - This tests the strength of association of the cross tabulations. It is a variant of the **phi coefficient** that adjusts for the number of rows and columns. Values range from 0 (no association) to 1 (the theoretical maximum possible association).
- **Lambda coefficient** — This tests the strength of association of the cross tabulations when the variables are measured at the nominal level. Values range from 0 (no association) to 1 (the theoretical maximum possible association). **Asymmetric lambda** measures the percentage improvement in predicting the dependent variable. **Symmetric lambda** measures the percentage improvement when prediction is done in both directions.
- **phi coefficient** - If both variables instead are nominal and dichotomous, phi coefficient is a measure of the degree of association between two binary variables. This measure is similar to the correlation coefficient in its interpretation. Two binary variables are considered positively associated if most of the data falls along the diagonal cells. In contrast, two binary variables are considered negatively associated if most of the data falls off the diagonal.
- **Kendall tau**:
  - **Tau b** - This tests the strength of association of the cross tabulations when both variables are measured at the ordinal level. It makes adjustments for ties and is most suitable for square tables. Values range from -1 (100% negative association, or perfect inversion) to +1 (100% positive association, or perfect agreement). A value of zero indicates the absence of association.
  - **Tau c** - This tests the strength of association of the cross tabulations when both variables are measured at the ordinal level. It makes adjustments for ties and is most suitable for rectangular tables. Values range from -1 (100% negative association, or perfect inversion) to +1 (100% positive association, or perfect agreement). A value of zero indicates the absence of association.
- **Gamma** - This tests the strength of association of the cross tabulations when both variables are measured at the ordinal level. It makes no adjustment for either table size or ties. Values range from -1 (100% negative association, or perfect inversion) to +1 (100% positive association, or perfect agreement). A value of zero indicates the absence of association.
- **Uncertainty coefficient**, **entropy coefficient** or **Theil's U**

Histogram

In statistics, a **histogram** is a graphical display of tabulated frequencies, shown as bars. It shows what proportion of cases fall into each of several categories: it is a form of data binning. The categories are usually specified as non-overlapping intervals of some variable. The categories (bars) must be adjacent. The intervals (or bands, or bins) are generally of the same size.[1]

Histograms are used to plot density of data, and often for density estimation: estimating the probability density function of the underlying variable. The total area of a histogram used for probability density is always normalized to 1. If the length of the intervals on the x-axis are all 1, then a histogram is identical to a relative frequency plot.

An alternative to the histogram is kernel density estimation, which uses a kernel to smooth samples. This will construct a smooth probability density function, which will in general more accurately reflect the underlying variable.

The histogram is one of the seven basic tools of quality control, which also include the Pareto chart, check sheet, control chart, cause-and-effect diagram, flowchart, and scatter diagram.

Etymology

The word *histogram* derived from the Greek *histos* 'anything set upright' (as the masts of a ship, the bar of a loom, or the vertical bars of a histogram); and *gramma* 'drawing, record, writing'. The term was introduced by Karl Pearson in 1895.[2]
Examples

As an example we consider data collected by the U.S. Census Bureau on time to travel to work (2000 census, [1], Table 2). The census found that there were **124 million people** who work outside of their homes. This rounding is a common phenomenon when collecting data from people.

This histogram shows the number of cases per unit interval so that the height of each bar is equal to the proportion of total people in the survey who fall into that category. The area under the curve represents the total number of cases (124 million). This type of histogram shows absolute numbers.

In other words a histogram represents a frequency distribution by means of rectangles whose widths represent class intervals and whose areas are proportional to the corresponding frequencies. They only place the bars together to make it easier to compare data.

Activities and demonstrations

The SOCR resource pages contain a number of hands-on interactive activities demonstrating the concept of a histogram, histogram construction and manipulation using Java applets and charts.

Mathematical definition

An ordinary and a cumulative histogram of the same data. The data shown is a random sample of 10,000 points from a normal distribution with a mean of 0 and a standard deviation of 1.

In a more general mathematical sense, a histogram is a mapping m_i that counts the number of observations that fall into various disjoint categories (known as *bins*), whereas the graph of a histogram is merely one way to represent a histogram. Thus, if we let n be the total number of observations and k be the total number of bins, the histogram m_i meets the following conditions:

Cumulative histogram

A cumulative histogram is a mapping that counts the cumulative number of observations in all of the bins up to the specified bin. That is, the cumulative histogram M_i of a histogram m_i is defined as:

Number of bins and width

There is no "best" number of bins, and different bin sizes can reveal different features of the data. Some theoreticians have attempted to determine an optimal number of bins, but these methods generally make strong assumptions about the shape of the distribution. You should always experiment with bin widths before choosing one (or more) that illustrate the salient features in your data.

The number of bins k can be calculated directly, or from a suggested bin width h:

The braces indicate the ceiling function.

Sturges' formula[3]

,

which implicitly bases the bin sizes on the range of the data, and can perform poorly if $n < 30$.

Scott's choice[4]

,

where σ is the sample standard deviation.

Freedman-Diaconis' choice[5]

,

which is based on the interquartile range.

Continuous data

The idea of a histogram can be generalized to continuous data. Let (see Lebesgue space), then the cumulative histogram operator H can be defined by:

> $H(f)(y) =$ with only finitely many intervals of monotony this can be rewritten as

$h(f)(y)$ is undefined if y is the value of a stationary point.

Density estimation

- Kernel density estimation, a smoother but more complex method of density estimation

Quantile

Quantiles are points taken at regular intervals from the cumulative distribution function (CDF) of a random variable. Dividing ordered data into q essentially equal-sized data subsets is the motivation for q-quantiles; the quantiles are the data values marking the boundaries between consecutive subsets. Put another way, the kth q-quantile for a random variable is the value x such that the probability that the random variable will be less than x is at most k / q and the probability that the random variable will be more than x is at most $(q - k) / q$. There are $q - 1$ quantiles, with k an integer satisfying $0 < k < q$.

Median of the order statistics

Alternatively, one may use estimates of the *median* of the order statistics, which one can compute based on estimates of the median of the order statistics of a uniform distribution and the quantile function of the distribution; this was suggested by (Filliben 1975).[3]

This can be easily generated for any distribution for which the quantile function can be computed, but conversely the resulting estimates of location and scale are no longer precisely the least squares estimates, though these only differ significantly for *n* small.

Statistical inference

Statistical inference or **statistical induction** comprises the use of statistics and random sampling to make inferences concerning some unknown aspect of a population. It is distinguished from descriptive statistics.

Two schools of statistical inference are frequency probability and Bayesian inference.

Definition

Statistical inference is inference about a population from a random sample drawn from it or, more generally, about a random process from its observed behavior during a finite period of time. It includes:

1. Point estimation
2. Interval estimation
3. Hypothesis testing (or statistical significance testing)
4. Prediction – see predictive inference

There are several distinct schools of thought about the justification of statistical inference. All are based on some idea of what real world phenomena can be reasonably modeled as probability.

1. Frequency probability
2. Bayesian probability
3. Fiducial probability

The topics below are usually included in the area of **statistical inference**.

1. Statistical assumptions
2. Statistical decision theory
3. Estimation theory
4. Statistical hypothesis testing
5. Revising opinions in statistics
6. Design of experiments, the analysis of variance, and regression
7. Survey sampling
8. Summarizing statistical data

Exploratory data analysis

From Wikipedia, the free encyclopedia

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Exploratory data analysis (EDA) is an approach to analyzing data for the purpose of formulating hypotheses worth testing, complementing the tools of conventional statistics for testing hypotheses[1]. It was so named by John Tukey to contrast with Confirmatory Data Analysis, the term used for the set of ideas about hypothesis testing, p-values, confidence intervals etc. which formed the key tools in the arsenal of practicing statisticians at the time.

EDA development

Tukey held that too much emphasis in statistics was placed on statistical hypothesis testing (confirmatory data analysis); more emphasis needed to be placed on using data to suggest hypotheses to test. In particular, he held that confusing the two types of analyses and employing them on the same set of data can lead to systematic bias owing to the issues inherent in testing hypotheses suggested by the data.

The objectives of EDA are to:

- Suggest hypotheses about the causes of observed phenomena
- Assess assumptions on which statistical inference will be based
- Support the selection of appropriate statistical tools and techniques
- Provide a basis for further data collection through surveys or experiments

Many **EDA** techniques have been adopted into data mining and are being taught to young students as a way to introduce them to statistical thinking.[2]

Variance

In probability theory and statistics, the **variance** of a random variable, probability distribution, or sample is a measure of statistical dispersion, averaging the squares of the deviations of its possible values from its expected value (mean). Whereas the mean is a way to describe the location of a distribution, the variance is a way to capture its scale or degree of being spread out. The unit of variance is the square of the unit of the original variable. The positive square root of the variance, called the standard deviation, has the same units as the original variable and can be easier to interpret for this reason.

The variance of a real-valued random variable is its second central moment, and it also happens to be its second cumulant. Just as some distributions do not have a mean, some do not have a variance. The mean exists whenever the variance exists, but not vice versa.

Definition

If a random variable X has expected value (mean) $\mu = E(X)$, then the variance $\mathrm{Var}(X)$ of X is given by:

This definition encompasses random variables that are discrete, continuous, or neither. Of all the points about which squared deviations could have been calculated, the mean produces the minimum value for the averaged sum of squared deviations.

This definition is expanded as follows:

The variance of random variable X is typically designated as $\mathrm{Var}(X)$, , or simply σ^2 (pronounced "sigma squared"). If a distribution does not have an expected value, as is the case for the Cauchy distribution, it does not have a variance either. Many other distributions for which the expected value does exist do not have a finite variance because the relevant integral diverges. An example is a Pareto distribution whose Pareto index k satisfies $1 < k \leq 2$.

Continuous case

If the random variable X is continuous with probability density function $p(x)$,

where

and where the integrals are definite integrals taken for x ranging over the range of X.

Discrete case

If the random variable X is discrete with probability mass function

$x_1 \mapsto p_1, \ldots, x_n \mapsto p_n$, then

(When such a discrete weighted variance is specified by weights whose sum is not 1, then one divides by the sum of the weights.) That is, it is the expected value of the square of the deviation of X from its own mean. In plain language, it can be expressed as "The average of the square of the distance of each data point from the mean". It is thus the *mean squared deviation*.

Examples

Exponential distribution

The exponential distribution with parameter λ is a continuous distribution whose support is the semi-infinite interval $[0,\infty)$. Its probability density function is given by:

and it has expected value $\mu = \lambda^{-1}$. Therefore the variance is equal to:

So for an exponentially distributed random variable $\sigma^2 = \mu^2$.

Fair die

A six-sided fair die can be modelled with a discrete random variable with outcomes 1 through 6, each with equal probability $1/6$. The expected value is $(1+2+3+4+5+6)/6 = 3.5$. Therefore the variance can be computed to be:

Properties

Variance is non-negative because the squares are positive or zero. The variance of a constant random variable is zero, and the variance of a variable in a data set is 0 if and only if all entries have the same value.

Variance is invariant with respect to changes in a location parameter. That is, if a constant is added to all values of the variable, the variance is unchanged. If all values are scaled by a constant, the variance is scaled by the square of that constant. These two properties can be expressed in the following formula:

The variance of a finite sum of **uncorrelated** random variables is equal to the sum of their variances. This stems from the identity:

and that for uncorrelated variables covariance is zero.

In general, for the sum of N variables: , we have:

1. Suppose that the observations can be partitioned into equal-sized **subgroups** according to some second variable. Then the variance of the total group is equal to the mean of the variances of the subgroups plus the variance of the means of the subgroups. This property is known as variance decomposition or the law of total variance and plays an important role in the analysis of variance. For example, suppose that a group consists of a subgroup of men and an equally large subgroup of women. Suppose that the men have a mean body length of 180 and that the variance of their lengths is 100. Suppose that the women have a mean length of 160 and that the variance of their lengths is 50. Then the mean of the variances is (100 + 50) / 2 = 75; the variance of the means is the variance of 180, 160 which is 100. Then, for the total group of men and women combined, the variance of the body lengths will be 75 + 100 = 175. Note that this uses N for the denominator instead of N − 1.
   In a more general case, if the subgroups have unequal sizes, then they must be weighted proportionally to their size in the computations of the means and variances. The formula is also valid with more than two groups, and even if the grouping variable is continuous.
   This formula implies that the variance of the total group cannot be smaller than the mean of the variances of the subgroups. Note, however, that the total variance is not necessarily larger than the variances of the subgroups. In the above example, when the subgroups are analyzed separately, the variance is influenced only by the man-man differences and the woman-woman differences. If the two groups are combined, however, then the men-women differences enter into the variance also.

2. Many computational formulas for the variance are based on this equality: **The variance is equal to the mean of the squares minus the square of the mean.** For example, if we consider the numbers 1, 2, 3, 4 then the mean of the squares is (1 × 1 + 2 × 2 + 3 × 3 + 4 × 4) / 4 = 7.5. The mean is 2.5, so the square of the mean is 6.25. Therefore the variance is 7.5 − 6.25 = 1.25, which is indeed the same result obtained earlier with the definition formulas. Many pocket calculators use an algorithm that is based on this formula and that allows them to compute the variance while the data are entered, without storing all values in memory. The algorithm is to adjust only three variables when a new data value is entered: The number of data entered so far (*n*), the sum of the values so far (*S*), and the sum of the squared values so far (*SS*). For

example, if the data are 1, 2, 3, 4, then after entering the first value, the algorithm would have $n = 1$, $S = 1$ and $SS = 1$. After entering the second value (2), it would have $n = 2$, $S = 3$ and $SS = 5$. When all data are entered, it would have $n = 4$, $S = 10$ and $SS = 30$. Next, the mean is computed as $M = S / n$, and finally the variance is computed as $SS / n - M \times M$. In this example the outcome would be $30 / 4 - 2.5 \times 2.5 = 7.5 - 6.25 = 1.25$. If the unbiased sample estimate is to be computed, the outcome will be multiplied by $n / (n - 1)$, which yields 1.667 in this example.

Properties, formal

Sum of uncorrelated variables (Bienaymé formula)

One reason for the use of the variance in preference to other measures of dispersion is that the variance of the sum (or the difference) of uncorrelated random variables is the sum of their variances:

This statement is called the Bienaymé formula.[1] and was discovered in 1853. It is often made with the stronger condition that the variables are independent, but uncorrelatedness suffices. So if the variables have the same variance σ^2, then, since division by n is a linear transformation, this formula immediately implies that the variance of their mean is

That is, the variance of the mean decreases with n. This fact is used in the definition of the standard error of the sample mean, which is used in the central limit theorem.

Sum of correlated variables

In general, if the variables are correlated, then the variance of their sum is the sum of their covariances:

(Note: This by definition includes the variance of each variable, since Cov(X,X)=Var(X).)

Here Cov is the covariance, which is zero for independent random variables (if it exists). The formula states that the variance of a sum is equal to the sum of all elements in the covariance matrix of the components. This formula is used in the theory of Cronbach's alpha in classical test theory.

So if the variables have equal variance σ^2 and the average correlation of distinct variables is ρ, then the variance of their mean is

This implies that the variance of the mean increases with the average of the correlations. Moreover, if the variables have unit variance, for example if they are standardized, then this simplifies to

This formula is used in the Spearman-Brown prediction formula of classical test theory. This converges to ρ if n goes to infinity, provided that the average correlation remains constant or converges too. So for the variance of the mean of standardized variables with equal correlations or converging average correlation we have

Therefore, the variance of the mean of a large number of standardized variables is approximately equal to their average correlation. This makes clear that the sample mean of correlated variables does generally not converge to the population mean, even though the Law of large numbers states that the sample mean will converge for independent variables.

Weighted sum of variables

Properties 6 and 8, along with this property from the covariance page: Cov(*aX*, *bY*) = *ab* Cov(*X*, *Y*) jointly imply that

This implies that in a weighted sum of variables, the variable with the largest weight will have a disproportionally large weight in the variance of the total. For example, if *X* and *Y* are uncorrelated and the weight of *X* is two times the weight of *Y*, then the weight of the variance of *X* will be four times the weight of the variance of *Y*.

Decomposition

The general formula for variance decomposition or the law of total variance is: If *X* and *Y* are two random variables and the variance of *X* exists, then

Here, E(*X*|*Y*) is the conditional expectation of *X* given *Y*, and Var(*X*|*Y*) is the conditional variance of *X* given *Y*. (A more intuitive explanation is that given a particular value of *Y*, then *X* follows a distribution with mean E(*X*|*Y*) and variance Var(*X*|*Y*). The above formula tells how to find Var(*X*) based on the distributions of these two quantities when *Y* is allowed to vary.) This formula is often applied in analysis of variance, where the corresponding formula is

$$SS_{\text{Total}} = SS_{\text{Between}} + SS_{\text{Within}}.$$

It is also used in linear regression analysis, where the corresponding formula is

$$SS_{\text{Total}} = SS_{\text{Regression}} + SS_{\text{Residual}}.$$

This can also be derived from the additivity of variances (property 8), since the total (observed) score is the sum of the predicted score and the error score, where the latter two are uncorrelated.

Computational formula

The **computational formula for the variance** follows in a straightforward manner from the linearity of expected values and the above definition:

This is often used to calculate the variance in practice, although it suffers from catastrophic cancellation if the two components of the equation are similar in magnitude.

Characteristic property

The second moment of a random variable attains the minimum value when taken around the first moment (i.e., mean) of the random variable, i.e. . Conversely, if a continuous function satisfies for all random variables *X*, then it is necessarily of the form , where *a* > 0. This also holds in the multidimensional case.[2]

Calculation from the CDF

The population variance for a non-negative random variable can be expressed in terms of the cumulative distribution function *F* using

where *H*(*u*) = 1 − *F*(*u*) is the right tail function. This expression can be used to calculate the variance in situations where the CDF, but not the density, can be conveniently expressed.

Approximating the variance of a function

The delta method uses second-order Taylor expansions to approximate the variance of a function of one or more random variables. For example, the approximate variance of a function of one variable is given by

provided that *f* is twice differentiable and that the mean and variance of *X* are finite.[*citation needed*]

Population variance and sample variance

In general, the population variance of a *finite* population of size *N* is given by

or if the population is an abstract population with probability distribution Pr:

where is the population mean. This is merely a special case of the general definition of variance introduced above, but restricted to finite populations.

In many practical situations, the true variance of a population is not known *a priori* and must be computed somehow. When dealing with infinite populations, this is generally impossible.

A common task is to estimate the variance of a population from a sample. We take a sample with replacement of *n* values from the population, and estimate the variance on the basis of this sample. There are several good estimators. Two of them are well known:

and

Both are referred to as ***sample variance***.

The two estimators only differ slightly as we see, and for larger values of the sample size *n* the difference is negligible. While the first one may be seen as the variance of the sample considered as a population, the second one is the unbiased estimator of the population variance, meaning that its expected value $E[s^2]$ is equal to the true variance of the sampled random variable; the use of the term $n-1$ is called Bessel's correction. The sample variance with $n-1$ is a U-statistic for the function $f(x_1,x_2) = (x_1 - x_2)^2 / 2$ meaning that it is obtained by averaging a 2-sample statistic over 2-element subsets of the population.

While,

Distribution of the sample variance

Being a function of random variables, the sample variance is itself a random variable, and it is natural to study its distribution. In the case that y_i are independent observations from a normal distribution, Cochran's theorem shows that s^2 follows a scaled chi-square distribution:

As a direct consequence, it follows that

If the y_i are independent and identically distributed, but not necessarily normally distributed, then s^2 is unbiased for σ^2. If the conditions of the law of large numbers hold, s^2 is a consistent estimator of σ^2.

Generalizations

Unbiased estimate for expected error in the mean of A for a sample of M data points with sample bias coefficient ρ. The log-log slope -½ line for ρ=0 is the unbiased standard error.

If X is a vector-valued random variable, with values in , and thought of as a column vector, then the natural generalization of variance is , where and is the transpose of X, and so is a row vector. This variance is a positive semi-definite square matrix, commonly referred to as the covariance matrix.

If X is a complex-valued random variable, with values in , then its variance is , where X^* is the complex conjugate of X. This variance is also a positive semi-definite square matrix.

If one's (real) random variables are defined on an n-dimensional continuum **x**, the cross-covariance of variables A[**x**] and B[**x**] as a function of n-dimensional vector displacement (or lag) $\mathbf{\Delta x}$ may be defined as $\sigma_{AB}[\mathbf{\Delta x}] \equiv \langle (A[\mathbf{x}+\mathbf{\Delta x}]-\mu_A)(B[\mathbf{x}]-\mu_B) \rangle_{\mathbf{x}}$. Here the population (as distinct from sample) average over **x** is denoted by angle brackets $\langle\ \rangle_{\mathbf{x}}$ or the Greek letter μ.

This quantity, called a second-moment correlation measure because it's a generalization of the second-moment statistic *variance*, is sometimes put into dimensionless form by normalizing with the population standard deviations of A and B (e.g. $\sigma_A \equiv \mathrm{Sqrt}[\sigma_{AA}[0]]$). This results in a correlation coefficient $\rho_{AB}[\mathbf{\Delta x}] \equiv \sigma_{AB}[\mathbf{\Delta x}]/(\sigma_A\sigma_B)$ that takes on values between plus and minus one. When A is the same as B, the foregoing expressions yield values for autocovariance, a quantity also known in scattering theory as the pair-correlation (or Patterson) function.

If one defines *sample bias coefficient* ρ as an average of the autocorrelation-coefficient $\rho_{AA}[\mathbf{\Delta x}]$ over all point pairs in a set of M sample points[3], an unbiased estimate for *expected error in the mean* of A is the square root of: sample variance (taken as a population) times (1+(M-1)ρ)/((M-1)(1-ρ)). When ρ is much greater than 1/(M-1), this reduces to the square root of: sample variance (taken as a population) times ρ/(1-ρ). When |ρ| is much less than 1/(M-1) this yields the more familiar expression for standard error, namely the square root of: sample variance (taken as a population) over (M-1).

Moment of inertia

The variance of a probability distribution is analogous to the moment of inertia in classical mechanics of a corresponding mass distribution along a line, with respect to rotation about its center of mass. It is because of this analogy that such things as the variance are called *moments* of probability distributions. The covariance matrix is related to the moment of inertia tensor for multivariate distributions. The moment of inertia of a cloud of *n* points with a covariance matrix of Σ is given by

This difference between moment of inertia in physics and in statistics is clear for points that are gathered along a line. Suppose many points are close to the *x* and distributed along it. The covariance matrix might look like

That is, there is the most variance in the *x* direction. However, physicists would consider this to have a low moment *about* the *x* axis so the moment-of-inertia tensor is

Skewness

Example of experimental data with non-zero skewness (gravitropic response of wheat coleoptiles, 1,790)

In probability theory and statistics, **skewness** is a measure of the asymmetry of the probability distribution of a real-valued random variable.

Introduction

Consider the distribution in the figure. The bars on the right side of the distribution taper differently than the bars on the left side. These tapering sides are called *tails*, and they provide a visual means for determining which of the two kinds of skewness a distribution has:

1. **negative skew**: The left tail is longer; the mass of the distribution is concentrated on the right of the figure. It has relatively few low values. The distribution is said to be *left-skewed*. Example (observations): 1,1000,1001,1002,1003
2. **positive skew**: The right tail is longer; the *mass* of the distribution is concentrated on the left of the figure. It has relatively few high values. The distribution is said to be *right-skewed*. Example (observations): 1,2,3,4,100.

In a skewed (unbalanced, lopsided) distribution, the mean is farther out in the long tail than is the median. If there is no skewness or the distribution is symmetric like the bell-shaped normal curve then the mean = median = mode.

Many textbooks teach a rule of thumb stating that the mean is right of the median under right skew, and left of the median under left skew. This rule fails with surprising frequency. It can fail in multimodal distributions, or in distributions where one tail is long but the other is heavy. Most commonly, though, the rule fails in discrete distributions where the areas to the left and right of the median are not equal. Such distributions not only contradict the textbook relationship between mean, median, and skew, they also contradict the textbook interpretation of the median.[1]

Definition

Skewness, the third standardized moment, is written as γ_1 and defined as

where μ_3 is the third moment about the mean and σ is the standard deviation. Equivalently, skewness can be defined as the ratio of the third cumulant κ_3 and the third power of the square root of the second cumulant κ_2:

This is analogous to the definition of kurtosis, which is expressed as the fourth cumulant divided by the fourth power of the square root of the second cumulant.

The skewness of a random variable *X* is sometimes denoted Skew[*X*].

Sample skewness

For a sample of *n* values the *sample skewness* is where x_i is the i^{th} value, is the sample mean, m_3 is the sample third central moment, and m_2 is the sample variance.

Given samples from a population, the equation for the sample skewness g_1 above is a biased estimator of the population skewness. The usual estimator of skewness is

where k_3 is the unique symmetric unbiased estimator of the third cumulant and k_2 is the symmetric unbiased estimator of the second cumulant. Unfortunately G_1 is, nevertheless, generally biased. Its expected value can even have the opposite sign from the true skewness; compare unbiased estimation of standard deviation.

Properties

If *Y* is the sum of *n* independent random variables, all with the same distribution as *X*, then it can be shown that Skew[*Y*] = Skew[*X*] / √*n*.

Kurtosis

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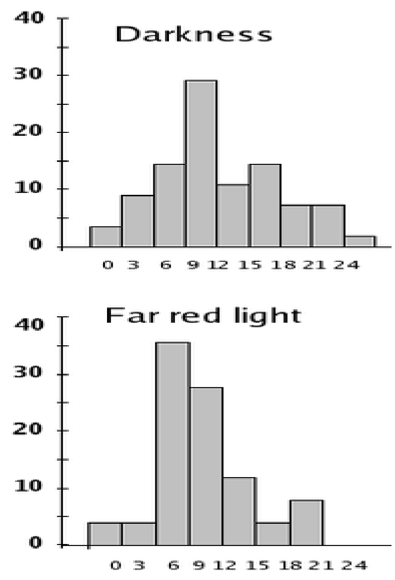
In probability theory and statistics, **kurtosis** (from the Greek word κυρτός, *kyrtos* or *kurtos*, meaning bulging) is a measure of the "peakedness" of the probability distribution of a real-valued random variable. Higher kurtosis means more of the variance is due to infrequent extreme deviations, as opposed to frequent modestly-sized deviations.



The far red light has no effect on the average speed of the gravitropic reaction in wheat coleoptiles, but it changes kurtosis from platykurtic to leptokurtic (−0.194 → 0.055)

Definition

The fourth standardized moment is defined as

$$\frac{\mu_4}{\sigma^4},$$

where μ_4 is the fourth moment about the mean and σ is the standard deviation. This is sometimes used as the definition of kurtosis in older works, but is not the definition used here.

Kurtosis is more commonly defined as the fourth cumulant divided by the square of the second cumulant, which is equal to the fourth moment around the mean divided by the square of the variance of the probability distribution minus 3,

$$\gamma_2 = \frac{\kappa_4}{\kappa_2^2} = \frac{\mu_4}{\sigma^4} - 3,$$

which is also known as **excess kurtosis**. The "minus 3" at the end of this formula is often explained as a correction to make the kurtosis of the normal distribution equal to zero. Another reason can be seen by looking at the formula for the kurtosis of the sum of random variables. Because of the use of the cumulant, if *Y* is the sum of *n* independent random variables, all with the same distribution as *X*, then Kurt[*Y*] = Kurt[*X*] / *n*, while the formula would be more complicated if kurtosis were defined as μ_4 / σ^4.

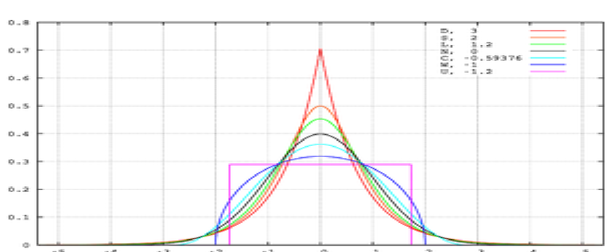
More generally, if X_1, ..., X_n are independent random variables all *having the same variance*, then

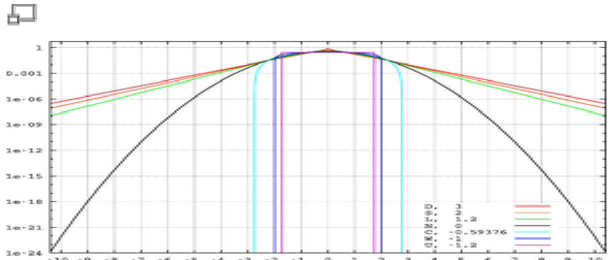
$$\operatorname{Kurt}\left(\sum_{i=1}^n X_i\right) = \frac{1}{n^2}\sum_{i=1}^n \operatorname{Kurt}(X_i),$$

whereas this identity would not hold if the definition did not include the subtraction of 3.

The fourth standardized moment must be at least 1, so the excess kurtosis must be −2 or more (the lower bound is realized by the Bernoulli distribution with p = ½, or "coin toss"); there is no upper limit and it may be infinite.

Kurtosis of well-known distributions





In this example we compare several well-known distributions from different parametric families. All densities considered here are unimodal and symmetric. Each has a mean and skewness of zero. Parameters were chosen to result in a variance of unity in each case. The images on the right show curves for the following seven densities, on a linear scale and logarithmic scale:

- D: Laplace distribution, a.k.a. double exponential distribution, red curve (two straight lines in the log-scale plot), excess kurtosis = 3
- S: hyperbolic secant distribution, orange curve, excess kurtosis = 2
- L: logistic distribution, green curve, excess kurtosis = 1.2
- N: normal distribution, black curve (inverted parabola in the log-scale plot), excess kurtosis = 0
- C: raised cosine distribution, cyan curve, excess kurtosis = $-0.593762...$
- W: Wigner semicircle distribution, blue curve, excess kurtosis = -1
- U: uniform distribution, magenta curve (shown for clarity as a rectangle in both images), excess kurtosis = -1.2.

Note that in these cases the platykurtic densities have bounded support, whereas the densities with positive or zero excess kurtosis are supported on the whole real line.

There exist platykurtic densities with infinite support,

- e.g., exponential power distributions with sufficiently large shape parameter *b*

and there exist leptokurtic densities with finite support.

- e.g., a distribution that is uniform between -3 and -0.3, between -0.3 and 0.3, and between 0.3 and 3, with the same density in the $(-3, -0.3)$ and $(0.3, 3)$ intervals, but with 20 times more density in the $(-0.3, 0.3)$ interval

Sample kurtosis

For a sample of *n* values the **sample kurtosis** is

$$g_2 = \frac{m_4}{m_2^2} - 3 = \frac{\frac{1}{n}\sum_{i=1}^n (x_i - \overline{x})^4}{\left(\frac{1}{n}\sum_{i=1}^n (x_i - \overline{x})^2\right)^2} - 3$$

where m_4 is the fourth sample moment about the mean, m_2 is the second sample moment about the mean (that is, the sample variance), x_i is the i^{th} value, and $\overline{x}$is the sample mean.

The formula

$$D = \frac{1}{n}\sum_{i=1}^n (x_i - \bar{x})^2,$$

$$E = \frac{1}{nD^2}\sum_{i=1}^n (x_i - \bar{x})^4 - 3$$

is also used, where n—the sample size, *D*—the pre-computed variance, x_i—the value of the x'th measurement and $\bar{x}$—the pre-computed arithmetic mean.

Mean absolute error

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In statistics, the **mean absolute error** is a quantity used to measure how close forecasts or predictions are to the eventual outcomes. The mean absolute error (MAE) is given by

As the name suggests, the mean absolute error is an average of the absolute errors $e_i = f_i - y_i$, where f_i is the prediction and y_i the true value. Note that alternative formulations may include relative frequencies as weight factors.

The mean absolute error is a common measure of forecast error in time series analysis, where the terms "mean absolute deviation" is sometimes used in confusion with the more standard definition of mean absolute deviation. The same confusion exists more generally.

Interquartile range

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In descriptive statistics, the **interquartile range** (**IQR**), also called the **midspread** or **middle fifty**, is a measure of statistical dispersion, being equal to the difference between the third and first quartiles.

Unlike the (total) range, the interquartile range is a robust statistic, having a breakdown point of 25%, and is thus often preferred to the total range.

The IQR is used to build box plots, simple graphical representations of a probability distribution.

For a symmetric distribution (so the median equals the midhinge, the average of the first and third quartiles), half the IQR equals the median absolute deviation (MAD).

The median is the corresponding measure of central tendency.

From this table, the width of the interquartile range is 115 − 105 = 10.

Data set in a plain-text **box plot**

```
                  +-----+-+
 o        *    |-------|     | |---|
                  +-----+-+

+---+---+---+---+---+---+---+---+---+---+---+---+---+   number line
0   1   2   3   4   5   6   7   8   9  10  11  12
```

For this data set:

- lower (first) quartile ($Q1$, $x_{.25}$) = 7
- median (second quartile) (Med, $x_{.5}$) = 8.5

- upper (third) quartile ($Q3$, $x_{.75}$) = 9
- interquartile range, $\mathrm{IQR} = Q3 - Q1 = 2$

Interquartile range of distributions

The interquartile range of a continuous distribution can be calculated by integrating the probability density function (which yields the cumulative distribution function—any other means of calculating the CDF will also work). The lower quartile, Q1, is a number such that integral of the PDF from -∞ to Q1 equals 0.25, while the upper quartile, Q3, is such a number that the integral from Q3 to ∞ equals 0.25; in terms of the CDF, the quartiles can be defined as follows:

$$Q1 = \mathrm{CDF}^{-1}(0.25)$$

$$Q3 = \mathrm{CDF}^{-1}(0.75)$$

The interquartile range and median of some common distributions are shown below

Distribution	Median	IQR
Normal	μ	$2\,\Phi^{-1}(0.75) \approx 1.349$
Laplace	μ	$2b\ \ln(2)$
Cauchy	μ	

Range (statistics)

In descriptive statistics, the **range** is the length of the smallest interval which contains all the data. It is calculated by subtracting the smallest observation (sample minimum) from the greatest (sample maximum) and provides an indication of statistical dispersion.

It is measured in the same units as the data. Since it only depends on two of the observations, it is a poor and weak measure of dispersion except when the sample size is large.

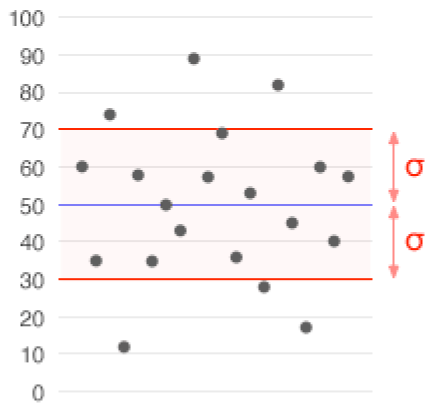
For a population, the range is greater than or equal to twice the standard deviation, which equality only for the coin toss (Bernoulli distribution with p = ½).

The range, in the sense of the difference between the highest and lowest scores, is also called the **crude range**. When a new scale for measurement is developed, then a potential maximum or minimum will emanate from this scale. This is called the **potential (crude) range**. Of course this range should not be chosen too small, in order to avoid a ceiling effect. When the measurement is obtained, the resulting smallest or greatest observation, will provide the **observed (crude) range**.

The *midrange* point, i.e. the point halfway between the two extremes, is an indicator of the central tendency of the data. Again it is not particularly robust for small samples.

Standard deviation

A plot of a normal distribution (or bell curve). Each colored band has a width of one standard deviation.



A data set with a mean of 50 (shown in blue) and a standard deviation (σ) of 20.

In probability theory and statistics, **standard deviation** is a measure of the variability or dispersion of a statistical population, a data set, or a probability distribution. A low standard deviation indicates that the data points tend to be very close to the mean, whereas high standard deviation indicates that the data are spread out over a large range of values.

For example, the average height for adult men in the United States is about 70 inches (178 cm), with a standard deviation of around 3 in (8 cm). This means that most men (about 68 percent, assuming a normal distribution) have a height within 3 in (8 cm) of the mean (67–73 in (170–185 cm)), whereas almost all men (about 95%) have a height within 6 in (15 cm) of the mean (64–76 in (163–193 cm)). If the standard deviation were zero, then all men would be exactly 70 in (178 cm) high. If the standard deviation were 20 in (51 cm), then men would have much more variable heights, with a typical range of about 50 to 90 in (127 to 229 cm).

In addition to expressing the variability of a population, standard deviation is commonly used to measure confidence in statistical conclusions. For example, the margin of error in polling data is determined by calculating the expected standard deviation in the results if the same poll were to be conducted multiple times. The reported margin of error is typically about twice the standard deviation – the radius of a 95% confidence interval. In science, researchers commonly report the standard deviation of experimental data, and only effects that fall far outside the range of standard deviation are considered statistically significant—normal random error or variation in the measurements is in this way distinguished from causal variation. Standard deviation is also important in finance, where the standard deviation on the rate of return on an investment is a measure of the volatility of the investment.

The term *standard deviation* was first used[1] in writing by Karl Pearson[2] in 1894, following his use of it in lectures. This was as a replacement for earlier alternative names for the same idea: for example Gauss used "mean error".[3] A useful property of standard deviation is that, unlike variance, it is expressed in the same units as the data.

When only a sample of data from a population is available, the population standard deviation can be estimated by a modified quantity called the sample standard deviation, explained below.

Basic example

Consider a population consisting of the following values:

There are eight data points in total, with a mean (or average) value of 5:

To calculate the population standard deviation, we compute the difference of each data point from the mean, and square the result:

Next we average these values and take the square root, which gives the standard deviation:

Therefore, the above has a population standard deviation of 2.

Note that we are assuming that we are dealing with a complete population. If our 8 values are obtained by random sampling from some parent population, we might prefer to compute the **sample standard deviation** using a denominator of 7 instead of 8. See below for an explanation.

Definition

Probability distribution or random variable

Let X be a random variable with mean value μ:

Here the operator E denotes the average or expected value of X. Then the **standard deviation** of X is the quantity

That is, the standard deviation σ (sigma) is the square root of the average value of $(X - \mu)^2$.

In the case where X takes random values from a finite data set , with each value having the same probability, the standard deviation is

or, using summation notation,

The standard deviation of a (univariate) probability distribution is the same as that of a random variable having that distribution. Not all random variables have a standard deviation, since these expected values need not exist. For example, the standard deviation of a random variable which follows a Cauchy distribution is undefined because its expected value is undefined.

[edit] Continuous random variable

Continuous distributions usually give a formula for calculating the standard deviation as a function of the parameters of the distribution. In general, the standard deviation of a continuous real-valued random variable X with probability density function $p(x)$ is

where

and where the integrals are definite integrals taken for x ranging over the range of X.

Discrete random variable or data set

The standard deviation of a discrete random variable is the root-mean-square (RMS) deviation of its values from the mean.

If the random variable X takes on N values (which are real numbers) with equal probability, then its standard deviation σ can be calculated as follows:

1. Find the mean, , of the values.
2. For each value X_i calculate its deviation () from the mean.
3. Calculate the squares of these deviations.
4. Find the mean of the squared deviations. This quantity is the variance σ^2.
5. Take the square root of the variance.

This calculation is described by the following formula:

where is the arithmetic mean of the values x_i, defined as:

If not all values have equal probability, but the probability of value x_i equals p_i, the standard deviation can be computed by:

and

where

and N' is the number of non-zero weight elements.

The standard deviation of a data set is the same as that of a discrete random variable that can assume precisely the values from the data set, where the point mass for each value is proportional to its multiplicity in the data set.

Example

Suppose we wished to find the standard deviation of the data set consisting of the values 3, 7, 7, and 19.

Step 1: find the arithmetic mean (average) of 3, 7, 7, and 19,

Step 2: find the deviation of each number from the mean,

Step 3: square each of the deviations, which amplifies large deviations and makes negative values positive,

Step 4: find the mean of those squared deviations,

Step 5: take the non-negative square root of the quotient (converting squared units back to regular units),

So, the standard deviation of the set is 6. This example also shows that, in general, the standard deviation is different from the mean absolute deviation (which is 5 in this example).

Note that if the above data set represented only a sample from a greater population, a modified standard deviation would be calculated (explained below) to estimate the population standard deviation, which would give 6.93 for this example.

Simplification of formula

The calculation of the sum of squared deviations can be simplified as follows:

Applying this to the original formula for standard deviation gives:

This can be memorized as taking the square root of (the average of the squares less the square of the average).

Estimating population standard deviation

In the real world, finding the standard deviation of an entire population is unrealistic except in certain cases, (such as standardized testing), where every member of a population is sampled. In most cases, the standard deviation σ is estimated by examining a random sample taken from the population. Some estimators are given below:

With standard deviation of the sample

An estimator for σ sometimes used is the **standard deviation of the sample**, denoted by "s_n" and defined as follows:

This estimator has a uniformly smaller mean squared error than the "sample standard deviation" (see below), and is the maximum-likelihood estimate when the population is normally distributed. But this estimator, when applied to a small or moderately-sized sample, tends to be too low: it is a biased estimator.

With sample standard deviation

The most common estimator for σ used is an adjusted version, the **sample standard deviation,** denoted by "s" and defined as follows:

where is the sample and is the mean of the sample. This correction (the use of $N - 1$ instead of N) is known as Bessel's correction. The reason for this correction is that s^2 is an unbiased estimator for the variance σ^2 of the underlying population, if that variance exists and the sample values are drawn independently with replacement. However, s is *not* an unbiased estimator for the standard deviation σ; it tends to underestimate the population standard deviation.

Note that the term "standard deviation of the sample" is used for the *uncorrected* estimator (using N) whilst the term "sample standard deviation" is used for the *corrected* estimator (using $N - 1$). The denominator $N - 1$ is the number of degrees of freedom in the vector of residuals, .

With interquartile range

The statistic

(1.35 is an approximation) where IQR is the interquartile range of the sample, is a consistent estimate of σ. The interquartile range IQR is the difference of the 3rd quartile of the data and the 1st quartile of the data. The asymptotic relative efficiency (ARE) of this estimator with respect to the one from sample standard deviation is 0.37. Hence, for normal data, it is better to use the one from sample standard deviation; when data is with thicker tails, this estimator can be more efficient.[4][*not in citation given*][*dubious* – *discuss*]

Other estimators

Further information: Unbiased estimation of standard deviation

Although an unbiased estimator for σ is known when the random variable is normally distributed, the formula is complicated and amounts to a minor correction: see Unbiased estimation of standard deviation for more details. Moreover, unbiasedness, (in this sense of the word), is not always desirable: see bias of an estimator.

if we take all weights equal to 1.

Mean difference

The **mean difference** is a measure of statistical dispersion equal to the average absolute difference of two independent values drawn from a probability distribution. A related statistic is the **relative mean difference**, which is the mean difference divided by the arithmetic mean. An important relationship is that the relative mean difference is equal to twice the Gini coefficient, which is defined in terms of the Lorenz curve.

The mean difference is also known as the **absolute mean difference** and the **Gini mean difference**. The mean difference is sometimes denoted by Δ or as MD. The mean deviation is a different measure of dispersion.

Calculation

For a population of size *n*, with a sequence of values y_i, $i = 1$ to n:

$$MD = \frac{1}{n(n-1)} \Sigma_{i=1}^{n} \Sigma_{j=1}^{n} |y_i - y_j|$$

For a discrete probability function $f(y)$, where y_i, $i = 1$ to n, are the values with nonzero probabilities:

$$MD = \Sigma_{i=1}^{n} \Sigma_{j=1}^{n} f(y_i) f(y_j) |y_i - y_j|$$

For a probability density function $f(x)$:

$$MD = \int_{-\infty}^{\infty} \int_{-\infty}^{\infty} f(x)\, f(y)\, |x-y|\, dx\, dy$$

For a cumulative distribution function F(x) with inverse x(F):

$$MD = \int_0^1 \int_0^1 |x(F_1) - x(F_2)|\, dF_1\, dF_2$$

The inverse $x(F)$ may not exist because the cumulative distribution function has jump discontinuities or intervals of constant values. However, the previous formula can still apply by generalizing the definition of $x(F)$:

$x(F_1) = \inf \{y : F(y) \geq F_1\}$.

Relative mean difference

When the probability distribution has a finite and nonzero arithmetic mean, the relative mean difference, sometimes denoted by ∇ or RMD, is defined by

$$RMD = \frac{MD}{\text{arithmetic mean}}.$$

The relative mean difference quantifies the mean difference in comparison to the size of the mean and is a dimensionless quantity. The relative mean difference is equal to twice the Gini coefficient which is defined in terms of the Lorenz curve. This relationship gives complementary perspectives to both the relative mean difference and the Gini coefficient, including alternative ways of calculating their values.

Compared to standard deviation

Both the standard deviation and the mean difference measure dispersion -- how spread out are the values of a population or the probabilities of a distribution. The mean difference is not defined in terms of a specific measure of central tendency, whereas the standard deviation is defined in terms of the deviation from the arithmetic mean. Because the standard deviation squares its differences, it tends to give more weight to larger differences and less weight to smaller differences compared to the mean difference. When the arithmetic mean is finite, the mean difference will also be finite, even when the standard deviation is infinite. See the examples for some specific comparisons.

Sample estimators

For a random sample *S* from a random variable ***X***, consisting of *n* values y_i, the statistic

$$MD(S) = \frac{\sum_{i=1}^{n}\sum_{j=1}^{n}|y_i - y_j|}{n(n-1)}$$

is a consistent and unbiased estimator of MD(***X***).

The statistic:

$$RMD(S) = \frac{\sum_{i=1}^{n}\sum_{j=1}^{n}|y_i - y_j|}{(n-1)\sum_{i=1}^{n} y_i}$$

is a consistent estimator of RMD(***X***), but is not, in general, unbiased.

Confidence intervals for RMD(***X***) can be calculated using bootstrap sampling techniques.

There does not exist, in general, an unbiased estimator for RMD(***X***), in part because of the difficulty of finding an unbiased estimation for multiplying by the inverse of the mean. For example, even where the sample is known to be taken from a random variable ***X***(*p*) for an unknown *p*, and ***X***(*p*) - 1 has the Bernoulli distribution, so that Pr(***X***(*p*) = 1) = 1 − *p* and Pr(***X***(*p*) = 2) = *p*, then

$$RMD(X(p)) = 2p(1 - p)/(1 + p).$$

But the expected value of any estimator *R*(***S***) of RMD(***X***(*p*)) will be of the form:

$$E(R(S)) = \sum_{i=0}^{n} p^i (1-p)^{n-i} r_i$$

where the r_i are constants. So E(R(**S**)) can never equal RMD(***X***(*p*)) for all *p* between 0 and 1.

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Course Name: Managerial accounting

Management accounting is concerned with the provisions and use of accounting information to managers within organizations, to provide them with the basis to make informed business decisions that will allow them to be better equipped in their management and control functions.

There is little contrast to financial accountancy information, management accounting information is:

- Designed and intended for use by managers within the organization, whereas financial accounting information is designed for use by shareholders and creditors.
- usually confidential and used by management, instead of publicly reported;
- forward-looking, instead of historical;
- Computed by reference to the needs of managers, often using management information systems, instead of by reference to financial accounting standards.

This is because of the different emphasis: management accounting information is used within an organization, typically for decision-making.

Definition

According to the Chartered Institute of Management Accountants (CIMA), Management Accounting is "the process of identification, measurement, accumulation, analysis, preparation, interpretation and communication of information used by management to plan, evaluate and control within an entity and to assure appropriate use of and accountability for its resources. Management accounting also comprises the preparation of financial reports for non-management groups such as shareholders, creditors, regulatory agencies and tax authorities" (CIMA Official Terminology).

The American Institute of Certified Public Accountants (AICPA) states that management accounting as practice extends to the following three areas:

- Strategic Management—advancing the role of the management accountant as a strategic partner in the organization.
- Performance Management—developing the practice of business decision-making and managing the performance of the organization.
- Risk Management—contributing to frameworks and practices for identifying, measuring, managing and reporting risks to the achievement of the objectives of the organization.

The Institute of Certified Management Accountants (ICMA), states "A management accountant applies his or her professional knowledge and skill in the preparation and presentation of financial and other decision oriented information in such a way as to assist management in the formulation of policies and in the planning and control of the operation of the undertaking." Management Accountants therefore are seen as the "value-creators" amongst the accountants. They are much more interested in forward looking and taking decisions that will affect the future of the organization, than in the historical recording and compliance (scorekeeping) aspects of the profession. Management accounting knowledge and experience can therefore be obtained from varied fields and functions within an organization, such as information management, treasury, efficiency auditing, marketing, valuation, pricing, logistics, etc.

Aims

1. Formulating strategies
2. Planning and constructing business activities
3. Helps in making decision
4. Optimal use of Resource (economics)
5. Supporting financial reports preparation
6. Safeguarding asset

Traditional vs. Innovative management accounting practices

In the late 1980s, accounting practitioners and educators were heavily criticized on the grounds that management accounting practices (and, even more so, the curriculum taught to accounting students) had changed little over the preceding 60 years, despite radical changes in the business environment. Professional accounting institutes, perhaps fearing that management accountants would increasingly be seen as superfluous in business organizations, subsequently devoted considerable resources to the development of a more innovative skills set for management accountants.

The distinction between 'traditional' and 'innovative' management accounting practices can be illustrated by reference to cost control techniques. Cost accounting is a central method in management accounting, and traditionally, management accountants' principal technique was *variance analysis*, which is a systematic approach to the comparison of the actual and budgeted costs of the raw materials and labor used during a production period.

While some form of variance analysis is still used by most manufacturing firms, it nowadays tends to be used in conjunction with innovative techniques such as *life cycle cost analysis* and *activity-based costing*, which are designed with specific aspects of the modern business environment in mind. *Life-cycle costing* recognizes that managers' ability to influence the cost of manufacturing a product is at its greatest when the product is still at the design stage of its product life-cycle (i.e., before the design has been finalized and production commenced), since small changes to the product design may lead to significant savings in the cost of manufacturing the product. *Activity-based costing* (ABC) recognizes that, in modern factories, most manufacturing costs are determined by the amount of 'activities' (e.g., the number of production runs per month, and the amount of production equipment idle time) and that the key to effective cost control is therefore optimizing the efficiency of these activities. Activity-based accounting is also known as *Cause and Effect accounting*.

Both lifecycle costing and activity-based costing recognize that, in the typical modern factory, the avoidance of disruptive events (such as machine breakdowns and quality control failures) is of far greater importance than (for example) reducing the costs of raw materials. Activity-based costing also deemphasizes direct labor as a cost driver and concentrates instead on activities that drive costs, such as the provision of a service or the production of a product component.

Role of Management Accountants within the Corporation

Consistent with other roles in today's corporation, management accountants have a dual reporting relationship. As a strategic partner and provider of decision based financial and operational information, management accountants are responsible for managing the business team and at the same time having to report relationships and responsibilities to the corporation's finance organization.

The activities management accountants provide inclusive of forecasting and planning, performing variance analysis, reviewing and monitoring costs inherent in the business are ones that have dual accountability to both finance and the business team. Examples of tasks where accountability may be more meaningful to the business management team vs. the corporate finance department are the development of new product costing, operations research, business driver metrics, sales management score carding, and client profitability analysis. Conversely, the preparation of certain financial reports, reconciliations of the financial data to source systems, risk and regulatory reporting will be more useful to the corporate finance team as they are charged with aggregating certain financial information from all segments of the corporation. One widely held view of the progression of the accounting and finance career path is that financial accounting is a stepping stone to management accounting. Consistent with the notion of value creation, management accountants help drive the success of the business while strict financial accounting is more of a compliance and historical endeavor.

In corporations that derive much of their profits from the information economy, such as banks, publishing houses, telecommunications companies and defence contractors, IT costs are a significant source of uncontrollable spending, which in size is often the greatest corporate cost after total compensation costs and property related costs. A function of management accounting in such organizations is to work closely with the IT department to provide IT Cost Transparency.

An alternative view of management accounting

A very rarely expressed alternative view of management accounting is that it is neither a neutral or benign influence in organizations, rather a mechanism for management control through surveillance. This view locates management accounting specifically in the context of management control theory. Stated differently Management Accounting information is the mechanism which can be used by managers as a vehicle for the overview of the whole internal structure of the organisation to facilitate their control functions within an organisation.

Specific Concepts

Lean Accounting (accounting for lean enterprise)

In the mid to late 1990s several books were written about accounting in the lean enterprise (companies implementing elements of the Toyota Production System). The term lean accounting was coined during that period. These books contest that traditional accounting methods are better suited for mass production and do not support or measure good business practices in just in time manufacturing and services. The movement reached a tipping point during the 2005 Lean Accounting Summit in Dearborn, MI. 320 individuals attended and discussed the merits of a new approach to accounting in the lean enterprise. 520 individuals attended the 2nd annual conference in 2006.

Resource Consumption Accounting (RCA)

Resource Consumption Accounting is formally defined as a dynamic, fully integrated, principle-based, and comprehensive management accounting approach that provides managers with decision support information for enterprise optimization. RCA emerged as a management accounting approach around 2000 and was subsequently developed at CAM-I the Consortium for Advanced Manufacturing–International, in a Cost Management Section *RCA interest group*in December 2001. After spending the next seven years carefully refining and validating the approach through practical case studies and other research, a group of interested academics and practitioners established the RCA Institute to introduce RCA to the marketplace and raise the standard of management accounting knowledge by encouraging disciplined practices.

Throughput Accounting

The most significant, recent direction in managerial accounting is throughput accounting; which recognizes the interdependencies of modern production processes. For any given product, customer or supplier, it is a tool to measure the contribution per unit of constrained resource . (For a detailed description of Throughput Accounting, see cost accounting).

Transfer Pricing

Management accounting is an applied discipline used in various industries. The specific functions and principles followed can vary based on the industry. Management accounting principles in banking are specialized but do have some common fundamental concepts used whether the industry is manufacturing based or service oriented. For example, transfer pricing is a concept used in manufacturing but is also applied in banking. It is a fundamental principle used in assigning value and revenue attribution to the various business units. Essentially, transfer pricing in banking is the method of assigning the interest rate risk of the bank to the various funding sources and uses of the enterprise. Thus, the bank's corporate treasury department will assign funding charges to the business units for their use of the bank's resources when they make loans to clients. The treasury department will also assign funding credit to business units who bring in deposits (resources) to the bank. Although the funds transfer pricing process is primarily applicable to the loans and deposits of the various banking units, this proactive is applied to all assets and liabilities of the business segment. Once transfer pricing is applied and any other management accounting entries or adjustments are posted to the ledger (which are usually memo accounts and are not included in the legal entity results), the business units are able to produce segment financial results which are used by both internal and external users to evaluate performance.

Resources and Continuous Learning

There are a variety of ways to keep current and continue to build one's knowledge base in the field of management accounting. Certified Management Accountants (CMA's) are required to achieve continuing education hours every year, similar to a Certified Public Accountant. A company may also have research and training materials available for use in a corporate owned library. This is more common in "Fortune 500" companies who have the resources to fund this type of training medium.

There are also numerous journals, on-line articles and blogs available. Cost Management and the Institute of Management Accounting (IMA) site are sources which include Management Accounting Quarterly and *Strategic Finance* publications. Indeed, management accounting is needed in an organization.

Management Accounting Tasks/ Services Provided

Listed below are the primary tasks/ services performed by management accountants. The degree of complexity relative to these activities are dependent on the experience level and abilities of any one individual.

- Variance Analysis
- Rate & Volume Analysis
- Business Metrics Development
- Price Modeling
- Product Profitability
- Geographic vs. Industry or Client Segment Reporting
- Sales Management Scorecards
- Cost Analysis
- Cost Benefit Analysis
- Cost-Volume-Profit Analysis
- Life cycle cost analysis
- Client Profitability Analysis
- IT Cost Transparency
- Capital Budgeting
- Buy vs. Lease Analysis
- Strategic Planning
- Strategic Management Advise
- Internal Financial Presentation and Communication
- Sales and Financial Forecasting
- Annual Budgeting
- Cost Allocation
- Resource Allocation and Utilization

Financial analysis

Financial analysis refers to an assessment of the viability, stability and profitability of a business, sub-business or project.

It is performed by professionals who prepare reports using ratios that make use of information taken from financial statements and other reports. These reports are usually presented to top management as one of their bases in making business decisions. Based on these reports, management may:

- Continue or discontinue its main operation or part of its business;
- Make or purchase certain materials in the manufacture of its product;
- Acquire or rent/lease certain machineries and equipment in the production of its goods;
- Issue stocks or negotiate for a bank loan to increase its working capital;
- Make decisions regarding investing or lending capital;
- Other decisions that allow management to make an informed selection on various alternatives in the conduct of its business.

Goals

Financial analysts often assess the firm's:

1. **Profitability** - its ability to earn income and sustain growth in both short-term and long-term. A company's degree of profitability is usually based on the income statement, which reports on the company's results of operations;

2. **Solvency** - its ability to pay its obligation to creditors and other third parties in the long-term;
3. **Liquidity** - its ability to maintain positive cash flow, while satisfying immediate obligations;

Both 2 and 3 are based on the company's balance sheet, which indicates the financial condition of a business as of a given point in time.

4. **Stability**- the firm's ability to remain in business in the long run, without having to sustain significant losses in the conduct of its business. Assessing a company's stability requires the use of both the income statement and the balance sheet, as well as other financial and non-financial indicators.

Methods

Financial analysts often compare financial ratios (of solvency, profitability, growth, etc.):

- **Past Performance** - Across historical time periods for the same firm (the last 5 years for example),

- **Future Performance** - Using historical figures and certain mathematical and statistical techniques, including present and future values, This extrapolation method is the main source of errors in financial analysis as past statistics can be poor predictors of future prospects.
- **Comparative Performance** - Comparison between similar firms.

These ratios are calculated by dividing a (group of) account balance(s), taken from the balance sheet and / or the income statement, by another, for example:

N / equity = return on equity
Net income / total assets = return on assets
Stock price / earnings per share = P/E-ratio

Comparing financial ratios are merely one way of conducting financial analysis. Financial ratios face several theoretical challenges:

- They say little about the firm's prospects in an absolute sense. Their insights about relative performance require a reference point from other time periods or similar firms.
- One ratio holds little meaning. As indicators, ratios can be logically interpreted in at least two ways. One can partially overcome this problem by combining several related ratios to paint a more comprehensive picture of the firm's performance.
- Seasonal factors may prevent year-end values from being representative. A ratio's values may be distorted as account balances change from the beginning to the end of an accounting period. Use average values for such accounts whenever possible.
- Financial ratios are no more objective than the accounting methods employed. Changes in accounting policies or choices can yield drastically different ratio values.
- They fail to account for exogenous factors like investor behavior that are not based upon economic fundamentals of the firm or the general economy (fundamental analysis).

Financial ratios

In finance, a **financial ratio** or **accounting ratio** is a ratio of two selected numerical values taken from an enterprise's financial statements. There are many standard ratios used to try to evaluate the overall financial condition of a corporation or other organization. Financial ratios may be used by managers within a firm, by current and potential shareholders (owners) of a firm, and by a firm's creditors. Security analysts use financial ratios to compare the strengths and weaknesses in various companies. If shares in a company are traded in a financial market, the market price of the shares is used in certain financial ratios.

Ratios may be expressed as a decimal value, such as 0.10, or given as an equivalent percent value, such as 10%. Some ratios are usually quoted as percentages, especially ratios that are usually or always less than 1, such as earnings yield, while others are usually quoted as decimal numbers, especially ratios that are usually more than 1, such as P/E ratio; these latter are also called **multiples.** Given any ratio, one can take its reciprocal; if the ratio was above 1, the reciprocal will be below 1, and conversely. The reciprocal expresses the same information, but may be more understandable: for instance, the earnings yield can be compared with bond yields, while the P/E ratio cannot be: for example, a P/E ratio of 20 corresponds to an earnings yield of 5%.

Sources of data for financial ratios

Values used in calculating financial ratios are taken from the balance sheet, income statement, statement of cash flows or (sometimes) the statement of retained earnings. These comprise the firm's "accounting statements" or financial statements. The statements' data is based on the accounting method and accounting standards used by the organization.

Purpose and types of ratios

Financial ratios quantify many aspects of a business and are an integral part of financial statement analysis. Financial ratios are categorized according to the financial aspect of the business which the ratio measures. **Liquidity ratios** measure the availability of cash to pay debt.**Activity ratios** measure how quickly a firm converts non-cash assets to cash assets **Debt ratios** measure the firm's ability to repay long-term debt. **Profitability ratios** measure the firm's use of its assets and control of its expenses to generate an acceptable rate of return. **Market ratios** measure investor response to owning a company's stock and also the cost of issuing stock. Financial ratios allow for comparisons

- between companies
- between industries
- between different time periods for one company
- between a single company and its industry average

Ratios generally hold no meaning unless they are benchmarked against something else, like past performance or another company. Thus, the ratios of firms in different industries, which face different risks, capital requirements, and competition are usually hard to compare.

Accounting methods and principles

Financial ratios may not be directly comparable between companies that use different accounting methods or follow various standard accounting practices. Most public companies are required by law to use generally accepted accounting principles for their home countries, but private companies, partnerships and sole proprietorships may not use accrual basis accounting. Large multi-national corporations may use International Financial Reporting Standards to produce their financial statements, or they may use the generally accepted accounting principles of their home country.

There is no international standard for calculating the summary data presented in all financial statements, and the terminology is not always consistent between companies, industries, countries and time periods.

Abbreviations and terminology

Various abbreviations may be used in financial statements, especially financial statements summarized on the Internet. Sales reported by a firm are usually net sales, which deduct returns, allowances, and early payment discounts from the charge on an invoice. Net income is always the amount *after* taxes, depreciation, amortization, and interest, unless otherwise stated. Otherwise, the amount would be EBIT, or EBITDA (see below).

Companies that are primarily involved in providing services with labour do not generally report "Sales" based on hours. These companies tend to report "revenue" based on the monetary value of income that the services provide.

Note that Shareholder's Equity and Owner's Equity are *not* the same thing, Shareholder's Equity represents the total number of shares in the company multiplied by each share's book value; Owner's Equity represents the total number of shares that an individual shareholder owns (usually the owner with controlling interest), multiplied by each share's book value. It is important to make this distinction when calculating ratios.

Other abbreviations

(*Note:* These are not ratios, but values in currency.)

- COGS = Cost of goods sold, or cost of sales.
- EBIT = Earnings before interest and taxes
- EBITDA = Earnings before interest, taxes, depreciation.
- EPS = Earnings per share

Ratios

Profitability ratios

Profitability ratios measure the firm's use of its assets and control of its expenses to generate an acceptable rate of return.

Gross margin, **Gross profit margin** or **Gross Profit Rate.**

$$\frac{\text{Gross Profit}}{\text{Net Sales}}$$

OR

$$\frac{\text{Net Sales} - \text{COGS}}{\text{Net Sales}}$$

Operating margin, **Operating Income Margin**, **Operating profit margin** or **Return on sales** (ROS)

$$\frac{\text{Operating Income}}{\text{Net Sales}}$$

Note: Operating income is the difference between operating revenues and operating expenses, but it is also sometimes used as a synonym for EBIT and operating profit.This is true if the firm has no non-operating income. (Earnings before interest and taxes / Sale)

Profit margin, **net margin** or **net profit margin**

$$\frac{\text{Net Profit}}{\text{Net Sales}}$$

Return on equity (ROE)

$$\frac{\text{Net Income}}{\text{Average Shareholders Equity}}$$

Return on investment (ROI ratio)

$$\frac{\text{Net Income}}{\text{Average Owners Equity}}$$

Return on assets (ROA)

$$\frac{\text{Net Income}}{\text{Total Assets}}$$

Return on assets

$$\left(\frac{\text{Net Income}}{\text{Net Sales}}\right)\left(\frac{\text{Net Sales}}{\text{Total Assets}}\right)$$

Return on Equity

$$\left(\frac{\text{Net Income}}{\text{Net Sales}}\right)\left(\frac{\text{Net Sales}}{\text{Average Assets}}\right)\left(\frac{\text{Average Assets}}{\text{Average Equity}}\right)$$

Return on net assets (RONA)

$$\frac{\text{Net Income}}{\text{Fixed Assets} + \text{Working Capital}}$$

Return on capital (ROC)

$$\frac{\text{EBIT}(1 - \text{Tax Rate})}{\text{Invested Capital}}$$

Risk adjusted return on capital (RAROC)

$$\frac{\text{Expected Return}}{\text{Economic Capital}}$$

OR

$$\frac{\text{Expected Return}}{\text{Value at Risk}}$$

Return on capital employed (ROCE)

$$\frac{\text{EBIT}}{\text{Capital Employed}}$$

Note: this is somewhat similar to (ROI), which calculates Net Income per Owner's Equity

Cash flow return on investment (CFROI)

$$\frac{\text{Cash Flow}}{\text{Market Recapitalisation}}$$

Efficiency ratio
$$\frac{\text{Non-Interest expense}}{\text{Revenue}}$$
Net gearing
$$\frac{\text{Net debt}}{\text{Equity}}$$
Basic Earnings Power Ratio
$$\frac{\text{EBIT}}{\text{Total Assets}}$$

Liquidity ratios

Liquidity ratios measure the availability of cash to pay debt.

Current ratio
$$\frac{\text{Current Assets}}{\text{Current Liabilities}}$$
Acid-test ratio (Quick ratio)
$$\frac{\text{Current Assets} - (\text{Inventories} + \text{Prepayments})}{\text{Current Liabilities}}$$
Operation cash flow ratio
$$\frac{\text{Operation Cash Flow}}{\text{Total Debts}}$$

Activity ratios (Efficiency Ratios)

Activity ratios measure the effectiveness of the firm’s use of resources.

Average collection period $\frac{\text{Accounts Receivable}}{\text{Annual Credit Sales} \div 365 \text{ Days}}$

Degree of Operating Leverage (DOL)
$$\frac{\text{Percent Change in Net Operating Income}}{\text{Percent Change in Sales}}$$
DSO Ratio
$$\frac{\text{Accounts Receivable}}{\text{Total Annual Sales} \div 365 \text{ Days}}$$
Average payment period
$$\frac{\text{Accounts Payable}}{\text{Annual Credit Purchases} \div 365 \text{ Days}}$$
Asset turnover
$$\frac{\text{Net Sales}}{\text{Total Assets}}$$
Stock turnover ratio
$$\frac{\text{COGS}}{\text{Average Inventory}}$$

Receivables Turnover Ratio

$$\frac{\text{Net Credit Sales}}{\text{Average Net Receivables}}$$

Inventory conversion ratio

$$\frac{\text{365 Days}}{\text{Inventory Turnover}}$$

Inventory conversion period

$$\left(\frac{\text{Inventory}}{\text{COGS}}\right)\text{365 Days}$$

Receivables conversion period

$$\left(\frac{\text{Receivables}}{\text{Net Sales}}\right)\text{365 Days}$$

Payables conversion period

$$\left(\frac{\text{Purchases}}{\text{Accounts Payable}}\right)\text{365 Days}$$

Cash Conversion Cycle

Inventory Conversion Period + Receivables Conversion Period - Payables Conversion Period

Debt ratios (leveraging ratios)

Debt ratios measure the firm's ability to repay long-term debt. Debt ratios measure financial leverage Debt ratio

$$\frac{\text{Total Liabilities}}{\text{Total Assets}}$$

Debt to equity ratio

$$\frac{\text{Long-term Debt} + \text{Value of Leases}}{\text{Average Shareholders Equity}}$$

Long-term Debt to equity (LT Debt to Equity)

$$\frac{\text{Long-term Debt}}{\text{Total Assets}}$$

Times interest-earned ratio

$$\frac{\text{EBIT}}{\text{Annual Interest Expense}}$$

OR

$$\frac{\text{Net Income}}{\text{Annual Interest Expense}}$$

Debt service coverage ratio

$$\frac{\text{Net Operating Income}}{\text{Total Debt Service}}$$

Market ratios

Market ratios measure investor response to owning a company's stock and also the cost of issuing stock.

Earnings per share (EPS)

$$\frac{\text{Net Earnings}}{\text{Number of Shares}}$$

Payout ratio

$$\frac{\text{Dividends}}{\text{Earnings}}$$

OR

$$\frac{\text{Dividends}}{\text{EPS}}$$

Dividend covers (the inverse of Payout Ratio)

$$\frac{\text{Earnings per Share}}{\text{Dividend per Share}}$$

P/E ratio

$$\frac{\text{Market Price per Share}}{\text{Diluted EPS}}$$

Dividend yield

$$\frac{\text{Dividend}}{\text{Current Market Price}}$$

Cash flow ratio or Price/cash flow ratio

$$\frac{\text{Market Price per Share}}{\text{Present Value of Cash Flow per Share}}$$

Price to book value ratio (P/B or PBV)

$$\frac{\text{Market Price per Share}}{\text{Balance Sheet Price per Share}}$$

Price/sales ratio

$$\frac{\text{Market Price per Share}}{\text{Gross Sales}}$$

PEG ratio

$$\frac{\text{Price per Earnings}}{\text{Annual EPS Growth}}$$

Capital Budgeting Ratios

In addition to assisting management and owners in diagnosing the financial health of their company, ratios can also help managers make decisions about investments or projects that the company is considering to take, such as acquisitions, or expansion.

Fundamental analysis

Fundamental analysis of a business involves analyzing its financial statements and health, its management and competitive advantages, and its competitors and markets. When applied to futures and forex, it focuses on the overall state of the economy, interest rates, production, earnings, and management. When analyzing a stock, futures contract, or currency using fundamental analysis there are two basic approaches one can use; bottom up analysis and top down analysis.The term is used to distinguish such analysis from other types of investment analysis, such as quantitative analysis and technical analysis.

Fundamental analysis is performed on historical and present data, but with the goal of making financial forecasts. There are several possible objectives:

- to conduct a company stock valuation and predict its probable price evolution,
- to make a projection on its business performance,
- to evaluate its management and make internal business decisions,
- to calculate its credit risk.

Two analytical models

When the objective of the analysis is to determine what stock to buy and at what price, there are two basic methodologies

1. Fundamental analysis maintains that markets may misprice a security in the short run but that the "correct" price will eventually be reached. Profits can be made by trading the mispriced security and then waiting for the market to recognize its "mistake" and reprice the security.
2. Technical analysis maintains that all information is reflected already in the stock price. Trends 'are your friend' and sentiment changes predate and predict trend changes. Investors' emotional responses to price movements lead to recognizable price chart patterns. Technical analysis does not care what the 'value' of a stock is. Their price predictions are only extrapolations from historical price patterns.

Investors can use and or all of these different but somewhat complementary methods for stock picking. For example many fundamental investors use technicals for deciding entry and exit points. Many technical investors use fundamentals to limit their universe of possible stock to 'good' companies.

The choice of stock analysis is determined by the investor's belief in the different paradigms for "how the stock market works". See the discussions at efficient-market hypothesis, random walk hypothesis, Capital Asset Pricing Model, Fed model Theory of Equity Valuation, Market-based valuation, and Behavioral finance.

Fundamental analysis includes:

1.Economic analysis 2.Industry analysis 3.Company analysis

On the basis of this three analysis the intrinsic value of the shares are determined. This is considered as the true value of the share. If the intrinsic value is higher than the market price it is recommended to buy the share . If it is equal to market price hold the share and if it is less than the market price sell the shares.

Use by different portfolio styles

Investors may use fundamental analysis within different portfolio management styles.

- **Buy and hold** investors believe that latching onto good businesses allows the investor's asset to grow with the business. Fundamental analysis lets them find 'good' companies, so they lower their risk and probability of wipe-out.
- Managers may use fundamental analysis to correctly value 'good' and 'bad' companies. Even 'bad' companies' stock goes up and down, creating opportunities for profits.
- Managers may also consider the economic cycle in determining whether conditions are 'right' to buy fundamentally suitable companies.
- **Contrarian investors** distinguish "in the short run, the market is a voting machine, not a weighing machine Fundamental analysis allows you to make your own decision on value, and ignore the market.
- **Value investors** restrict their attention to under-valued companies, believing that 'it's hard to fall out of a ditch'. The value comes from fundamental analysis.
- Managers may use fundamental analysis to determine future growth rates for buying high priced growth stocks.
- Managers may also include fundamental factors along with technical factors into computer models (quantitative analysis).

Top-down and Bottom-up

Investors can use either a top-down or bottom-up approach.

- The top-down investor starts his analysis with global economics, including both international and national economic indicators, such as GDP growth rates, inflation, interest rates, exchange rates, productivity, and energy prices. He narrows his search down to regional/industry analysis of total sales, price levels, the effects of competing products, foreign competition, and entry or exit from the industry. Only then does he narrow his search to the best business in that area.
- The bottom-up investor starts with specific businesses, regardless of their industry/region.

Procedures

The analysis of a business' health starts with financial statement analysis that includes ratios. It looks at dividends paid, operating cash flow, new equity issues and capital financing. The earnings estimates and growth rate projections published widely by Thomson Reuters and others can be considered either 'fundamental' (they are facts) or 'technical' (they are investor sentiment) based on your perception of their validity.

The determined growth rates (of income and cash) and risk levels (to determine the discount rate) are used in various valuation models. The foremost is the discounted cash flow model, which calculates the present value of the future

- Dividends received by the investor, along with the eventual sale price. (Gordon model)
- earnings of the company, or
- Cash flows of the company.

The amount of debt is also a major consideration in determining a company's health. It can be quickly assessed using the debt to equity ratio and the *current ratio* (current assets/current liabilities).

The simple model commonly used is the Price/Earnings ratio. Implicit in this model of a perpetual annuity (Time value of money) is that the 'flip' of the P/E is the discount rate appropriate to the risk of the business. The multiple accepted is adjusted for expected growth (that is not built into the model).

Growth estimates are incorporated into the PEG ratio but the math does not hold up to analysis. Its validity depends on the length of time you think the growth will continue.

Computer modeling of stock prices has now replaced much of the subjective interpretation of fundamental data (along with technical data) in the industry. Since about year 2000, with the power of computers to crunch vast quantities of data, a new career has been invented. At some funds (called Quant Funds) the manager's decisions have been replaced by proprietary mathematical models.

Criticisms

- Economists such as Burton Malkiel suggest that neither fundamental analysis nor technical analysis is useful in outperforming the markets

Business valuation

Business valuation is a process and a set of procedures used to estimate the economic value of an owner's interest in a business. Valuation is used by financial market participants to determine the price they are willing to pay or receive to consummate a sale of a business. In addition to estimating the selling price of a business, the same valuation tools are often used by business appraisers to resolve disputes related to estate and gift taxation, divorce litigation, allocate business purchase price among business assets, establish a formula for estimating the value of partners' ownership interest for buy-sell agreements, and many other business and legal purposes.

Standard and premise of value

Before the value of a business can be measured, the valuation assignment must specify the reason for and circumstances surrounding the business valuation. These are formally known as the business value standard and premise of value.The standard of value is the hypothetical conditions under which the business will be valued. The premise of value relates to the assumptions, such as assuming that the business will continue forever in its current form (going concern), or that the value of the business lies in the proceeds from the sale of all of its assets minus the related debt (sum of the parts or assemblage of business assets).

Business valuation results can vary considerably depending upon the choice of both the standard and premise of value. In an actual business sale, it would be expected that the buyer and seller, each with an incentive to achieve an optimal outcome, would determine the fair market value of a business asset that would compete in the market for such an acquisition. If the synergies are specific to the company being valued, they may not be considered. Fair value also does not incorporate discounts for lack of control or marketability.

Note, however, that it is possible to achieve the fair market value for a business asset that is being liquidated in its secondary market. This underscores the difference between the standard and premise of value.

These assumptions might not, and probably do not, reflect the actual conditions of the market in which the subject business might be sold. However, these conditions are assumed because they yield a uniform standard of value, after applying generally-accepted valuation techniques, which allows meaningful comparison between businesses which are similarly situated.

Elements of business valuation

Economic conditions

A business valuation report generally begins with a description of national, regional and local economic conditions existing as of the valuation date, as well as the conditions of the industry in which the subject business operates. A common source of economic information for the first section of the business valuation report is the Federal Reserve Board's Beige Book, published eight times a year by the Federal Reserve Bank. State governments and industry associations often publish useful statistics describing regional and industry conditions.

Financial Analysis

The financial statement analysis generally involves common size analysis, ratio analysis (liquidity, turnover, profitability, etc.), trend analysis and industry comparative analysis. This permits the valuation analyst to compare the subject company to other businesses in the same or similar industry, and to discover trends affecting the company and/or the industry over time. By comparing a company's financial statements in different time periods, the valuation expert can view growth or decline in revenues or expenses, changes in capital structure, or other financial trends. How the subject company compares to the industry will help with the risk assessment and ultimately help determine the discount rate and the selection of market multiples.

Normalization of financial statements

The most common normalization adjustments fall into the following four categories:

- Comparability Adjustments. The valuer may adjust the subject company's financial statements to facilitate a comparison between the subject company and other businesses in the same industry or geographic location. These adjustments are intended to eliminate differences between the way that published industry data is presented and the way that the subject company's data is presented in its financial statements.

- Non-operating Adjustments. It is reasonable to assume that if a business were sold in a hypothetical sales transaction (which is the underlying premise of the fair market value standard), the seller would retain any assets which were not related to the production of earnings or price those non-operating assets separately. For this reason, non-operating assets (such as excess cash) are usually eliminated from the balance sheet.

- Non-recurring Adjustments. The subject company's financial statements may be affected by events that are not expected to recur, such as the purchase or sale of assets, a lawsuit, or an unusually large revenue or expense. These non-recurring items are adjusted so that the financial statements will better reflect the management's expectations of future performance.

- Discretionary Adjustments. The owners of private companies may be paid at variance from the market level of compensation that similar executives in the industry might command. In order to determine fair market value, the owner's compensation, benefits, perquisites and distributions must be adjusted to industry standards. Similarly, the rent paid by the subject business for the use of property owned by the company's owners individually may be scrutinized.

Income, Asset and Market Approaches

Three different approaches are commonly used in business valuation: the income approach, the asset-based approach, and the market approach. Within each of these approaches, there are various techniques for determining the value of a business using the definition of value appropriate for the appraisal assignment. Generally, the income approaches determine value by calculating the net present value of the benefit stream generated by the business (discounted cash flow); the asset-based approaches determine value by adding the sum of the parts of the business (net asset value); and the market approaches determine value by comparing the subject company to other companies in the same industry, of the same size, and/or within the same region.

A number of business valuation models can be constructed that utilize various methods under the three business valuation approaches. Venture Capitalists and Private Equity professionals have long used the First Chicago method which essentially combines the income approach with the market approach.

In determining which of these approaches to use, the valuation professional must exercise discretion. Each technique has advantages and drawbacks, which must be considered when applying those techniques to a particular subject company. Most treatises and court decisions encourage the valuator to consider more than one technique, which must be reconciled with each other to arrive at a value conclusion. A measure of common sense and a good grasp of mathematics is helpful.

Income approaches

The income approaches determine fair market value by multiplying the benefit stream generated by the subject or Target Company times a discount or capitalization rate. The discount or capitalization rate converts the stream of benefits into present value. There are several different income approaches, including capitalization of earnings or cash flows, discounted future cash flows ("DCF"), and the excess earnings method (which is a hybrid of asset and income approaches). Most of the income approaches look to the company's adjusted historical financial data for a single period; only DCF requires data for multiple future periods. The discount or capitalization rate must be matched to the type of benefit stream to which it is applied. The result of a value calculation under the income approach is generally the fair market value of a controlling, marketable interest in the subject company, since the entire benefit stream of the subject company is most often valued, and the capitalization and discount rates are derived from statistics concerning public companies.

Discount or capitalization rates

A discount rate or capitalization rate is used to determine the present value of the expected returns of a business. The discount rate and capitalization rate are closely related to each other, but distinguishable. Generally speaking, the discount rate or capitalization rate may be defined as the yield necessary to attract investors to a particular investment, given the risks associated with that investment.

- In DCF valuations, the discount rate, often an estimate of the cost of capital for the business are used to calculate the net present value of a series of projected cash flows.

- On the other hand, a capitalization rate is applied in methods of business valuation that are based on business data for a single period of time. For example, in real estate valuations for properties that generate cash flows, a capitalization rate may be applied to the net operating income (NOI) (i.e., income before depreciation and interest expenses) of the property for the trailing twelve months.

There are several different methods of determining the appropriate discount rates. The discount rate is composed of two elements: (1) the risk-free rate, which is the return that an investor would expect from a secure, practically risk-free investment, such as a high quality government bond; plus (2) a risk premium that compensates an investor for the relative level of risk associated with a particular investment in excess of the risk-free rate. Most importantly, the selected discount or capitalization rate must be consistent with stream of benefits to which it is to be applied.

Capital Asset Pricing Model ("CAPM")

The Capital Asset Pricing Model (CAPM) is one method of determining the appropriate discount rate in business valuations. The CAPM method originated from the Nobel Prize winning studies of Harry Markowitz, James Tobin and William Sharpe. The CAPM method derives the discount rate by adding a risk premium to the risk-free rate. In this instance, however, the risk premium is derived by multiplying the equity risk premium times “beta,” which is a measure of stock price volatility. Beta is published by various sources for particular industries and companies. Beta is associated with the systematic risks of an investment.

One of the criticisms of the CAPM method is that beta is derived from the volatility of prices of publicly-traded companies, which are likely to differ from private companies in their capital structures, diversification of products and markets, access to credit markets, size, management depth, and many other respects. Where private companies can be shown to be sufficiently similar to public companies, however, the CAPM method may be appropriate.

Build-Up Method

The Build-Up Method is a widely-recognized method of determining the after-tax net cash flow discount rate, which in turn yields the capitalization rate. The figures used in the Build-Up Method are derived from various sources. This method is called a “build-up” method because it is the sum of risks associated with various classes of assets. It is based on the principle that investors would require a greater return on classes of assets that are more risky. The first element of a Build-Up capitalization rate is the risk-free rate, which is the rate of return for long-term government bonds. Investors who buy large-cap equity stocks, which are inherently more risky than long-term government bonds, require a greater return, so the next element of the Build-Up method is the equity risk premium. In determining a company’s value, the long-horizon equity risk premium is used because the Company’s life is assumed to be infinite. The sum of the risk-free rate and the equity risk premium yields the long-term average market rate of return on large public company stocks.

Similarly, investors who invest in small cap stocks, which are riskier than blue-chip stocks, require a greater return, called the “size premium.” Size premium data is generally available from two sources: Morningstars' (formerly Ibbotson & Associates') Stocks, Bonds, Bills & Inflation and Duff & Phelps' Risk Premium Report.

By adding the first three elements of a Build-Up discount rate, we can determine the rate of return that investors would require on their investments in small public company stocks. These three elements of the Build-Up discount rate are known collectively as the “systematic risks.”

In addition to systematic risks, the discount rate must include “unsystematic risks,” which fall into two categories. One of those categories is the “industry risk premium.” Morningstar’s yearbooks contain empirical data to quantify the risks associated with various industries, grouped by SIC industry code.

The other category of unsystematic risk is referred to as “specific company risk.” Historically, no published data has been available to quantify specific company risks. However as of late 2006, new ground-breaking research has been able to quantify, or isolate, this risk for publicly-traded stocks through the use of Total Beta calculations. P. Butler and K. Pinkerton have outlined a procedure, known as the Butler Pinkerton Model (BPM), using a modified Capital Asset Pricing Model (CAPM) to calculate the company specific risk premium. The model uses equality between the standard CAPM which relies on the total beta on one side of the equation; and the firm's beta, size premium and company specific risk premium on the other. The equality is then solved for the company specific risk premium as the only unknown. The BPM is a relatively new concept and is gaining acceptance in the business valuation community.

It is important to understand why this capitalization rate for small, privately-held companies is significantly higher than the return that an investor might expect to receive from other common types of investments, such as money market accounts, mutual funds, or even real estate. Those investments involve substantially lower levels of risk than an investment in a closely-held company. Depository accounts are insured by the federal government (up to certain limits); mutual funds are composed of publicly-traded stocks, for which risk can be substantially minimized through portfolio diversification.

Closely-held companies, on the other hand, frequently fail for a variety of reasons too numerous to name. Examples of the risk can be witnessed in the storefronts on every Main Street in America. There are no federal guarantees. The risk of investing in a private company cannot be reduced through diversification, and most businesses do not own the type of hard assets that can ensure capital appreciation over time. This is why investors demand a much higher return on their investment in closely-held businesses; such investments are inherently much more risky.

Asset-based approaches

The value of asset-based analysis of a business is equal to the sum of its parts. That is the theory underlying the asset-based approaches to business valuation. The asset approach to business valuation is based on the principle of substitution: no rational investor will pay more for the business assets than the cost of procuring assets of similar economic utility. In contrast to the income-based approaches, which require the valuation professional to make subjective judgments about capitalization or discount rates, the adjusted net book value method is relatively objective. Pursuant to accounting convention, most assets are reported on the books of the subject company at their acquisition value, net of depreciation where applicable. These values must be adjusted to fair market value wherever possible. The value of a company’s intangible assets, such as goodwill, is generally impossible to determine apart from the company’s overall enterprise value. For this reason, the asset-based approach is not the most probative method of determining the value of going business concerns. In these cases, the asset-based approach yields a result that is probably lesser than the fair market value of the business. In considering an asset-based approach, the valuation professional must consider whether the shareholder whose interest is being valued would have any authority to access the value of the assets directly. Shareholders own shares in a corporation, but not its assets, which are owned by the corporation. A controlling shareholder may have the authority to direct the corporation to sell all or part of the assets it owns and to distribute the proceeds to the shareholder(s). The non-controlling shareholder, however, lacks this authority and cannot access the value of the assets. As a result, the value of a corporation's assets is rarely the most relevant indicator of value to a shareholder who cannot avail himself of that value. Adjusted net book value may be the most relevant standard of value where liquidation is imminent or ongoing; where a company earnings or cash flow are nominal, negative or worth less than its assets; or where net book value is standard in the industry in which the company operates. None of these situations applies to the Company which is the subject of this valuation report. However, the adjusted net book value may be used as a "sanity check" when compared to other methods of valuation, such as the income and market approaches.

Market approaches

The market approach to business valuation is rooted in the economic principle of competition: that in a free market the supply and demand forces will drive the price of business assets to certain equilibrium. Buyers would not pay more for the business, and the sellers will not accept less, than the price of a comparable business enterprise. It is similar in many respects to the "comparable sales" method that is commonly used in real estate appraisal. The market price of the stocks of publicly traded companies engaged in the same or a similar line of business, whose shares are actively traded in a free and open market, can be a valid indicator of value when the transactions in which stocks are traded are sufficiently similar to permit meaningful comparison.

The difficulty lies in identifying public companies that are sufficiently comparable to the subject company for this purpose. Also, as for a private company, the equity is less liquid (in other words its stocks are less easy to buy or sell) than for a public company, its value is considered to be slightly lower than such a market-based valuation would give.

Guideline Public Company method

The Guideline Public Company method entails a comparison of the subject company to publicly traded companies. The comparison is generally based on published data regarding the public companies' stock price and earnings, sales, or revenues, which is expressed as a fraction known as a "multiple." If the guideline public companies are sufficiently similar to each other and the subject company to permit a meaningful comparison, then their multiples should be similar. The public companies identified for comparison purposes should be similar to the subject company in terms of industry, product lines, market, growth, margins and risk.

Guideline Transaction Method or Direct Market Data Method

Using this method, the valuation analyst may determine market multiples by reviewing published data regarding actual transactions involving either minority or controlling interests in either publicly traded or closely held companies. In judging whether a reasonable basis for comparison exists, the valuation analysis must consider: (1) the similarity of qualitative and quantitative investment and investor characteristics; (2) the extent to which reliable data is known about the transactions in which interests in the guideline companies were bought and sold; and (3) whether or not the price paid for the guideline companies was in an arms-length transaction, or a forced or distressed sale.

Discounts and premiums

The valuation approaches yield the fair market value of the Company as a whole. In valuing a minority, non-controlling interest in a business, however, the valuation professional must consider the applicability of discounts that affect such interests. Discussions of discounts and premiums frequently begin with a review of the “levels of value.” There are three common levels of value: controlling interest, marketable minority, and non-marketable minority. The intermediate level, marketable minority interest, is lesser than the controlling interest level and higher than the non-marketable minority interest level. The marketable minority interest level represents the perceived value of equity interests that are freely traded without any restrictions. These interests are generally traded on the New York Stock Exchange, AMEX, NASDAQ, and other exchanges where there is a ready market for equity securities. These values represent a minority interest in the subject companies – small blocks of stock that represent less than 50% of the company’s equity, and usually much less than 50%. Controlling interest level is the value that an investor would be willing to pay to acquire more than 50% of a company’s stock, thereby gaining the attendant prerogatives of control. Some of the prerogatives of control include: electing directors, hiring and firing the company’s management and determining their compensation; declaring dividends and distributions, determining the company’s strategy and line of business, and acquiring, selling or liquidating the business. This level of value generally contains a control premium over the intermediate level of value, which typically ranges from 25% to 50%. An additional premium may be paid by strategic investors who are motivated by synergistic motives. Non-marketable, minority level is the lowest level on the chart, representing the level at which non-controlling equity interests in private companies are generally valued or traded. This level of value is discounted because no ready market exists in which to purchase or sell interests. Private companies are less “liquid” than publicly-traded companies, and transactions in private companies take longer and are more uncertain. Between the intermediate and lowest levels of the chart, there are restricted shares of publicly-traded companies. Despite a growing inclination of the IRS and Tax Courts to challenge valuation discounts, Shannon Pratt suggested in a scholarly presentation recently that valuation discounts are actually increasing as the differences between public and private companies is widening . Publicly-traded stocks have grown more liquid in the past decade due to rapid electronic trading, reduced commissions, and governmental deregulation. These developments have not improved the liquidity of interests in private companies, however. Valuation discounts are multiplicative, so they must be considered in order. Control premiums and their inverse, minority interest discounts, are considered before marketability discounts are applied.

Discount for lack of control

The first discount that must be considered is the discount for lack of control, which in this instance is also a minority interest discount. Minority interest discounts are the inverse of control premiums, to which the following mathematical relationship exists: $MID = 1 – [1 / (1 + CP)]$ The most common source of data regarding control premiums is the Control Premium Study, published annually by Mergerstat since 1972. Mergerstat compiles data regarding publicly announced mergers, acquisitions and divestitures involving 10% or more of the equity interests in public companies, where the purchase price is $1 million or more and at least one of the parties to the transaction is a U.S. entity. Mergerstat defines the "control premium" as the percentage difference between the acquisition price and the share price of the freely-traded public shares five days prior to the announcement of the M&A transaction. While it is not without valid criticism, Mergerstat control premium data (and the minority interest discount derived therefrom) is widely accepted within the valuation profession.

Discount for lack of marketability

Another factor to be considered in valuing closely held companies is the marketability of an interest in such businesses. Marketability is defined as the ability to convert the business interest into cash quickly, with minimum transaction and administrative costs, and with a high degree of certainty as to the amount of net proceeds. There is usually a cost and a time lag associated with locating interested and capable buyers of interests in privately-held companies, because there is no established market of readily-available buyers and sellers. All other factors being equal, an interest in a publicly traded company is worth more because it is readily marketable. Conversely, an interest in a private-held company is worth less because no established market exists. The IRS Valuation Guide for Income, Estate and Gift Taxes, Valuation Training for Appeals Officers acknowledges the relationship between value and marketability, stating: "Investors prefer an asset which is easy to sell, that is, liquid." The discount for lack of control is separate and distinguishable from the discount for lack of marketability. It is the valuation professional's task to quantify the lack of marketability of an interest in a privately-held company. Because, in this case, the subject interest is not a controlling interest in the Company, and the owner of that interest cannot compel liquidation to convert the subject interest to cash quickly, and no established market exists on which that interest could be sold, the discount for lack of marketability is appropriate. Several empirical studies have been published that attempt to quantify the discount for lack of marketability. These studies include the restricted stock studies and the pre-IPO studies. The aggregate of these studies indicate average discounts of 35% and 50%, respectively. Some experts believe the Lack of Control and Marketability discounts can aggregate discounts for as much as ninety percent of a Company's fair market value, specifically with family owned companies.

[Restricted stock studies

Restricted stocks are equity securities of public companies that are similar in all respects to the freely traded stocks of those companies except that they carry a restriction that prevents them from being traded on the open market for a certain period of time, which is usually one year (two years prior to 1990). This restriction from active trading, which amounts to a lack of marketability, is the only distinction between the restricted stock and its freely-traded counterpart. Restricted stock can be traded in private transactions and usually do so at a discount. The restricted stock studies attempt to verify the difference in price at which the restricted shares trade versus the price at which the same unrestricted securities trade in the open market as of the same date. The underlying data by which these studies arrived at their conclusions has not been made public. Consequently, it is not possible when valuing a particular company to compare the characteristics of that company to the study data. Still, the existence of a marketability discount has been recognized by valuation professionals and the Courts, and the restricted stock studies are frequently cited as empirical evidence. Notably, the lowest average discount reported by these studies was 26% and the highest average discount was 45%.

Option pricing

In addition to the restricted stock studies, U.S. publicly traded companies are able to sell stock to offshore investors (SEC Regulation S, enacted in 1990) without registering the shares with the Securities and Exchange Commission. The offshore buyers may resell these shares in the United States, still without having to register the shares, after holding them for just 40 days. Typically, these shares are sold for 20% to 30% below the publicly traded share price. Some of these transactions have been reported with discounts of more than 30%, resulting from the lack of marketability. These discounts are similar to the marketability discounts inferred from the restricted and pre-IPO studies, despite the holding period being just 40 days. Studies based on the prices paid for options have also confirmed similar discounts. If one holds restricted stock and purchases an option to sell that stock at the market price (a put), the holder has, in effect, purchased marketability for the shares. The price of the put is equal to the marketability discount. The range of marketability discounts derived by this study was 32% to 49%.

Pre-IPO studies

Another approach to measure the marketability discount is to compare the prices of stock offered in initial public offerings (IPOs) to transactions in the same company's stocks prior to the IPO. Companies that are going public are required to disclose all transactions in their stocks for a period of three years prior to the IPO. The pre-IPO studies are the leading alternative to the restricted stock stocks in quantifying the marketability discount. The pre-IPO studies are sometimes criticized because the sample size is relatively small, the pre-IPO transactions may not be arm's length, and the financial structure and product lines of the studied companies may have changed during the three year pre-IPO window.

Applying the studies

The studies confirm what the marketplace knows intuitively: Investors covet liquidity and loathe obstacles that impair liquidity. Prudent investors buy illiquid investments only when there is a sufficient discount in the price to increase the rate of return to a level which brings risk-reward back into balance. The referenced studies establish a reasonable range of valuation discounts from the mid-30%s to the low 50%s. The more recent studies appeared to yield a more conservative range of discounts than older studies, which may have suffered from smaller sample sizes. Another method of quantifying the lack of marketability discount is the Quantifying Marketability Discounts

Accountancy or **accounting** is the art of communicating financial information about a business entity to users such as shareholders and managers. The communication is generally in the form of financial statements that show in money terms the economic resources under the control of management.

Accounting is called "the language of business" because it is the vehicle for reporting financial information about a business entity to many different groups of people. Accounting that concentrates on reporting to people inside the business entity is called management accounting and is used to provide information to employees, managers, owner-managers and auditors. Management accounting is concerned primarily with with providing a basis for making management or operating decisions. Accounting that provides information to people outside the business entity is called financial accounting and provides information to present and potential shareholders, creditors such as banks or vendors, financial analysts, economists, and government agencies. Because these users have different needs, the presentation of financial accounts is very structured and subject to many more rules than management accounting. The body of rules that governs financial accounting is called Generally Accepted Accounting Principles, or GAAP.

Accounting has also been defined by the AICPA as "The art of recording, classifying, and summarizing in a significant manner and in terms of money, transactions and events which are, in part at least, of financial character, and interpreting the results thereof."

Business.

A **business** (also called a **company**, **enterprise** or **firm**) is a legally recognized organization designed to provide goods and/or services to consumers. Businesses are predominant in capitalist economies, most being privately owned and formed to earn profit that will increase the wealth of its owners and grow the business itself. The owners and operators of a business have as one of their main objectives *the receipt or generation of a financial return* in exchange for work and acceptance of risk. Notable exceptions include cooperative enterprises and state-owned enterprises. Businesses can also be formed not-for-profit or be state-owned.

The etymology of "business" relates to the state of being busy either as an individual or society as a whole, doing commercially viable and profitable work. The term "business" has at least three usages, depending on the scope — the singular usage (above) to mean a particular company or corporation, the generalized usage to refer to a particular market sector, such as "the music business" and compound forms such as agribusiness, or the broadest meaning to include all activity by the community of suppliers of goods and services. However, the exact definition of business, like much else in the philosophy of business, is a matter of debate.

Basic forms of ownership

Although forms of business ownership vary by jurisdiction, there are several common forms:

- **Sole proprietorship:** A sole proprietorship is a business owned by one person. The owner may operate on his or her own or may employ others. The owner of the business has personal liability of the debts incurred by the business.
- **Partnership:** A partnership is a form of business in which two or more people operate for the common goal which is often making profit. In most forms of partnerships, each partner has personal liability of the debts incurred by the business. There are three typical classifications of partnerships: general partnerships, limited partnerships, and limited liability partnerships.
- **Corporation:** A corporation is a limited liability entity that has a separate legal personality from its members. A corporation can be organized for-profit or not-for-profit. A corporation is owned by multiple shareholders and is overseen by a board of directors, which hires the business's managerial staff. In addition to privately-owned corporate models, there are state-owned corporate models.
- **Cooperative:** Often referred to as a "co-op", a cooperative is a limited liability entity that can organize for-profit or not-for-profit. A cooperative differs from a corporation in that it has members, as opposed to shareholders, who share decision-making authority. Cooperatives are typically classified as either consumer cooperatives or worker cooperatives. Cooperatives are fundamental to the ideology of economic democracy.

For a country-by-country listing of legally recognized business forms, see Types of business entity.

Classifications

There are many types of businesses, and because of this, businesses are classified in many ways. One of the most common focuses on the primary profit-generating activities of a business:

- Agriculture and mining businesses are concerned with the production of raw material, such as plants or minerals.
- Financial businesses include banks and other companies that generate profit through investment and management of capital.
- Information businesses generate profits primarily from the resale of intellectual property and include movie studios, publishers and packaged software companies.
- Manufacturers produce products, from raw materials or component parts, which they then sell at a profit. Companies that make physical goods, such as cars or pipes, are considered manufacturers.
- Real estate businesses generate profit from the selling, renting, and development of properties, homes, and buildings.
- Retailers and Distributors act as middle-men in getting goods produced by manufacturers to the intended consumer, generating a profit as a result of providing sales or distribution services. Most consumer-oriented stores and catalogue companies are distributors or retailers. *See also:* Franchising
- Service businesses offer intangible goods or services and typically generate a profit by charging for labor or other services provided to government, other businesses or consumers. Organizations ranging from house decorators to consulting firms to restaurants and even to entertainers are types of service businesses.

- Transportation businesses deliver goods and individuals from location to location, generating a profit on the transportation costs
- Utilities produce public services, such as heat, electricity, or sewage treatment, and are usually government chartered.

There are many other divisions and subdivisions of businesses. The authoritative list of business types for North America is generally considered to be the North American Industry Classification System, or NAICS. The equivalent European Union list is the NACE.

Management

The study of the efficient and effective operation of a business is called management. The main branches of management are financial management, marketing management, human resource management, strategic management, production management, service management, information technology management, and business intelligence.

Reforming State Enterprises

In recent decades, assets and enterprises that were run by various states have been modeled after business enterprises. In 2003, the People's Republic of China reformed 80% of its state-owned enterprises and modeled them on a company-type management system.[2] Many state institutions and enterprises in China and Russia have been transformed into joint-stock companies, with part of their shares being listed on public stock markets.

Government regulation

Most legal jurisdictions specify the forms of ownership that a business can take, creating a body of commercial law for each type.

Organizing

The major factors affecting how a business is organized are usually:

- **The size and scope of the business**, and its anticipated management and ownership. Generally a smaller business is more flexible, while larger businesses, or those with wider ownership or more formal structures, will usually tend to be organized as partnerships or (more commonly) corporations. In addition a business which wishes to raise money on a stock market or to be owned by a wide range of people will often be required to adopt a specific legal form to do so.
- **The sector and country.** Private profit making businesses are different from government owned bodies. In some countries, certain businesses are legally obliged to be organized certain ways.
- **Limited liability.** Corporations, limited liability partnerships, and other specific types of business organizations protect their owners from business failure by doing business under a separate legal entity with certain legal

protections. In contrast, unincorporated businesses or persons working on their own are usually not so protected.
- **Tax advantages.** Different structures are treated differently in tax law, and may have advantages for this reason.
- **Disclosure and compliance requirements**. Different business structures may be required to make more or less information public (or reported to relevant authorities), and may be bound to comply with different rules and regulations.

Many businesses are operated through a separate entity such as a corporation, limited partnership or limited liability company. Most legal jurisdictions allow people to organize such an entity by filing certain charter documents with the relevant Secretary of State or equivalent and complying with certain other ongoing obligations. The relationships and legal rights of shareholders, limited partners, or members are governed partly by the charter documents and partly by the law of the jurisdiction where the entity is organized. Generally speaking, shareholders in a corporation, limited partners in a limited partnership, and members in a limited liability company are shielded from personal liability for the debts and obligations of the entity, which is legally treated as a separate "person." This means that unless there is misconduct, the owner's own possessions are strongly protected in law, if the business does not succeed.

Where two or more individuals own a business together but have failed to organize a more specialized form of vehicle, they will be treated as a general partnership. The terms of a partnership are partly governed by a partnership agreement if one is created, and partly by the law of the jurisdiction where the partnership is located. No paperwork or filing is necessary to create a partnership, and without an agreement, the relationships and legal rights of the partners will be entirely governed by the law of the jurisdiction where the partnership is located.

A single person who owns and runs a business is commonly known as a *sole proprietor*, whether he or she owns it directly or through a formally organized entity.

A few relevant factors to consider in deciding how to operate a business include:

1. General partners in a partnership (other than a limited liability partnership), plus anyone who personally owns and operates a business without creating a separate legal entity, are personally liable for the debts and obligations of the business.
2. Generally, corporations are required to pay tax just like "real" people. In some tax systems, this can give rise to so-called double taxation, because first the corporation pays tax on the profit, and then when the corporation distributes its profits to its owners, individuals have to include dividends in their income when they complete their personal tax returns, at which point a second layer of income tax is imposed.
3. In most countries, there are laws which treat small corporations differently than large ones. They may be exempt from certain legal filing requirements or labor laws, have simplified procedures in specialized areas, and have simplified, advantageous, or slightly different tax treatment.
4. To "go public" (sometimes called IPO) -- which basically means to allow a part of the business to be owned by a wider range of investors or the public in

general—you must organize a separate entity, which is usually required to comply with a tighter set of laws and procedures. Most public entities are corporations that have sold shares, but increasingly there are also public LLCs that sell units (sometimes also called shares), and other more exotic entities as well (for example, REITs in the USA, Unit Trusts in the UK). However, you cannot take a general partnership "public."

Commercial law

Most commercial transactions are governed by a very detailed and well-established body of rules that have evolved over a very long period of time, it being the case that governing trade and commerce was a strong driving force in the creation of law and courts in Western civilization.

As for other laws that regulate or impact businesses, in many countries it is all but impossible to chronicle them all in a single reference source. There are laws governing treatment of labor and generally relations with employees, safety and protection issues (OSHA or Health and Safety), anti-discrimination laws (age, gender, disabilities, race, and in some jurisdictions, sexual orientation), minimum wage laws, union laws, workers compensation laws, and annual vacation or working hours time.

In some specialized businesses, there may also be licenses required, either due to special laws that govern entry into certain trades, occupations or professions, which may require special education, or by local governments. Professions that require special licenses range from law and medicine to flying airplanes to selling liquor to radio broadcasting to selling investment securities to selling used cars to roofing. Local jurisdictions may also require special licenses and taxes just to operate a business without regard to the type of business involved.

Some businesses are subject to ongoing special regulation. These industries include, for example, public utilities, investment securities, banking, insurance, broadcasting, aviation, and health care providers. Environmental regulations are also very complex and can impact many kinds of businesses in unexpected ways.

Capital

When businesses need to raise money (called 'capital'), more laws come into play. A highly complex set of laws and regulations govern the offer and sale of investment securities (the means of raising money) in most Western countries. These regulations can require disclosure of a lot of specific financial and other information about the business and give buyers certain remedies. Because "securities" is a very broad term, most investment transactions will be potentially subject to these laws, unless a special exemption is available.

Capital may be raised through private means, by public offer (IPO) on a stock exchange, or in many other ways. Major stock exchanges include the Shanghai Stock Exchange, Singapore Exchange, Hong Kong Stock Exchange, New York Stock Exchange and Nasdaq (USA), the London Stock Exchange (UK), the Tokyo Stock Exchange (Japan), and so on. Most countries with capital markets have at least one.

Businesses that have gone "public" are subject to extremely detailed and complicated regulation about their internal governance (such as how executive officers' compensation is determined) and when and how information is disclosed to the public and their shareholders. In the United States, these regulations are primarily implemented and enforced by the United States Securities and Exchange Commission (SEC). Other Western nations have comparable regulatory bodies. The regulations are implemented and enforced by the China Securities Regulation Commission (CSRC), in China. In Singapore, the regulation authority is Monetary Authority of Singapore (MAS), and in Hong Kong, it is Securities and Futures Commission (SFC).

As noted at the beginning, it is impossible to enumerate all of the types of laws and regulations that impact on business today. In fact, these laws have become so numerous and complex, that no business lawyer can learn them all, forcing increasing specialization among corporate attorneys. It is not unheard of for teams of 5 to 10 attorneys to be required to handle certain kinds of corporate transactions, due to the sprawling nature of modern regulation. Commercial law spans general corporate law, employment and labor law, healthcare law, securities law, M&A law (who specialize in acquisitions), tax law, ERISA law (ERISA in the United States governs employee benefit plans), food and drug regulatory law, intellectual property law (specializing in copyrights, patents, trademarks and such), telecommunications law, and more.

In Thailand, for example, it is necessary to *register* a particular amount of capital for each employee, and pay a fee to the government for the amount of capital registered. There is no legal requirement to prove that this capital actually exists, the only requirement is to pay the fee. Overall, processes like this are detrimental to the development and GDP of a country, but often exist in "feudal" developing countries.

Intellectual property

Businesses often have important "intellectual property" that needs protection from competitors for the company to stay profitable. This could require patents or copyrights or preservation of trade secrets. Most businesses have names, logos and similar branding techniques that could benefit from trademarking. Patents and copyrights in the United States are largely governed by federal law, while trade secrets and trade marking are mostly a matter of state law. Because of the nature of intellectual property, a business needs protection in every jurisdiction in which they are concerned about competitors. Many countries are signatories to international treaties concerning intellectual property, and thus companies registered in these countries are subject to national laws bound by these treaties.

Exit plans

Businesses can be bought and sold. Business owners often refer to their plan of disposing of the business as an "exit plan." Common exit plans include IPOs, MBOs and mergers with other businesses. Businesses are rarely liquidated, as it is often very unprofitable to do so.

Financial analysis

Financial analysis refers to an assessment of the viability, stability and profitability of a business, sub-business or project.

It is performed by professionals who prepare reports using ratios that make use of information taken from financial statements and other reports. These reports are usually presented to top management as one of their bases in making business decisions. Based on these reports, management may:

- Continue or discontinue its main operation or part of its business;
- Make or purchase certain materials in the manufacture of its product;
- Acquire or rent/lease certain machineries and equipment in the production of its goods;
- Issue stocks or negotiate for a bank loan to increase its working capital;
- Make decisions regarding investing or lending capital;
- Other decisions that allow management to make an informed selection on various alternatives in the conduct of its business.

Goals

Financial analysts often assess the firm's:

1. **Profitability** - its ability to earn income and sustain growth in both short-term and long-term. A company's degree of profitability is usually based on the income statement, which reports on the company's results of operations;

2. **Solvency** - its ability to pay its obligation to creditors and other third parties in the long-term;
3. **Liquidity** - its ability to maintain positive cash flow, while satisfying immediate obligations;

Both 2 and 3 are based on the company's balance sheet, which indicates the financial condition of a business as of a given point in time.

4. **Stability**- the firm's ability to remain in business in the long run, without having to sustain significant losses in the conduct of its business. Assessing a company's stability requires the use of the income statement and the balance sheet, as well as other financial and non-financial indicators.

Methods

Financial analysts often compare financial ratios (of solvency, profitability, growth, etc.):

- **Past Performance** - Across historical time periods for the same firm (the last 5 years for example),
- **Future Performance** - Using historical figures and certain mathematical and statistical techniques, including present and future values, this extrapolation method is the main source of errors in financial analysis as past statistics can be poor predictors of future prospects.
- **Comparative Performance** - Comparison between similar firms.

These ratios are calculated by dividing a (group of) account balance(s), taken from the balance sheet and / or the income statement, by another, for example:

n / equity = return on equity
Net income / total assets = return on assets
Stock price / earnings per share = P/E-ratio

Comparing financial ratios are merely one way of conducting financial analysis. Financial ratios face several theoretical challenges:

- They say little about the firm's prospects in an absolute sense. Their insights about relative performance require a reference point from other time periods or similar firms.
- One ratio holds little meaning. As indicators, ratios can be logically interpreted in at least two ways. One can partially overcome this problem by combining several related ratios to paint a more comprehensive picture of the firm's performance.
- Seasonal factors may prevent year-end values from being representative. A ratio's values may be distorted as account balances change from the beginning to the end of an accounting period. Use average values for such accounts whenever possible.
- Financial ratios are no more objective than the accounting methods employed. Changes in accounting policies or choices can yield drastically different ratio values.
- They fail to account for exogenous factors like investor behavior that are not based upon economic fundamentals of the firm or the general economy (fundamental analysis).

Bookkeeping

Bookkeeping is the recording of financial transactions. Transactions include sales, purchases, income, and payments by an individual or organization. Bookkeeping is usually performed by a bookkeeper. Bookkeeping should not be confused with accounting. The accounting process is usually performed by an accountant. The accountant creates reports from the recorded financial transactions recorded by the bookkeeper. There are some common methods of bookkeeping such as the Single-entry bookkeeping system and the Double-entry bookkeeping system. But while these systems may be seen as "real" bookkeeping, any process that involves the recording of financial transactions is a bookkeeping process.

Bookkeeper

A bookkeeper (or book-keeper), also known as an accounting clerk or accounting technician, is a person who records the day-to-day financial transactions of an organization bookkeeper is usually responsible for writing the "daybooks." The daybooks consist of purchase, sales, receipts, and payments. The bookkeeper is responsible for ensuring all transactions are recorded in the correct daybook, supplier’s ledger, customer ledger, and general ledger. The bookkeeper brings the books to the trial balance stage. An accountant may prepare the income statement and balance sheet using the trial balance and ledgers prepared by the bookkeeper.

Bookkeeping systems

Two common bookkeeping systems used by businesses and other organizations are the single-entry bookkeeping system and the double-entry bookkeeping system. Single-entry bookkeeping uses only income and expense accounts, recorded primarily in a revenue and expense journal. Single-entry bookkeeping is adequate for many small businesses. Double-entry bookkeeping requires posting (recording) each transaction twice, using debits and credits.

Single-entry system

The primary bookkeeping record in single-entry bookkeeping is the cash book, which is similar to a checking (chequing) account register but allocates the income and expenses to various income and expense accounts. Separate account records are maintained for petty cash, accounts payable and receivable, and other relevant transactions such as inventory and travel expenses. These days, single entry bookkeeping can be done with DIY bookkeeping software to speed up manual calculations.

Sample revenue and expense journal for single-entry bookkeeping

No.	Date	Description	Revenue	Expense	Sales	Sales Tax	Services	Inventory	Advert.	Freight	Office Suppl	Misc
	7/13	*Balance forward*	1,826.00	835.00	1,218.00	98.00	510.00	295.00	245.00	150.00	83.50	61.50
1041	7/13	Printer-Advert flyers		450.00					450.00			
1042	7/13	Wholesaler - inventory		380.00				380.00				
1043	7/16	office supplies		92.50							92.50	

--	7/17	bank deposit	1,232.00									
		- Taxable sales			400.00	32.00						
		- Out-of-state sales			165.00							
		- Resales			370.00							
		- Service sales					265.00					
bank	7/19	bank charge		23.40								23.40
1044	7/19	petty cash		100.00								100.00
		TOTALS	3058.00	1,880.90	2,153.00	130.00	775.00	675.00	695.00	150.00	176.00	184.90

Single account bookkeeping

Simple bookkeeping for individuals and families involves recording income, expenses, and current balance in a cash record book or a checking account register.

Sample checking account register (United States, 2003)

AD=Automatic Deposit, AP=Automatic Payment, ATM=Teller Machine, DC=Debit Card							
NUMBER OR CODE	DATE	TRANSACTION DESCRIPTION	PAYMENT AMOUNT	/	FEE	DEPOSIT AMOUNT	BALANCE

		balance forward							1331	85
AD	3/15	paycheck					1823	56	3155	41
AP	3/26	electricity	104	31					3051	10
704	3/26	car registration	58	50					2992	60
ATM	3/30	cash withdrawal	100	00		1.00			2891	60
DC	4/2	groceries	127	35					2764	25

Double-entry system

Main article: double-entry bookkeeping system

Daybooks

A daybook is a descriptive and chronological (diary-like) record of day-to-day financial transactions also called a *book of original entry*. The daybook's details must be entered formally into journals to enable posting to ledgers. Daybooks include:

- Sales daybook, for recording all the sales invoices.
- Sales credits daybook, for recording all the sales credit notes.
- Purchases daybook, for recording all the purchase invoices.
- Purchases credits daybook, for recording all the purchase credit notes.
- Cash daybook, usually known as the cash book, for recording all money received as well as money paid out. It may be split into two daybooks: receipts daybook for money received in, and payments daybook for money paid out.

Petty cash book

A petty cash book is a record of small value purchases usually controlled by imprest system. Items such as Coffee, Tea, are listed down in the petty cash book.

Journals

A journal is a formal and chronological record of financial transactions before their values are accounted in general ledger as debits and credits. Journals are recorded in the journal daybook, which is one of the books of first entry. For every debit journal there must an equivalent credit journal. There must be at least two journal entries for every transaction recorded.

Ledgers

A ledger (also known as a book of final entry) is a record of accounts, each recorded individually (on a separate page) with its balance. Unlike the journal listing chronologically all financial transactions without balances, the ledger summarizes values of one type of financial transactions per account, which constitute the basis for the balance sheet and income statement. Ledgers include:

- Customer ledger, for financial transactions with a customer (sometimes called a sales ledger).
- Supplier ledger, for financial transactions with a supplier (sometimes called a purchase ledger).
- General (nominal) ledger representing assets, liabilities, income, and expenses.
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Computerized bookkeeping

Computerized bookkeeping removes many of the paper "books" that are used to record transactions and usually enforces double entry bookkeeping.

Online bookkeeping

Online bookkeeping, or remote bookkeeping, allows source documents and data to reside in web-based applications which allow remote access for bookkeepers and accountants. All entries made into the online software are recorded and stored in a remote location. The online software can be accessed from any location in the world and permit the bookkeeper or data entry person to work from any location with a suitable data communications link.

Debits and credits

Debit and **credit** are formal bookkeeping and accounting terms. They are the most fundamental concepts in accounting, representing the two sides of each individual transaction recorded in any accounting system. A debit transaction indicates an asset or an expense transaction, a credit indicates a transaction that will cause a liability or a gain. A debit transaction can also be used to reduce a credit balance or increase a debit balance. A credit transaction can be used to decrease a debit balance or increase a credit balance.

Introduction

Debits and credits are a system of notation used in bookkeeping to determine how and where to record any financial transaction. In bookkeeping, instead of using addition '+' and subtraction '-' symbols, a transaction uses the symbol DR (Debit) or CR (Credit). In double-entry bookkeeping **debit** is used for asset and expense transactions and **credit** is used for liability and gains transactions. For bank transactions, money in is treated as a debit transaction and money out is treated as a credit transaction.

Traditionally, transactions are recorded in two columns of numbers: debits in the left hand column, credits in the right hand column. Keeping the debits and credits in separate columns allows each to be recorded and totalled independently. Where the total of the debit value amounts is lower than the total of the credit value amounts a balancing debit value is posted to that nominal ledger account. That nominal ledger account is now "balanced". An account can have either a credit value balance or a debit value balance but not both.

Origin of the terms debit and credit

The term debit comes from the Latin *debitum* which means "that which is owing" (the past participle of *debere* "to owe"). Debit is abbreviated to Dr (for debitor). The term credit comes from the Latin *credere*/*credit* meaning "to trust or believe" / "he trusts or believes" via the French *credit* and the Italian *credito*. Credit is abbreviated to Cr (for creditor).

Principles or Rules of Debit and Credit

Each transaction consists of debits and credits for every transaction and they must be equal.

' *For Every Transaction:* ' *'the Value of Debits = the Value of Credits'*

This also means that the accounts with debits balances will equal the total value of accounts with credit balances. You can check the arithmetical accuracy of the accounts by doing a trial balance and proving that total debits equal total credits.

The extended accounting equation must also balance: *'A + E = L + OE + R'*

(where A = Assets, E = Expenses, L = Liabilities, OE = Owner's Equity and R = Revenues)

So 'Debit Accounts (A + E) = Accounts Credit (L + R + OE)'

Debits *are on the left and increase a debit account and reduce a credit account.*
Credits *are on the right and increase a credit account and decrease a debit account.*

Examples

1. When you pay rent with cash: you increase rent (expense) by debiting, and decrease cash (asset) by credit.
2. When you receive cash for a sale: you increase cash (asset) by debiting, and increase sales (revenue) by credit.
3. When you buy equipment (asset) with cash: You increase equipment (asset) by debiting, and decrease cash (asset) by credit.
4. When you borrow with a cash loan: You increase cash (asset) by debiting, and increase loan (liability) by credit.

	Account	Debit	Credit
1.	Rent	100	
	Cash		100
2.	Cash	400	
	Sale		400
3.	Equip.	500	
	Cash		500
4.	Cash	1000	
	Loan		1000

'T' Accounts

The process of using debits and credits creates a ledger format that resembles the letter 'T'. The term 'T' account is commonly used when discussing bookkeeping.

A 'T' account showing debits on the left and credits on the right.

Debits	Credits

Cost of goods sold

In financial accounting, **cost of goods sold (COGS)** includes the direct costs attributable to the production of the goods sold by a company. This amount includes the materials cost used in creating the goods along with the direct labour costs used to produce the good. It excludes indirect expenses such as distribution costs and sales force costs. COGS appears on the income statement and can be deducted from revenue to calculate a company's gross margin.

COGS is the costs that go into creating the products that a company sells; therefore, the only costs included in the measure are those that are directly tied to the production of the products. For example, the COGS for an automaker would include the material costs for the parts that go into making the car along with the labor costs used to put the car together. The cost of sending the cars to dealerships and the cost of the labor used to sell the car would be excluded.

The accounts included in the COGS calculation will differ from one type of business to another.

The cost of goods attributed to a company's products is expensed as the company sells these goods. There are several ways to calculate COGS but one of the basic ways is to start with the beginning inventory for the period and add the total amount of purchases made during the period, and then deducting the ending inventory. This calculation gives the total amount of inventory (the cost of this inventory) sold by the company during the period. Therefore, if a company starts with $10 million in inventory, makes $2m in purchases and ends the period with $9m in inventory, the company's cost of goods for the period would be $3m ($10m + $2m - $9m).

Subtracting the *cost of goods sold* from the amount billed when selling the goods (*sales revenue*) produces the gross profit on the goods.

The net income, what most people understand as the business' income or profit, is determined by subtracting the *cost of goods sold* and the *indirect expenses* from the *sales revenue*.

Accounting method

{The method of calculating **Cost of goods sold** is: **Opening stock + Purchase of goods - Closing Stock**}

This table makes it easy to grasp the concept of cost of goods sold for a merchandising business.

Beginning Inventory $100	**Cost of Goods Purchased $400**
Goods Available for Sale	**= ($100+$400) $500**
Cost of Goods Sold $300	**Ending Inventory $200**

Make a note that the sum of **Beginning Inventory** and **Cost of Goods Purchased** is equal to **Goods Available for Sale**, and so is the sum of **Cost of Goods Sold** and **Ending Inventory**.

Cost of goods purchased is calculated as follows. **Purchases** minus **Purchases returns and allowances** and minus **Purchases discounts** gives us **Net Purchases. Net Purchases** plus **Freight-In** gives us **Cost of Goods Purchased**.

Cost of Goods Sold is calculated by subtracting **Ending Inventory** from **Goods Available for Sale.**

The revenue from merchandise sold must be matched with the COGS. Cost of sales or cost of goods sold is the identification of the cost of those items sold in the most recent accounting period. It can be done by specific identification, taking inventory, or different methods using estimates such as the "retail" method.

COGS is also the determining factor in arriving at *gross profit* and in a manufacturing business is determined under the periodic method as follows:

Sales---------------------------------- $100,000
Cost of Goods Sold
  Inventory 01/01/03-- $ 5,000
  Purchases------------ 45,000
  Direct Labor--------- 30,000

80,000
  Less: Inventory 12/31/03----- 10,000

  Net Cost of Goods Sold---------------- 70,000

Gross Profit on Sales------------------ $30,000

To determine the net profit, one would then compute the indirect expenses such as office expenses, light, heat, etc. Determining the cost of goods sold is the first step in arriving at the net profit.

If the COGS is too high, then the gross profit will not support the indirect expenses and the result will be a loss for the accounting period.

Cost of Goods: the price paid for the product, plus additional costs necessary to get the merchandise into inventory and ready for sale, including shipping and handling. It can also be defined as the difference between the goods available for sale and the ending inventory. It indicates the cost of the goods sold during the period. The direct costs attributable to the production of the goods sold by a company, this amount includes the cost of the materials used in creating the good along with the direct labor costs used to produce the good. It excludes indirect expenses such as distribution costs and sales force costs. COGS appear on the income statement and can be deducted from revenue to calculate a company's gross margin. Investopedia Says: COGS is the costs that go into creating the products that a company sells; therefore, the only costs included in the measure are those that are directly tied to the production of the products. For example, the COGS for an automaker would include the material costs for the parts that go into making the car along with the labor costs used to put the car together. The cost of sending the cars to dealerships and the cost of the labor used to sell the car would be excluded.

The exact costs included in the COGS calculation will differ from one type of business to another. The cost of goods attributed to a company's products are, expensed as the company sells these goods. There are several ways to calculate COGS but one of the more basic ways is to start with the beginning inventory for the period and add the total amount of purchases made during the period then deducting the ending inventory. This calculation gives the total amount of inventory or, more specifically, the cost of this inventory, sold by the company during the period. Therefore, if a company starts with $10 million in inventory, makes $2 million in purchases and ends the period with $9 million in inventory, the company's cost of goods for the period would be $3 million ($10 million + $2 million - $9 million). There are several types of cost classification. Depending on what a particular business needs will depend on what Cost Accounts they need. Some companies will enlist several different accounts and others will use very few. The following classifications help determine needed information as well as helping a business in determining how much they are going to sell a product or service. This information is needed in order to determine what would be needed in order to cover their cost manufacturing a product or selling a service as well as determining how much profit they wish to obtain. A basic break down in determining classification of cost, would be determining if Cost is fixed or variable. A fixed cost is defined as a cost that doesn’t change. Variable cost, on the other hand, changes as needed in order to keep up with the volume of product. Once an individual has an understanding of the differences between the basic classification types we can then present a new classification. Some costs are considered Mixed, meaning they are both fixed and variable. An example of a fixed cost would be a monthly rent payment. The only time this amount changes is when a renter signs a new lease agreement, otherwise the rent remains the same for the life of the contract signed. An example of a variable cost would be similar to filling an automobile with gas. As the price of gas increases or decreases, the amount an individual pays in order to fill his or her car will increase or decrease. Lastly, an example of a mixed cost would include something like a truck rental. It costs an individual so much for the first hour and then a separate amount for any time after that initial hour. We next move on to classification by traceability, this means that Cost will be dependent on the cost of the product, department, and even includes the customer that the cost is assigned. There are two classifications used in determining this information, direct cost and indirect cost. Direct cost is defined as those cost that can be traced to its cost object. An example of direct cost would be material and labor cost. Indirect cost is defined as a cost that cannot be traced to a single cost object. An example of indirect cost would include a maintenance plan that affects two or more departments. The next type of classification that we will discuss is called Cost by Controllability. This classification is a bit easier to understand because it includes cost that can or cannot be controlled. This classification usually has to do with the management of the company and each component involved is assigned to a specific group of people. Examples of each of these include investments in machinery of controlled, and the cost of running a business for not controlled. The fourth classification in determining cost is classification in relevance. This classification determines if the cost is to be a sunk cost, or an out of pocket cost. A sunk cost is something that doesn't relate to future planning, it is something that has already been paid for and will not have to be paid for again. An out of pocket cost is something that the company pays for on a regular basis. This type of cost does play a part in financial planning for the company. The last classification that will be discussed is classification by function. What is the cost for? Usually this cost classification is a breakdown of the cost of manufacturing a product. This cost allows manufacturing companies to determine how much a given product will be sold for. This cost helps to determine what needs to be charged in order to cover the manufacturing cost as well as making a profit.

Computation of gross profits with COGS highlighted

Sales-- 113,000.00
Less sales returns and
Allowances-- 800.00
Net sales-- 112,200.00
Cost of goods sold:
Merchandise, Jan 1-------------------------------- 34,000.00
Purchases----------------------- 76,000.00
Returns and
allowances------ 4,000.00
Purchase
Discounts------- 3,000.00
Less: Purchases------------- 7,000.00
Net purchases---------------------------- 69,000.00
Add freight-in--------------------------- 1,500.00
Cost of goods
purchased--------------------------------------- 70,500.00
Goods available for sale-------------------------------------- 104,500.00
Less merchandise inventory,
Dec. 31-- 30,000.00

Cost of goods sold--- 74,500.00
Gross profit-- 37,700.00

Comparison of Cash Method and Accrual Method of accounting

Two primary accounting methods, ***cash*** and ***accrual basis***, are used to calculate taxable income for U.S. federal income taxes. According to the Internal Revenue Code, a taxpayer may compute taxable income by:

1. the cash receipts and disbursements method;
2. an accrual method;
3. any other method permitted by the chapter; or
4. any combination of the foregoing methods permitted under regulations prescribed by the Secretary. As a general rule, a taxpayer must compute taxable income using the same accounting method he uses to compute income in keeping his books. Also, the taxpayer must maintain a consistent method of accounting from year to year. Should he change from the cash basis to the accrual basis (or vice versa), he must notify and secure the consent of the Secretary.

Cash basis

Cash basis taxpayers include income when it is *received*, and claim deductions when expenses are *paid*. A cash basis taxpayer can look to the doctrine of constructive receipt and the doctrine of cash equivalence to help determine when income is received. Most individuals start as cash basis taxpayers. There are three types of taxpayers that cannot use the cash basis: (1) corporations; (2) partnerships with at least one C corporation partner; and (3) tax shelters.

Accrual basis

Accrual basis taxpayers include items when they are *earned* and claim deductions when expenses are *owed*. An accrual basis taxpayer looks to the “all-events test” and “earlier-of test” to determine when income is earned. Under the all-events test, an accrual basis taxpayer generally must include income "for the taxable year when all the events have occurred that fix the right to receive income and the amount of the income can be determined with reasonable accuracy." Under the "earlier-of test", an accrual basis taxpayer receives income when (1) the required performance occurs, (2) payment therefore is due, or (3) payment therefore is made, whichever happens earliest. Under the earlier of test outlined in Revenue Ruling 74-607, an accrual basis taxpayer may be treated, as a cash basis taxpayer, when payment is received before the required performance and before the payment is actually due. An accrual basis taxpayer generally can claim a deduction “in the taxable year in which all the events have occurred that establish the fact of the liability, the amount of the liability can be determined with reasonable accuracy, and economic performance has occurred with respect to the liability.”

Financial statements

Financial statements (or **financial reports**) are formal records of the financial activities of a business, person, or other entity. In British English, including United Kingdom company law, financial statements are often referred to as **accounts**, although the term financial statements is also used, particularly by accountants.

Financial statements provide an overview of a business or person's financial condition in both short and long term. All the relevant financial information of a business enterprise presented in a structured manner and in a form easy to understand, is called the financial statements. There are four basic financial statements:

1. **Balance sheet**: also referred to as statement of financial position or condition, reports on a company's assets, liabilities, and Ownership equity at a given point in time.
2. **Income statement**: also referred to as Profit and Loss statement (or a "P&L"), reports on a company's income, expenses, and profits over a period of time.Profit & Loss account provide information on the operation of the enterprise. These include sale and the various expenses incurred during the processing state.
3. **Statement of retained earnings**: explains the changes in a company's retained earnings over the reporting period.
4. **Statement of cash flows**: reports on a company's cash flow activities, particularly its operating, investing and financing activities.

For large corporations, these statements are often complex and may include an extensive set of notes to the financial statements and management discussion and analysis. The notes typically describe each item on the balance sheet, income statement and cash flow statement in further detail. Notes to financial statements are considered an integral part of the financial statements.

Purpose of financial statements

"The objective of financial statements is to provide information about the financial position, performance and changes in financial position of an enterprise that is useful to a wide range of users in making economic decisions.Financial statements should be understandable, relevant, reliable and comparable. Reported assets, liabilities and equity are directly related to an organization's financial position. Reported income and expenses are directly related to an organization's financial performance.

Financial statements are intended to be understandable by readers who have "a reasonable knowledge of business and economic activities and accounting and who are willing to study the information diligently. Financial statements may be used by users for different purposes:

- Owners and managers require financial statements to make important business decisions that affect its continued operations. Financial analysis is then performed on these statements to provide management with a more detailed understanding of the figures. These statements are also used as part of management's annual report to the stockholders.

- Employees also need these reports in making collective bargaining agreements (CBA) with the management, in the case of labor unions or for individuals in discussing their compensation, promotion and rankings.

- Prospective investors make use of financial statements to assess the viability of investing in a business. Financial analyses are often used by investors and are prepared by professionals (financial analysts), thus providing them with the basis for making investment decisions.

- Financial institutions (banks and other lending companies) use them to decide whether to grant a company with fresh working capital or extend debt securities (such as a long-term bank loan or debentures) to finance expansion and other significant expenditures.

- Government entities (tax authorities) need financial statements to ascertain the propriety and accuracy of taxes and other duties declared and paid by a company.

- Vendors who extend credit to a business require financial statements to assess the creditworthiness of the business.

- Media and the general public are also interested in financial statements for a variety of reasons.

Government financial statements

The rules for the recording, measurement and presentation of government financial statements may be different from those required for business and even for non-profit organizations. They may use either of two accounting methods: accrual accounting, or cash accounting, or a combination of the two (OCBOA). A complete set of chart of accounts is also used that is substantially different from the chart of a profit-oriented business

Audit and legal implications

Although laws differ from country to country, an audit of the financial statements of a public company is usually required for investment, financing, and tax purposes. These are usually performed by independent accountants or auditing firms. Results of the audit are summarized in an audit report that either provide an unqualified opinion on the financial statements or qualifications as to its fairness and accuracy. The audit opinion on the financial statements is usually included in the annual report.

There has been much legal debate over who an auditor is liable to. Since audit reports tend to be addressed to the current shareholders, it is commonly thought that they owe a legal duty of care to them. But this may not be the case as determined by common law precedent. In Canada, auditors are liable only to investors using a prospectus to buy shares in the primary market. In the United Kingdom, they have been held liable to potential investors when the auditor was aware of the potential investor and how they would use the information in the financial statements. Nowadays auditors tend to include in their report liability restricting language, discouraging anyone other than the addressees of their report from relying on it. Liability is an important issue: in the UK, for example, auditors have unlimited liability.

In the United States, especially in the post-Enron era there has been substantial concern about the accuracy of financial statements. Corporate officers (the chief executive officer (CEO) and chief financial officer (CFO)) are personally liable for attesting that financial statements "do not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by th[e] report." Making or certifying misleading financial statements exposes the people involved to substantial civil and criminal liability. For example Bernie Ebbers (former CEO of WorldCom) was sentenced to 25 years in federal prison for allowing WorldCom's revenues to be overstated by $11 billion over five years.

Standards and regulations

Different countries have developed their own accounting principles over time, making international comparisons of companies difficult. To ensure uniformity and comparability between financial statements prepared by different companies, a set of guidelines and rules are used. Commonly referred to as Generally Accepted Accounting Principles (GAAP), these set of guidelines provide the basis in the preparation of financial statements.

Recently there has been a push towards standardizing accounting rules made by the International Accounting Standards Board ("IASB"). IASB develops International Financial Reporting Standards that have been adopted by Australia, Canada and the European Union (for publicly quoted companies only), are under consideration in South Africa and other countries. The United States Financial Accounting Standards Board has made a commitment to converge the U.S. GAAP and IFRS over time.

Inclusion in annual reports

To entice new investors, most public companies assemble their financial statements on fine paper with pleasing graphics and photos in an annual report to shareholders, attempting to capture the excitement and culture of the organization in a "marketing brochure" of sorts. Usually the company's chief executive will write a letter to shareholders, describing management's performance and the company's financial highlights.

In the United States, prior to the advent of the internet, the annual report was considered the most effective way for corporations to communicate with individual shareholders. Blue chip companies went to great expense to produce and mail out attractive annual reports to every shareholder. The annual report was often prepared in the style of a coffee table book.

Balance sheet,

In financial accounting, a **balance sheet** or **statement of financial position** is a summary of a person's or organization's balances. Assets, liabilities and ownership equity are listed as of a specific date, such as the end of its financial year. A balance sheet is often described as a snapshot of a company's financial condition.[1] Of the four basic financial statements, the balance sheet is the only statement which applies to a single point in time.

A company balance sheet has three parts: assets, liabilities and ownership equity. The main categories of assets are usually listed first, and typically in order of liquidity.[2] Assets are followed by the liabilities. The difference between the assets and the liabilities is known as equity or the net assets or the net worth or capital of the company and according to the accounting equation, net worth must equal assets minus liabilities.[3]

Another way to look at the same equation is that assets equals liabilities plus owner's equity. Looking at the equation in this way shows how assets were financed: either by borrowing money (liability) or by using the owner's money (owner's equity). Balance sheets are usually presented with assets in one section and liabilities and net worth in the other section with the two sections "balancing."

Records of the values of each account or line in the balance sheet are usually maintained using a system of accounting known as the double-entry bookkeeping system.

A business operating entirely in cash can measure its profits by withdrawing the entire bank balance at the end of the period, plus any cash in hand. However, many businesses are not paid immediately; they build up inventories of goods and they acquire buildings and equipment. In other words: businesses have assets and so they can not, even if they want to, immediately turn these into cash at the end of each period. Often, these businesses owe money to suppliers and to tax authorities, and the proprietors do not withdraw all their original capital and profits at the end of each period. In other words businesses also have liabilities.

Types

A balance sheet summarizes an organization or individual's assets, equity and liabilities at a specific point in time. Individuals and small businesses tend to have simple balance sheets.Larger businesses tend to have more complex balance sheets, and these are presented in the organization's annual report. Large businesses also may prepare balance sheets for segments of their businesses. A balance sheet is often presented alongside one for a different point in time (typically the previous year) for comparison.

Personal balance sheet

A personal balance sheet lists current assets such as cash in checking accounts and savings accounts, long-term assets such as common stock and real estate, current liabilities such as loan debt and mortgage debt due, or overdue, long-term liabilities such as mortgage and other loan debt. Securities and real estate values are listed at market value rather than at historical cost or cost basis. Personal net worth is the difference between an individual's total assets and total liabilities.]

Small business balance sheet

Sample Small Business Balance Sheet				
Assets		**Liabilities and Owners' Equity**		
Cash	$6,600	**Liabilities**		
Accounts Receivable	$6,200	Notes Payable	$30,000	
		Accounts Payable		
		Total liabilities		$30,000
Tools and equipment	$25,000	**Owners' equity**		
		Capital Stock	$7,000	
		Retained Earnings	$800	
		Total owners' equity		$7,800
Total	$37,800	*Total*		$37,800

A small business balance sheet lists current assets such as cash, accounts receivable, and inventory, fixed assets such as land, buildings, and equipment, intangible assets such as patents, and liabilities such as accounts payable, accrued expenses, and long-term debt. Contingent liabilities such as warranties are noted in the footnotes to the balance sheet. The small business's equity is the difference between total assets and total liabilities.[11]

Public Business Entities balance sheet structure

Guidelines for balance sheets of public business entities are given by the International Accounting Standards Committee and numerous country-specific organizations.

Balance sheet account names and usage depend on the organization's country and the type of organization. Government organizations do not generally follow standards established for individuals or businesses.

If applicable to the business, summary values for the following items should be included on the balance sheet:

Assets

Current assets

1. Cash and cash equivalents
2. Inventories
3. Accounts receivable
4. Prepaid expenses for future services that will be used within a year

Fixed assets

1. Property, plant and equipment
2. Investment property, such as real estate held for investment purposes
3. Intangible assets
4. Financial assets (excluding investments accounted for using the equity method, accounts receivables, and cash and cash equivalents)
5. Investments accounted for using the equity method
6. Biological assets, which are living plants or animals. Bearer biological assets are plants or animals which bear agricultural produce for harvest, such as apple trees grown to produce apples and sheep raised to produce wool.

Liabilities

1. Accounts payable
2. Provisions for warranties or court decisions
3. Financial liabilities (excluding provisions and accounts payable), such as promissory notes and corporate bonds
4. Liabilities and assets for current tax
5. Deferred tax liabilities and deferred tax assets
6. Minority interest in equity
7. Issued capital and reserves attributable to equity holders of the Parent company
8. Unearned revenue for services paid for by customers but not yet provided

Equity

The net assets shown by the balance sheet equals the third part of the balance sheet, which is known as the shareholders' equity. Formally, shareholders' equity is part of the company's liabilities: they are funds "owing" to shareholders (after payment of all other liabilities); usually, however, "liabilities" is used in the more restrictive sense of liabilities excluding shareholders' equity. The balance of assets and liabilities (including shareholders' equity) is not a coincidence. Records of the values of each account in the balance sheet are maintained using a system of accounting known as double-entry bookkeeping. In this sense, shareholders' equity by construction must equal assets minus liabilities, and are a residual.

1. Numbers of shares authorized, issued and fully paid, and issued but not fully paid
2. Par value of shares
3. Reconciliation of shares outstanding at the beginning and the end of the period
4. Description of rights, preferences, and restrictions of shares
5. Treasury shares, including shares held by subsidiaries and associates
6. Shares reserved for issuance under options and contracts
7. A description of the nature and purpose of each reserve within owners' equity

Sample balance sheet structure

The following balance sheet structure is just an example. It does not show all possible kinds of assets, equity and liabilities, but it shows the most usual ones. Because it shows goodwill, it could be a consolidated balance sheet. Monetary values are not shown; summary (total) rows are missing as well.

Balance Sheet of XYZ, Ltd. as of 31 December 2006

ASSETS

Current Assets
Cash and cash equivalents
Accounts receivable (debtors)
Inventories
Prepaid Expenses
Investments held for trading
Other current assets

Fixed Assets (Non-Current Assets)
Property, plant and equipment
Less: Accumulated Depreciation
Goodwill
Other intangible fixed assets
Investments in associates
Deferred tax assets

LIABILITIES and EQUITY

Creditors: amounts falling due within one year (Current Liabilities)

Accounts payable
Current income tax liabilities
Current portion of bank loans payable
Short-term provisions
Other current liabilities

Creditors: amounts falling due after more than one year (Long-Term Liabilities)
Bank loans
Issued debt securities
Deferred tax liability
Provisions
Minority interest

Equity
Share capital
Capital reserves
Revaluation reserve
Translation reserve
Retained earnings

Income statement

Income statement, also referred as ***profit and loss statement (P&L)***, ***earnings statement***, ***operating statement*** or ***statement of operations***, is a company's financial statement that indicates how the revenue (money received from the sale of products and services before expenses are taken out, also known as the "top line") is transformed into the net income (the result after all revenues and expenses have been accounted for, also known as the "bottom line"). It displays the revenues recognized for a specific period, and the cost and expenses charged against these revenues, including write-offs (e.g., depreciation and amortization of various assets) and taxes. The purpose of the income statement is to show managers and investors whether the company made or lost money during the period being reported.

The important thing to remember about an income statement is that it represents a period of time. This contrasts with the balance sheet, which represents a single moment in time.

Charitable organizations that are required to publish financial statements do not produce an income statement. Instead, they produce a similar statement that reflects funding sources compared against program expenses, administrative costs, and other operating commitments.

The income statement can be prepared in one of two methods. The Single Step income statement takes a simpler approach, totaling revenues and subtracting expenses to find the bottom line. The more complex Multi-Step income statement (as the name implies) takes several steps to find the bottom line, starting with the gross profit. It then calculates operating expenses and, when deducted from the gross profit, yields income from operations. Adding to income from operations is the difference of other revenues and other expenses. When combined with income from operations, this yields income before taxes. The final step is to deduct taxes, which finally produces the net income for the period measured.

Usefulness and limitations of income statement Income statements should help investors and creditors determine the past performance of the enterprise, predict future performance, and assess the capability of generating future cash flows.

However, information of an income statement has several limitations:

- Items that might be relevant but cannot be reliably measured are not reported (*e.g.* brand recognition and loyalty).
- Some numbers depend on accounting methods used (*e.g.* using FIFO or LIFO accounting to measure inventory level).
- Some numbers depend on judgments and estimates (*e.g.* depreciation expense depends on estimated useful life and salvage value).
-

For the year ended DECEMBER 31 2007

	$	$
Revenues		
GROSS PROFIT (including rental income)		496,397

Expenses:		
ADVERTISING	6,300	
BANK & CREDIT CARD FEES		144
BOOKKEEPING	3,350	
EMPLOYEES	88,000	
ENTERTAINMENT	5,550	
INSURANCE	750	
LEGAL & PROFESSIONAL SERVICES		1,575
LICENSES	632	
PRINTING, POSTAGE & STATIONERY		320
RENT	13,000	
RENTAL MORTGAGES AND FEES		74,400
UTILITIES	491	

TOTAL EXPENSES		(194,512)

NET INCOME		301,885
	========	

Items on income statement

Operating section

- **Revenue** - Cash inflows or other enhancements of assets of an entity during a period from delivering or producing goods, rendering services, or other activities that constitute the entity's ongoing major operations. Usually presented as sales minus sales discounts, returns, and allowances.

- **Expenses** - Cash outflows or other using-up of assets or incurrence of liabilities during a period from delivering or producing goods, rendering services, or carrying out other activities that constitute the entity's ongoing major operations.
    - General and administrative expenses (G & A) - represent expenses to manage the business (officer salaries, legal and professional fees, utilities, insurance, depreciation of office building and equipment, office rents, office supplies)
    - Selling expenses - represent expenses needed to sell products (*e.g.*, sales salaries, commissions and travel expenses, advertising, freight, shipping, depreciation of sales store buildings and equipment)
    - Selling General and Administrative expenses (SG&A or SGA) - consist of the combined payroll costs (salaries, commissions, and travel expenses of executives, sales people and employees), and advertising expenses a company incurs. SGA is usually understood as a major portion of non-production related costs, opposing production related costs such as raw material and (direct) labour
    - R & D expenses - represent expenses included in research and development
    - Depreciation - is the charge for a specific period (*i.e.* year, accounting period) with respect to fixed assets that have been capitalised on the balance sheet.

Non-operating section

- **Other revenues or gains** - revenues and gains from other than primary business activities (e.g. rent, patents). It also includes unusual gains and losses that are either unusual or infrequent, but not both (e.g. sale of securities or fixed assets)
- **Other expenses or losses** - expenses or losses not related to primary business operations.

Irregular items

They are reported separately because this way users can better predict future cash flows - irregular items most likely won't happen next year. These are reported net of taxes.

- **Discontinued operations** is the most common type of irregular items. Shifting business location, stopping production temporarily, or changes due to technological improvement do **not** qualify as discontinued operations.
- **Extraordinary items** are both unusual (abnormal) and infrequent, for example, unexpected natural disaster, expropriation, prohibitions under new regulations. Note: natural disaster might not qualify depending on location (e.g. frost damage would not qualify in Canada but would in the tropics).
- **Changes in accounting principle** are, for example, deciding to depreciate an investment property that has previously not been depreciated. However, changes in estimates (e.g. estimated useful life of a fixed asset) do not qualify.

Earnings per share

Because of its importance, earnings per share (EPS) are required to be disclosed on the face of the income statement. A company which reports any of the irregular items must also report EPS for these items either in the statement or in the notes.

$$\text{Earnings per share} = \frac{\text{Net income} - \text{Preferred stock dividends}}{\text{Weighted average of common stock shares outstanding}}$$

There are two forms of EPS reported:

- **Basic**: in this case "weighted average of shares outstanding" includes only actual stocks outstanding.
- **Diluted**: in this case "weighted average of shares outstanding" is calculated as if all stock options, warrants, convertible bonds, and other securities that could be transformed into shares *are* transformed. This increases the number of shares and so EPS decreases. Diluted EPS is considered to be a more reliable way to measure EPS.

subtracting the expenses from revenue. Since this forms the last line of the income statement, it is informally called "bottom line." It is important to investors as it represents the profit for the year attributable to the shareholders.

Cash and cash equivalents

Cash and cash equivalents are the most liquid assets found within the asset portion of a company's balance sheet. **Cash equivalents** are assets that are readily convertible into cash, such as money market holdings, short-term government bonds or Treasury bills, marketable securities and commercial paper. Cash equivalents are distinguished from other investments through their short-term existence; they mature within 3 months whereas short-term investments are 12 months or less, and long-term investments are any investments that mature in excess of 12 months. Another important condition a cash equivalent needs to satisfy is that the investment should have insignificant risk of change in value; thus, common stock cannot be considered a cash equivalent, but preferred stock acquired shortly before its redemption date can be.

Payments

"Cash and cash equivalents", when used in the contexts of payments and payments transactions refer to currency, coins, money orders, paper checks, and stored value products such as gift certificates and gift cards.

If in adjustment of cash flow it is written that investment is short term you should not consider that investment as a part of cash and cash equivalent,

Cash flow statement

In financial accounting, a **cash flow statement**, also known as ***statement of cash flows*** or ***funds flow statement***,[1] is a financial statement that shows how changes in balance sheet and income accounts affect cash and cash equivalents, and breaks the analysis down to operating, investing, and financing activities. The statement captures both the current operating results and the accompanying changes in the balance As an analytical tool, the statement of cash flows is useful in determining the short-term viability of a company, particularly its ability to pay bills. International Accounting Standard 7 (IAS 7) is the International Accounting Standard that deals with cash flow statements.

People and groups interested in cash flow statements include:

- Accounting personnel, who need to know whether the organization will be able to cover payroll and other immediate expenses
- Potential lenders or creditors, who want a clear picture of a company's ability to repay
- Potential investors, who need to judge whether the company is financially sound
- Potential employees or contractors, who need to know whether the company will be able to afford compensation

Purpose

Statement of Cash Flow - Simple Example ***for the period 01/01/2006 to 12/31/2006***	
Cash flow from operations	$4,000
Cash flow from investing	$(1,000)
Cash flow from financing	$(2,000)
Net increase (decrease) in cash	**$1,000**

The cash flow statement was previously known as the **flow of funds statement**. The cash flow statement reflects a firm's liquidity.

The balance sheet is a snapshot of a firm's financial resources and obligations at a single point in time, and the income statement summarizes a firm's financial transactions over an interval of time. These two financial statements reflect the accrual basis accounting used by firms to match revenues with the expenses associated with generating those revenues. The cash flow statement includes only inflows and outflows of cash and cash equivalents; it excludes transactions that do not directly affect cash receipts and payments. These noncash transactions include depreciation or write-offs on bad debts or credit losses to name a few. The cash flow statement is a cash basis report on three types of financial activities: operating activities, investing activities, and financing activities. Noncash activities are usually reported in footnotes.

The cash flow statement is intended to:

1. provide information on a firm's liquidity and solvency and its ability to change cash flows in future circumstances
2. provide additional information for evaluating changes in assets, liabilities and equity
3. improve the comparability of different firms' operating performance by eliminating the effects of different accounting methods
4. indicate the amount, timing and probability of future cash flows

The cash flow statement has been adopted as a standard financial statement because it eliminates allocations, which might be derived from different accounting methods, such as various timeframes for depreciating fixed assets.

US GAAP (FAS 95) requires that when the direct method is used to present the operating activities of the cash flow statement, a supplemental schedule must also present a cash flow statement using the indirect method. The IASC strongly recommends the direct method but allows either method. The IASC considers the indirect method less clear to users of financial statements. Cash flow statements are most commonly prepared using the indirect method, Cash flow activities

The cash flow statement is partitioned into three segments, namely: cash flow resulting from operating activities, cash flow resulting from investing activities, and cash flow resulting from financing activities.

The money coming into the business is called cash inflow, and money going out from the business is called cash outflow.

Operating activities

Operating activities include the production, sales and delivery of the company's product as well as collecting payment from its customers. This could include purchasing raw materials, building inventory, advertising, and shipping the product.

Under IAS 7, operating cash flows include:

- Receipts from the sale of goods or services
- Receipts for the sale of loans, debt or equity instruments in a trading portfolio
- Interest received on loans
- Dividends received on equity securities
- Payments to suppliers for goods and services
- Payments to employees or on behalf of employees
- Interest payments (alternatively, this can be reported under financing activities in IAS 7, and US GAAP)

Items which are added back to [or subtracted from, as appropriate] the net income figure (which is found on the Income Statement) to arrive at cash flows from operations generally include:

- Depreciation (loss of tangible asset value over time)
- Deferred tax
- Amortization (loss of intangible asset value over time)

- Any gains or losses associated with the sale of a non-current asset, because associated cash flows do not belong in the operating section.(unrealized gains/losses are also added back from the income statement)

Investing activities

Examples of Investing activities are

- Purchase of an asset (assets can be land, building, equipment, marketable securities, etc.)
- Loans made to suppliers or customers

Financing activities

Financing activities include the inflow of cash from investors such as banks and shareholders, as well as the outflow of cash to shareholders as dividends as the company generates income. Other activities which impact the long-term liabilities and equity of the company are also listed in the financing activities section of the cash flow statement.

Under IAS 7,

- Proceeds from issuing short-term or long-term debt
- Payments of dividends
- Payments for repurchase of company shares
- Repayment of debt principal, including capital leases
- For non-profit organizations, receipts of donor-restricted cash that is limited to long-term purposes

Items under the financing activities section include:

- Dividends paid
- Sale or repurchase of the company's stock
- Net borrowings
- Payment of dividend tax

Disclosure of noncash activities

Under IAS 7, noncash investing and financing activities are disclosed in footnotes to the financial statements. Under US GAAP, noncash activities may be disclosed in a footnote or within the cash flow statement itself. Noncash financing activities may include[

- Leasing to purchase an asset
- Converting debt to equity
- Exchanging noncash assets or liabilities for other noncash assets or liabilities
- Issuing shares in exchange for assets

Preparation methods

The direct method of preparing a cash flow statement results in a more easily understood report. The indirect method is almost universally used, because FAS 95 requires a supplementary report similar to the indirect method if a company chooses to use the direct method.

Direct method

The direct method for creating a cash flow statement reports major classes of gross cash receipts and payments. Under IAS 7, dividends received may be reported under operating activities or under investing activities. If taxes paid are directly linked to operating activities, they are reported under operating activities; if the taxes are directly linked to investing activities or financing activities, they are reported under investing or financing activities.

Sample cash flow statement using the direct method

Cash flows from (used in) operating activities		
Cash receipts from customers	27,500	
Cash paid to suppliers and employees	(20,000)	
Cash generated from operations (**sum**)	**7,500**	
Interest paid	(2,000)	
Income taxes paid	(4,000)	
Net cash flows from operating activities		1,500
Cash flows from (used in) investing activities		
Proceeds from the sale of equipment	7,500	
Dividends received	3,000	

Net cash flows from investing activities		10,500
Cash flows from (used in) financing activities		
Dividends paid	(2,500)	
Net cash flows used in financing activities		(2,500)
.		
Net increase in cash and cash equivalents		9,500
Cash and cash equivalents, beginning of year		1,000
Cash and cash equivalents, end of year		$10,500

Indirect method

The indirect method uses net-income as a starting point, makes adjustments for all transactions for non-cash items, then adjusts for all cash-based transactions. An increase in an asset account is subtracted from net income, and an increase in a liability account is added back to net income. This method converts accrual-basis net income (or loss) into cash flow by using a series of additions and deductions

] Rules

The following rules are used to make adjustments for changes in current assets and liabilities, operating items not providing or using cash and non operating items.

- Decrease in noncash current assets are added to net income
- Increase in noncash current asset are subtracted from net income
- Increase in current liabilities are added to net income
- Decrease in current liabilities are subtracted from net income
- Expenses with no cash outflows are added back to net income (depreciation and/or amortization expense are the only operating items that have no effect on cash flows in the period)
- Revenues with no cash inflows are subtracted from net income
- Non operating losses are added back to net income
- Non operating gains are subtracted from net income

Citigroup Incorporated cash flow example:

Citigroup Cash Flow Statement (all numbers in thousands)			
Period ending	*12/31/2007*	*12/31/2006*	*12/31/2005*
Net income	**21,538,000**	**24,589,000**	**17,046,000**
Operating activities, cash flows provided by or used in:			
Depreciation and amortization	2,790,000	2,592,000	2,747,000
Adjustments to net income	4,617,000	621,000	2,910,000
Decrease (increase) in accounts receivable	12,503,000	17,236,000	--
Increase (decrease) in liabilities (A/P, taxes payable)	131,622,000	19,822,000	37,856,000
Decrease (increase) in inventories	--	--	--
Increase (decrease) in other operating activities	(173,057,000)	(33,061,000)	(62,963,000)
Net cash flow from operating activities	13,000	31,799,000	(2,404,000)
Investing activities, cash flows provided by or used in:			
Capital expenditures	(4,035,000)	(3,724,000)	(3,011,000)
Investments	(201,777,000)	(71,710,000)	(75,649,000)

Other cash flows from investing activities	1,606,000	17,009,000	(571,000)
Net cash flows from investing activities	(204,206,000)	(58,425,000)	(79,231,000)
Financing activities, cash flows provided by or used in:			
Dividends paid	(9,826,000)	(9,188,000)	(8,375,000)
Sale (repurchase) of stock	(5,327,000)	(12,090,000)	133,000
Increase (decrease) in debt	101,122,000	26,651,000	21,204,000
Other cash flows from financing activities	120,461,000	27,910,000	70,349,000
Net cash flows from financing activities	206,430,000	33,283,000	83,311,000
Effect of exchange rate changes	645,000	(1,840,000)	731,000
Net increase (decrease) in cash and cash equivalents	$2,882,000	$4,817,000	$2,407,000

Equity (finance)

Equity, in finance and accounting, is the residual claim or interest of the most junior class of investors in an asset, after all liabilities are paid. If valuations placed on assets do not exceed liabilities, negative equity exists. In an accounting context, **Shareholders' equity** (or stockholders' equity, shareholders' funds, shareholders' capital or similar terms) represents the remaining interest in assets of a company, spread among individual shareholders of common or preferred stock.

At the start of a business, owners put some funding into the business to finance assets. Businesses can be considered to be, for accounting purposes, sums of liabilities and assets; this is the accounting equation. After liabilities have been accounted for, the positive remainder is deemed the owner's interest in the business.

This definition is helpful put into receivership or bankruptcy. Then, a series of creditors, ranked in priority sequence, have the first claim on the proceeds (e.g. asset sales), and ownership equity is the last or residual claim against assets, paid only after all other creditors are paid. In such a case, creditors may not get enough money to pay their bills, and nothing is left over to reimburse owners' equity. Thus owners' equity is reduced to zero. Ownership equity is also known as risk capital, liable capital and equity.

Equity investments

Equity investments generally refers to the buying and holding of shares of stock on a stock market by individuals and funds in anticipation of income from dividends and capital gain as the value of the stock rises. It also sometimes refers to the acquisition of equity (ownership) participation in a private (unlisted) company or a startup (a company being created or newly created). When the investment is in infant companies, it is referred to as venture capital investing and is generally understood to be higher risk than investment in listed going-concern situations.

The equities held by private individuals are often held via mutual funds or other forms of pooled investment vehicle, many of which have quoted prices that are listed in financial newspapers or magazines; the mutual funds are typically managed by prominent fund management firms (e.g. Schroders, Fidelity Investments or the Vanguard Group). Such holdings allow individual investors to obtain the diversification of the fund(s) and to obtain the skill of the professional fund managers in charge of the fund(s). An alternative, usually employed by large private investors and pension funds, is to hold shares directly; in the institutional environment many clients who own portfolios have what are called segregated funds as opposed to, or in addition to, the pooled e.g. mutual fund alternative.

Accounting

In financial accounting, it is the owners' interest on the assets of the enterprise after deducting all its liabilities.[1] It appears on the balance sheet, one of four financial statements.

Ownership equity includes both tangible and intangible items (such as brand names and reputation). In contrast, book value includes only the tangible assets.

Accounts listed under ownership equity include (example):

- Preferred stock
- Share capital, common stock
- Capital surplus
- Stock options
- Retained earnings
- Treasury stock
- Reserve (accounting)

Book value

The book value of equity will change in the case of the following events:

- Changes in the firm's assets relative to its liabilities. For example, a profitable firm receives more cash for its products than the cost at which it produced these goods, and so in the act of making a profit it is increasing its assets.
- Depreciation. Equity will decrease, for example, when machinery depreciates, which is registered as a decline in the value of the asset, and on the liabilities side of the firm's balance sheet as a decrease in shareholders' equity.
- Issue of new equity in which the firm obtains new capital increases the total shareholders' equity.
- Share repurchases, in which a firm gives back money to its investors, reducing on the asset side its financial assets, and on the liability side the shareholders' equity. For practical purposes (except for its tax consequences), share repurchasing is similar to a dividend payment, as both consist of the firm giving money back to investors. Rather than giving money to all shareholders immediately in the form of a dividend payment, a share repurchase reduces the number of shares (increases the size of each share) in future income and distributions.
- Dividends paid out to preferred stock owners are considered an expense to be subtracted from net income from the point of view of the common share owners).
- Other reasons. Assets and liabilities can change without any effect being measured in the Income Statement under certain circumstances; for example, changes in accounting rules may be applied retroactively. Sometimes assets bought and held in other countries get translated back into the reporting currency at different exchange rates, resulting in a changed value.

Shareholders' equity

When the owners are shareholders, the interest can be called shareholders' equity;[2] the accounting remains the same, and it is ownership equity spread out among shareholders. If all shareholders are in one and the same class, they share equally in ownership equity from all perspectives. However, shareholders may allow different priority ranking among themselves by the use of share classes, and options. This complicates both analysis for stock valuation, and accounting.

The individual investor is interested not only in the total changes to equity, but also in the increase / decrease in the value of his own personal share of the equity. This reconciliation of equity should be done both in total and on a per share basis.

- Equity (beg. of year)
- + net income inter net money you gained
- − dividends how much money you gained or lost so far
- +/− gain/loss from changes to the number of shares outstanding.more or less
- = Equity (end of year) if you get more money during the year or less or not anything

Market value of shares

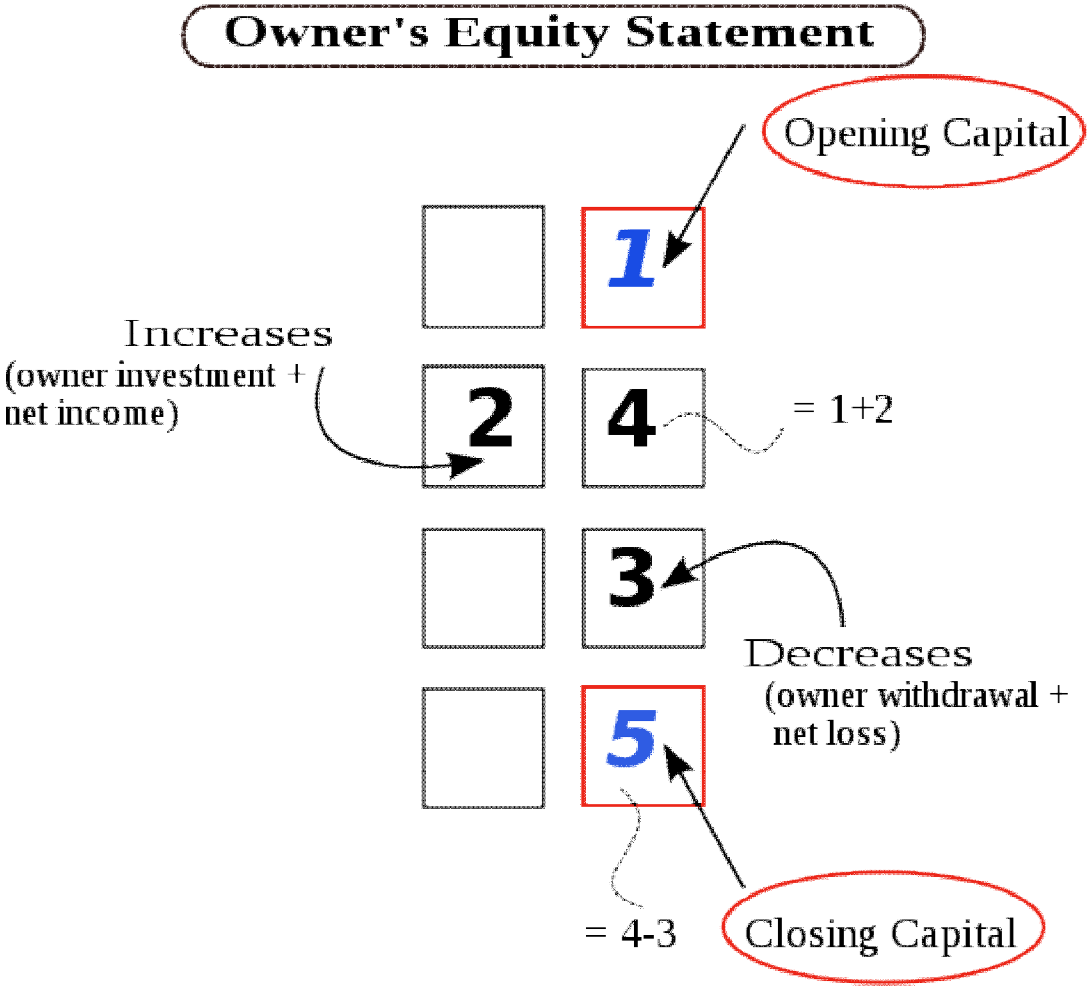
In the stock market, market price per share does not correspond to the equity per share calculated in the accounting statements. Stock valuations, often much higher, are based on other considerations related to the business' operating cashflow, profits and future prospects; some factors are derived from the accounting statements. Thus, there is little or no correlation between the equity seen in financial statements and the stock valuation of the business.

Real estate equity

Individuals can also use market valuations to calculate equity in real estate. An owner refers to his or her equity in a property as the difference between the market price of a property and the liability attached to the property (mortgage or home equity loan).

Statement of retained earnings

Statement of Retained Earnings (also known as **Equity Statement**, **Statement of Owner's Equity** for a single proprietorship, **Statement of Partner's Equity** for partnership, and **Statement of Retained Earnings and Stockholders' Equity** for corporation) is one of the basic financial statements as per Generally Accepted Accounting Principles, and it explains the changes in a company's retained earnings over the reporting period. It breaks down changes affecting the account, such as profits or losses from operations, dividends paid, and any other items charged or credited toss retained earnings. A retained earnings statement is required by Generally Accepted Accounting Principles (GAAP) whenever comparative balance sheets and income statements are presented. It may appear in the balance sheet, in a combined income statement and changes in retained earnings statement, or as a separate schedule.



A simple illustration of **Owner's Equity Statement** showing 2 columns with 5 used cells as follows; 1 is the Opening Capital (at inception it equals zero), 2 is the Increase or Addition (by owners investment & the net income), 4 represents summation of (opening capital 1 and the increase 2), 3 is the Decrease or Loss (by owners withdrawal & net loss), and 5 is the Closing Capital after a defined period of time (Opening Capital + Increase - Decrease, *i.e.* 4-3).

Therefore, the statement of retained earnings uses information from the income statement and provides information to the balance sheet. Retained earnings are part of the balance sheet (another basic financial statement) under "stockholders equity," and is mostly affected by net income earned during a period of time by the company less any dividends paid to the company's owners / stockholders. The retained earnings account on the balance sheet is said to represent an "accumulation of earnings" since net profits and losses are added/subtracted from the account from period to period.

The general equation can be expressed as following:

> Ending Retained Earnings = Beginning Retained Earnings - Dividends Paid + Net Income

Course Name	: Communication Skills

Course Description
The Course defines different perspectives of communication, its types and overview of the process of communicating, issues involved in public relations, its methods and tactics, advertising and its forms, having strategic communication, and above all the importance of having organizational communication to enhance the business setting.

Course objectives

- To enable students acquire different communications skills relevant in the labor market/organizational setting.
- To assist students in developing competency in the fundamentals of business writing, reporting and research.
- To help them understand the most common barriers to communication as well as their remedies.

Course Content
Introduction

- Definition of Communication
- Overview of Communication
- Types of Communication
- Communication as an academic discipline

Public Relations

- Definition of Public relations
- Methods, tools and tactics of public relations
- Politics and civil society
- Media relations key elements of strategy-based media relations

Advertising

- Definition of advertising
- Forms of advertising
- Criticism of advertising
- Communication design

Strategic Communication

- Definition of strategic communication
- History of strategic Communication
- Application objectives
- Defence application
- Public administration application

Organizational Communication

- History of Organizational Communication
- Assumption underlying organizational communication
- Communication networks
- Direction of communication
- Organizational theory

Other related topics

- Easy ways to bring fun back to work
- How to ensure that your written message gets a reply

- How to respond to angry customers
- How to lose a customer in two steps or less
- Customer service skills that make a big difference

Mode of delivery Face to face lectures

Assessment
Coursework 40%
Exams 60%
Total Mark 100%

Introduction

Communication is the process of generation, transmission, or reception of messages to oneself or another entity, usually via a mutually understood set of signs.

The following outline is provided as an overview of and Communication
.**Communication** is a process of transferring information from one entity to another. Communication processes are sign-mediated interactions between at least two agents which share a repertoire of signs and semiotic rules. Communication is commonly defined as "the imparting or interchange of thoughts, opinions, or information by speech, writing, or signs". Although there is such a thing as one-way communication, communication can be perceived better as a two-way process in which there is an exchange and progression of thoughts, feelings or ideas (energy) towards a mutually accepted goal or direction (information).

Overview

Communication are a process whereby information is enclosed in a package and is discreeted and imparted by sender to a receiver via a channel/medium. The receiver then decodes the message and gives the sender a feedback. Communication requires that all parties have an area of communicative commonality. There are auditory means, such as speech, song, and tone of voice, and there are nonverbal means, such as body language, sign language, paralanguage, touch, eye contact, and writing.

Communication is thus a process by which we assign and convey meaning in an attempt to create shared understanding. This process requires a vast repertoire of skills in intrapersonal and interpersonal processing, listening, observing, speaking, questioning, analyzing, and evaluating. It is through communication that collaboration and cooperation occur.[2].....

There are also many common barriers to successful communication, two of which are **message overload** (when a person receives too many messages at the same time), and **message complex.**Communication is a continuous process.

Types of communication

There are three major parts in human face to face communication which are body language, voice tonality, and words. According to the research:

- 55% of impact is determined by body language—postures, gestures, and eye contact,
- 38% by the tone of voice, and
- 7% by the content or the words used in the communication process.

Although the exact percentage of influence may differ from variables such as the listener and the speaker, communication as a whole strives for the same goal and thus, in some cases, can be universal. System of signals, such as voice sounds, intonations or pitch, gestures or written symbols which communicate thoughts or feelings. If a language is about communicating with signals, voice, sounds, gestures, or written symbols, can animal communications be considered as a language? Animals do not have a written form of a language, but use a language to communicate with each another. In that sense, an animal communication can be considered as a separate language.

Human spoken and written languages can be described as a system of symbols (sometimes known as lexemes) and the grammars (rules) by which the symbols are manipulated. The word "language" is also used to refer to common properties of languages. Language learning is normal in human childhood. Most human languages use patterns of sound or gesture for symbols which enable communication with others around them. There are thousands of human languages, and these seem to share certain properties, even though many shared properties have exceptions.

There is no defined line between a language and a dialect, but the linguist Max Weinreich is credited as saying that "a language is a dialect with an army and a navy". Constructed languages such as Esperanto, programming languages, and various mathematical formalisms are not necessarily restricted to the properties shared by human languages.

Nonverbal communication

Nonverbal communication is the process of communicating through sending and receiving wordless messages. Such messages can be communicated through gesture, body language or posture; facial expression and eye contact, object communication such as clothing, hairstyles or even architecture, or symbols and infographics, as well as through an aggregate of the above, such as behavioral communication. Nonverbal communication plays a key role in every person's day to day life, from employment to romantic engagements.

Speech may also contain nonverbal elements known as paralanguage, including voice quality, emotion and speaking style, as well as prosodic features such as rhythm, intonation and stress. Likewise, written texts have nonverbal elements such as handwriting style, spatial arrangement of words, or the use of emoticons. A portmanteau of the English words emotion (or emote) and icon, an emoticon is a symbol or combination of symbols used to convey emotional content in written or message form.

Other communication channels such as telegraphy fit into this category, whereby signals travel from person to person by an alternative means. These signals can in themselves be representative of words, objects or merely be state projections. Trials have shown that humans can communicate directly in this way without body language, voice tonality or words.

Categories and Features G. W. Porter divides non-verbal communication into four broad categories:

Physical. This is the personal type of communication. It includes facial expressions, tone of voice, sense of touch, sense of smell, and body motions.

Aesthetic. This is the type of communication that takes place through creative expressions: playing instrumental music, dancing, painting and sculpturing.

Signs. This is the mechanical type of communication, which includes the use of signal flags, the 21-gun salute, horns, and sirens.

Symbolic. This is the type of communication that makes use of religious, status, or ego-building symbols.

Static Features

Distance. The distance one stands from another frequently conveys a non-verbal message. In some cultures it is a sign of attraction, while in others it may reflect status or the intensity of the exchange.

Orientation. People may present themselves in various ways: face-to-face, side-to-side, or even back-to-back. For example, cooperating people are likely to sit side-by-side while competitors frequently face one another.

Posture. Obviously one can be lying down, seated, or standing. These are not the elements of posture that convey messages. Are we slouched or erect ? Are our legs crossed or our arms folded ? Such postures convey a degree of formality and the degree of relaxation in the communication exchange.

Physical Contact. Shaking hands, touching, holding, embracing, pushing, or patting on the back all convey messages. They reflect an element of intimacy or a feeling of (or lack of) attraction.

Dynamic Features

Facial Expressions. A smile, frown, raised eyebrow, yawn, and sneer all convey information. Facial expressions continually change during interaction and are monitored constantly by the recipient. There is evidence that the meaning of these expressions may be similar across cultures.

Gestures. One of the most frequently observed, but least understood, cues is a hand movement. Most people use hand movements regularly when talking. While some gestures (e.g., a clenched fist) have universal meanings, most of the others are individually learned and idiosyncratic.

Looking. A major feature of social communication is eye contact. It can convey emotion, signal when to talk or finish, or aversion. The frequency of contact may suggest either interest or boredom.

Visual communication

Visual communication as the name suggests is communication through visual aid. It is the conveyance of ideas and information in forms that can be read or looked upon. Primarily associated with two dimensional images, it includes: signs, typography, drawing, graphic design, illustration, color and electronic resources. It solely relies on vision. It is form of communication with visual effect. It explores the idea that a visual message with text has a greater power to inform, educate or persuade a person. It is communication by presenting information through visual form.

The evaluation of a good visual design is based on measuring comprehension by the audience, not on aesthetic or artistic preference. There are no universally agreed-upon principles of beauty and ugliness. There exists a variety of ways to present information visually, like gestures, body languages, video and TV. Here, focus is on the presentation of text, pictures, diagrams, photos, et cetera, integrated on a computer display. The term visual presentation is used to refer to the actual presentation of information. Recent research in the field has focused on web design and graphically oriented usability. Graphic designers use methods of visual communication in their professional .

Oral Communication

The first step in planning an oral presentation involves acknowledging two fundamental differences between oral and written communication. One essential goal of oral communication is to make personal contact with the audience, and to help connect them to the content. Reading a written report aloud is not usually an effective strategy for engaging with the audience. The needs/preferences of the audience play an even larger role in oral presentations than in writing. The content of presentations should be prepared with this goal in mind. Second, oral presentations are fleeting (or time-sensitive). If readers get lost or stop paying attention for a few minutes, they can always flip back a few pages. Listeners, on the other hand, usually can't interrupt the speaker and ask that s/he start again and go back a few minutes. Once words are uttered, they vanish. Presenters can account for the fleeting nature of oral presentations by making sure that the presentation is well organized and by making structure explicit in the talk, so the audience can always knows where they've been and where they're going

Communication modeling

Communication is usually described along a few major dimensions: Content (what type of things are communicated), source / sender / encoder (by whom), form (in which form), channel (through which medium), destination / receiver / target / decoder (to whom), and the purpose or pragmatic aspect. Between parties, communication includes acts that confer knowledge and experiences, give advice and commands, and ask questions. These acts may take many forms, in one of the various manners of communication. The form depends on the abilities of the group communicating. Together, communication content and form make messages that are sent towards a destination. The target can be oneself, another person or being, another entity (such as a corporation or group of beings).

Communication can be seen as processes of information transmission governed by three levels of semiotic rules:

1. Syntactic (formal properties of signs and symbols),
2. Pragmatic (concerned with the relations between signs/expressions and their users) and
3. Semantic (study of relationships between signs and symbols and what they represent).

Therefore, communication is social interaction where at least two interacting agents share a common set of signs and a common set of semiotic rules. This commonly held rules in some sense ignores auto communication, including intrapersonal communication via diaries or self-talk, both secondary phenomena that followed the primary acquisition of communicative competences within social interactions.

In a simple model, information or content (e.g. a message in natural language) is sent in some form (as spoken language) from a sender/ encoder to a destination/ receiver/ decoder. In a slightly more complex form a sender and a receiver are linked reciprocally. A particular instance of communication is called a speech act. The sender's personal filters and the receiver's personal filters may vary depending upon different regional traditions, cultures, or gender; which may alter the intended meaning of message contents. In the presence of "communication noise" on the transmission channel (air, in this case), reception and decoding of content may be faulty, and thus the speech act may not achieve the desired effect. One problem with this encode-transmit-receive-decode model is that the processes of encoding and decoding imply that the sender and receiver each possess something that functions as a code book, and that these two code books are, at the very least, similar if not identical. Although something like code books is implied by the model, they are nowhere represented in the model, which creates many conceptual difficulties.

Theories of co regulation describe communication as a creative and dynamic continuous process, rather than a discrete exchange of information. Canadian media scholar Harold Innis had the theory that people use different types of media to communicate and which one they choose to use will offer different possibilities for the shape and durability of society (Wark, McKenzie 1997). His famous example of this is using ancient Egypt and looking at the ways they built themselves out of media with very different properties stone and papyrus. Papyrus is what he called '**Space Binding'**. it made possible the transmission of written orders across space, empires and enables the waging of distant military campaigns and colonial administration. The other is stone and '**Time Binding'**, through the construction of temples and the pyramids can sustain their authority generation to generation, through this media they can change and shape communication in their society (Wark, McKenzie 1997).

The Krishi Vigyan Kendra Kannur under Kerala Agricultural University has pioneered a new branch of agricultural communication called Creative Extension.

Communication as academic discipline

Communication as an academic discipline, sometimes called "communicology, relates to all the ways we communicate, so it embraces a large body of study and knowledge. The communication discipline includes both verbal and nonverbal messages. A body of scholarship all about communication is presented and explained in textbooks, electronic publications, and academic journals. In the journals, researchers report the results of studies that are the basis for an ever-expanding understanding of how we all communicate.

Communication happens at many levels (even for one single action), in many different ways, and for most beings, as well as certain machines. Several, if not all, fields of study dedicate a portion of attention to communication, so when speaking about communication it is very important to be sure about what aspects of communication one is speaking about. Definitions of communication range widely, some recognizing that animals can communicate with each other as well as human beings, and some are more narrow, only including human beings within the parameters of human symbolic interaction.

Public relations

Public relations (**PR**) is the practice of managing the communication between an organization and its publics. Public relations gains an organization or individual exposure to their audiences using topics of public interest and news items that do not require direct payment. Because public relations places exposure in credible third-party outlets, it offers a third-party legitimacy that advertising does not have Common activities include speaking at conferences, working with the press, and employee communication. It is something that is not tangible and this is what sets it apart from Advertising.

PR can be used to build rapport with employees, customers, investors, voters, or the general public. Almost any organization that has a stake in how it is portrayed in the public arena employs some level of public relations. There are number of related sister disciplines all falling under the banner of Corporate Communications, such as Analyst relations, Media Relations, Investor Relations, Internal Communications or Labor Relations.

Definition

The Public Relations Society of America (PRSA) claimed:"[According to the PRSA, the essential functions of public relations include research, planning, communications dialogue, action and evaluation.

Edward Louis Bernays, who is considered the founding father of modern public relations along with Ivy Lee, in the early 1900s defined public relations as a "management function which tabulates public attitudes, defines the policies, procedures and interests of an organization... followed by executing a program of action to earn public understanding and acceptance" (see history of public relations).

Today, "Public Relations is a set of management, supervisory, and technical functions that foster an organization's ability to strategically listen to, appreciate, and respond to those persons whose mutually beneficial relationships with the organization are necessary if it is to achieve its missions and values. Essentially it is a management function that focuses on two-way communication and fostering of mutually beneficial relationships between an organization and its publics.

Building and managing relationships with those who influence an organization or individual's audiences has a central role in public relations.

Methods, tools and tactics

Public relations and publicity are not synonymous but many PR campaigns include provisions for publicity. Publicity is the spreading of information to gain public awareness for a product, person, service, cause or organization, and can be seen as a result of effective PR planning.

Publics targeting

A fundamental technique used in public relations is to identify the target audience, and to tailor every message to appeal to that audience. It can be a general, nationwide or worldwide audience, but it is more often a segment of a population. Marketers often refer to economy-driven "demographics," such as "black males 18-49," but in public relations an audience is more fluid, being whoever someone wants to reach. For example, recent political audiences include "soccer moms" and "NASCAR dads." There is also a psychographic grouping based on fitness level, eating preferences.

In addition to audiences, there are usually stakeholders, literally people who have a "stake" in a given issue. All audiences are stakeholders (or presumptive stakeholders), but not all stakeholders are audiences. For example, a charity commissions a PR agency to create an advertising campaign to raise money to find a cure for a disease. The charity and the people with the disease are stakeholders, but the audience is anyone who is likely to donate money.

Sometimes the interests of differing audiences and stakeholders common to a PR effort necessitate the creation of several distinct but still complementary messages. This is not always easy to do, and sometimes – especially in politics – a spokesperson or client says something to one audience that angers another audience or group of stakeholders.

Lobby groups

Lobby groups are established to influence government policy, corporate policy, or public opinion. An example of this is the American Israel Public Affairs Committee, AIPAC, which influences American foreign policy. Such groups claim to represent a particular interest and in fact are dedicated to doing so. When a lobby group hides its true purpose and support base it is known as a front group. Moreover, governments may also lobby public relations firms in order to sway public opinion. A well illustrated example of this is the way civil war in Yugoslavia was portrayed. Governments of newly succeeded republics of Croatia and Bosnia invested heavily with American PR firms, so that the PR firms would give them a positive war image in the US.

Spin

In public relations, "spin" is sometimes a pejorative term signifying a heavily biased portrayal in one's own favor of an event or situation. While traditional public relations may also rely on creative presentation of the facts, "spin" often, though not always, implies disingenuous, deceptive and/or highly manipulative tactics. Politicians are often accused of spin by commentators and political opponents, when they produce a counter argument or position.

The techniques of "spin"s include selectively presenting facts and quotes that support one's position (cherry picking), the so-called "non-denial," phrasing in a way that assumes unproven truths, euphemisms for drawing attention away from items considered distasteful, and ambiguity in public statements. Another spin technique involves careful choice of timing in the release of certain news so it can take advantage of prominent events in the news. A famous reference to this practice occurred when British Government press officer Jo Moore used the phrase *It's now a very good day to get out anything we want to bury*, (widely paraphrased or misquoted as "It's a good day to bury bad news"), in an email sent on September 11, 2001. The furor caused when this email was reported in the press eventually caused her to resign.

Spin doctor

Skilled practitioners of spin are sometimes called "spin doctors," despite the negative connotation associated with the term. It is the PR equivalent of calling a writer a "hack." Perhaps the most well-known person in the UK often described as a "spin doctor" is Alastair Campbell, who was involved with Tony Blair's public relations between 1994 and 2003, and also played a controversial role as press relations officer to the British and Irish Lions rugby union side during their 2005 tour of New Zealand.

State-run media in many countries also engage in spin by selectively allowing news stories that are favorable to the government while censoring anything that could be considered critical. They may also use propaganda to indoctrinate or actively influence citizens' opinions. Privately run media also uses the same techniques of 'issue' versus 'non-issue' to spin its particular political viewpoints.

Meet and Greet

Many businesses and organizations will use a Meet and Greet as a method of introducing two or more parties to each other in a comfortable setting. These will generally involve some sort of incentive, usually food catered from restaurants, to encourage employees or members to participate.

There are opposing schools of thought as to how the specific mechanics of a Meet and Greet operate. The Gardiner school of thought states that unless specified as an informal event, all parties should arrive promptly at the time at which the event is scheduled to start. The Kolanowski school of thought, however, states that parties may arrive at any time after the event begins, in order to provide a more relaxed interaction environment.

Politics and civil society

Defining the opponent

A tactic used in political campaigns is known as "defining one's opponent." Opponents can be candidates, organizations and other groups of people.

In the 2004 US presidential campaign, Howard Dean defined John Kerry as a "flip-flopper," which was widely reported and repeated by the media, particularly the conservative media. Similarly, George H.W. Bush characterized Michael Dukakis as weak on crime (the Willie Horton ad) and hopelessly liberal ("a card-carrying member of the ACLU"). In 1996, President Bill Clinton seized upon opponent Bob Dole's promise to take America back to a simpler time, promising in contrast to "build a bridge to the 21st century." This painted Dole as a person who was somehow opposed to progress.

In the debate over abortion, self-titled pro-choice groups, by virtue of their name, defined their opponents as "anti-choice", while self-titled pro-life groups refer to their opponents as "pro-abortion" or "anti-life".

Managing language

If a politician or organization can use an apt phrase in relation to an issue, such as in interviews or news releases, the news media will often repeat it verbatim, without questioning the aptness of the phrase. This perpetuates both the message and whatever preconceptions might underlie it. Often, something innocuous sounding can stand in for something greater; a "culture of life" sounds like general goodwill to most people, but will evoke opposition to abortion for many pro-life advocates. The phrase "States' rights" was used as a code for anti-civil rights legislation in the United States in the 1960s, and, allegedly, the 70s, and 80s.

Conveying the message

The method of communication can be as important as a message. Direct mail, advertising and public speaking are used depending upon the intended audience and the message that is conveyed. Press releases are also used, but since many newspapers are folding, they have become a less reliable way of communicating, and other methods have become more popular.

Arts organizations have begun to rely more on their own websites and have developed a variety of unique approaches to publicity and public relations, on and off the web.

Front groups

One of the most controversial practices in public relations is the use of front groups – organizations that purport to serve a public cause while actually serving the interests of a client whose sponsorship may be obscured or concealed. Critics of the public relations industry, such as PR Watch, have contended that Public Relations involves a "multi-billion dollar propaganda-for-hire industry" that "concoct[s] and spin[s] the news, organize[s] phony 'grassroots' front groups, spy on citizens, and conspire[s] with lobbyists and politicians to thwart democracy."

Instances of the use of front groups as a PR technique have been documented in many industries. Coal mining corporations have created environmental groups that contend that increased CO2 emissions and global warming will contribute to plant growth and will be beneficial, trade groups for bars have created and funded citizens' groups to attack anti-alcohol groups, tobacco companies have created and funded citizens' groups to advocate for tort reform and to attack personal injury lawyers, while trial lawyers have created "consumer advocacy" front groups to oppose tort reform.

Media relations

Media relations involves working with various media for the purpose of informing the public of an organization's mission, policies and practices in a positive, consistent and credible manner. Typically, this means coordinating directly with the people responsible for producing the news and features in the mass media. The goal of media relations is to maximize positive coverage in the mass media without paying for it directly through advertising.

Many people use the terms *public relations* and *media relations* interchangeably; however, doing so is incorrect. Media relations refer to the relationship that a company or organization develops with journalists, while public relations extend that relationship beyond the media to the general public.

Dealing with the media presents unique challenges in that the news media cannot be controlled — they have ultimate control over whether stories pitched to them are of interest to their audiences. Because of this, ongoing relationships between an organization and the news media is vital. One way to ensure a positive working relationship with media personnel is to become deeply familiar with their "beats" and areas of interests. Media relations and public relations practitioners should read as many magazines, journals, newspapers, and blogs as possible, as they relate to one's practice.

Working with the media on the behalf of an organization allows for awareness of the entity to be raised as well as the ability to create an impact with a chosen audience. It allows access to both large and small target audiences and helps build public support and mobilizing public opinion for an organization This is all done through a wide range of media and can be used to encourage two-way communication.

Key elements of strategy-based media relations

- The media strategy is documented and implemented according to principles agreed to by public affairs and senior management.
- A media policy is drawn up with responsibilities, profiles and positioning.
- Media activity is planned to reach target audiences in direct support of your organizational mission and goals.
- Media contact is broadly divided into proactive and reactive activities.
- Systematic use of consistent messages is made (e.g., about organizational performance, issues, use of new technologies and corporate behavior including environmental policy, corporate governance and corporate social responsibility).
- Spokespersons' roles are documented, communicated and supported.
- There are clear triggers for engagement as part of the issues management – stakeholder relations process.
- Decisions are agreed to beforehand with respect to follow-up activities after media coverage

Advertising is a form of communication used to influence individuals to purchase products or services or support political candidates or ideas. Frequently it communicates a message that includes the name of the product or service and how that product or service could potentially benefit the consumer. Advertising often attempts to persuade potential customers to purchase or to consume a particular brand of product or service. Modern advertising developed with the rise of mass production in the late 19th and early 20th centuries.

Commercial advertisers often seek to generate increased consumption of their products or services through branding, which involves the repetition of an image or product name in an effort to associate related qualities with the brand in the minds of consumers. Different types of media can be used to deliver these messages, including traditional media such as newspapers, magazines, television, radio, billboards or direct mail. Advertising may be placed by an advertising agency on behalf of a company or other organization.

Organizations that spend money on advertising promoting items other than a consumer product or service include political parties, interest groups, religious organizations and governmental agencies. Non-profit organizations may rely on free modes of persuasion, such as a public service announcement.

Money spent on advertising has increased in recent years. In 2007, spending on advertising was estimated at more than $150 billion in the United States and $385 billion worldwide, and the latter to exceed $450 billion by 2010.

Advertising is communication used to influence individuals to purchase products or services or support political candidates or ideas. Advertising can be displaced on billboards, newspapers, T.V., websites, movies and more.

Public service advertising

The same advertising techniques used to promote commercial goods and services can be used to inform, educate and motivate the public about non-commercial issues, such as HIV/AIDS, political ideology, energy conservation and deforestation.

Advertising, in its non-commercial guise, is a powerful educational tool capable of reaching and motivating large audiences. "Advertising justifies its existence when used in the public interest - it is much too powerful a tool to use solely for commercial purposes." - Attributed to Howard Gossage by David Ogilvy.

Public service advertising, non-commercial advertising, public interest advertising, cause marketing, and social marketing are different terms for (or aspects of) the use of sophisticated advertising and marketing communications techniques (generally associated with commercial enterprise) on behalf of non-commercial, public interest issues and initiatives.

In the United States, the granting of television and radio licenses by the FCC is contingent upon the station broadcasting a certain amount of public service advertising. To meet these requirements, many broadcast stations in America air the bulk of their required public service announcements during the late night or early morning when the smallest percentage of viewers are watching, leaving more day and prime time commercial slots available for high-paying advertisers.

Public service advertising reached its height during World Wars I and II under the direction of several governments.

Radio advertising

Radio advertising is a form of advertising via the medium of radio.

Radio advertisements are broadcasted as radio waves to the air from a transmitter to an antenna and a thus to a receiving device. Airtime is purchased from a station or network in exchange for airing the commercials. While radio has the obvious limitation of being restricted to sound, proponents of radio advertising often cite this as an advantage

Print advertising

Print advertising describes advertising in a printed medium such as a newspaper, magazine, or trade journal. This encompasses everything from media with a very broad readership base, such as a major national newspaper or magazine, to more narrowly targeted media such as local newspapers and trade journals on very specialized topics. A form of print advertising is classified advertising, which allows private individuals or companies to purchase a small, narrowly targeted ad for a low fee advertising a product or service.

Online advertising

Online advertising is a form of promotion that uses the Internet and World Wide Web for the expressed purpose of delivering marketing messages to attract customers. Examples of online advertising include contextual ads on search engine results pages, banner ads, Rich Media Ads, Social network advertising, online classified advertising, advertising networks and e-mail marketing, including e-mail spam.

Billboard advertising

Billboards are large structures located in public places which display advertisements to passing pedestrians and motorists. Most often, they are located on main roads with a large amount of passing motor and pedestrian traffic; however, they can be placed in any location with large amounts of viewers, such as on mass transit vehicles and in stations, in shopping malls or office buildings, and in stadiums.

In-store advertising

In-store advertising is any advertisement placed in a retail store. It includes placement of a product in visible locations in a store, such as at eye level, at the ends of aisles and near checkout counters, eye-catching displays promoting a specific product, and advertisements in such places as shopping carts and in-store video displays.

Criticism of advertising

While advertising can be seen as necessary for economic growth, it is not without social costs. Unsolicited Commercial Email and other forms of spam have become so prevalent as to have become a major nuisance to users of these services, as well as being a financial burden on internet service providers.Advertising is increasingly invading public spaces, such as schools, which some critics argue is a form of child exploitation. In addition, advertising frequently uses psychological pressure (for example, appealing to feelings of inadequacy) on the intended consumer, which may be harmful.

Advertising and constitutional rights

Advertising is equated with constitutionally guaranteed freedom of opinion and speech Therefore criticizing advertising or any attempt to restrict or ban advertising is almost always considered to be an attack on fundamental rights (First Amendment in the USA) and meets the combined and concentrated resistance of the business and especially the advertising community.

The price of attention and hidden costs

Advertising has developed into a billion-dollar business on which many depend. In 2006 391 billion US dollars were spent worldwide for advertising. In Germany, for example, the advertising industry contributes 1.5% of the gross national income; the figures for other developed countries are similar. Thus, advertising and growth are directly and causally linked. As far as a growth based economy can be blamed for the harmful human lifestyle (affluent society) advertising has to be considered in this aspect concerning its negative impact, because its main purpose is to raise consumption. “The industry is accused of being one of the engines powering a convoluted economic mass production system which promotes consumption.

Children and adolescents as target groups

The children’s market, where resistance to advertising is weakest, is the “pioneer for ad creep” “Kids are among the most sophisticated observers of ads. They can sing the jingles and identify the logos, and they often have strong feelings about products. What they generally don't understand, however, are the issues that underlie how advertising works. Mass media are used not only to sell goods but also ideas: how we should behave, what rules are important, who we should respect and what we should value.Youth is increasingly reduced to the role of a consumer. Not only the makers of toys, sweets, ice cream, breakfast food and sport articles prefer to aim their promotion at children and adolescents. For example, an ad for a breakfast cereal on a channel aimed at adults will have music that is a soft ballad, whereas on a channel aimed at children, the same ad will use a catchy rock jingle of the same song to aim at kids. Advertising for other products preferably uses media with which they can also reach the next generation of consumers. “Key advertising messages exploit the emerging independence of young people”. Cigarettes, for example, “are used as a fashion accessory and appeal to young women. Other influences on young people include the linking of sporting heroes and smoking through sports sponsorship, the use of cigarettes by popular characters in television programmes and cigarette promotions. Research suggests that young people are aware of the most heavily advertised cigarette brands.”

“Product placements show up everywhere, and children aren't exempt. Far from it. The animated film, Foodfight, had ‘thousands of products and character icons from the familiar (items) in a grocery store.’ Children's books also feature branded items and characters, and millions of them have snack foods as lead characters. Business is interested in children and adolescents because of their buying power and because of their influence on the shopping habits of their parents. As they are easier to influence they are especially targeted by the advertising business. “The marketing industry is facing increased pressure over claimed links between exposure to food advertising and a range of social problems, especially growing obesity levels.”

d 15% in magazines. In 2002 there were 360.000 people employed in the advertising business. The internet revenues for advertising doubled to almost 1 billion Euros from 2006 to 2007, giving it the highest growth rates

Communication design

Communication design is a mixed discipline between design and information-development which is concerned with how media intermission such as printed, crafted, electronic media or presentations communicate with people. A communication design approach is not only concerned with developing the message aside from the aesthetics in media, but also with creating new media channels to ensure the message reaches the target audience.

Communication design seeks to attract, inspire, create desires and motivate the people to respond to messages, with a view to making a favorable impact to the bottom line of the commissioning body, which can be either to build a brand, move sales, or for humanitarian purposes. Its process involves strategic business thinking, utilizing market research, creativity, and problem-solving.

The term communication design is often used interchangeably with visual communication and more specifically visual design, but has an alternate broader meaning that includes auditory, vocal, touch and smell. Examples of Communication Design include information architecture, editing, typography, illustration, web design, animation, advertising, ambient media, visual identity design, performing arts, copywriting and professional writing skills applied in the creative industries.

Visual design

Visual Design is the design working in any media or support of visual communicationThis is a correct terminology to cover all types of design applied in communication that uses visual channel for transmission of messages, precisely because this term relate to the concept of visual language of some media and not limited to support a particular form of production, as do the terms graphic design (graphic) or Interface design (electronic media).

Internal communications

Internal communications is a generic expression for all communication (formal and informal) that an organisation undertakes with its close stakeholders — i.e. those people with whom it has a relationship that requires support, principally direct/indirect employees and/or members. The main purpose of formal internal communications is to inform employees or members of the direction and performance of the organisation (and/or team) to which they belong.

The profession of internal communications builds on fundamental principles of other disciplines like human resources (HR), marketing, project management and media planning. As a result it often gets adopted in organisations under different labels: employee communications, employee engagement, internal marketing, company communications, staff communication, etc. Responsibility can also reside within different functions: marketing, corporate communications, transformation, HR, CEO office, etc.

In common with other communication professions, there are different areas of specialism within internal communications: channel management, speech-writing, change communications, HR communications, project communications, event management, social media, intranets, etc.

Internal communication in practice

Why does internal communication matter?

- **Clear Line of Sight**

  At the most basic level internal communication helps make a difference to organisations by providing clarity of purpose that help people do their jobs.
- **Employee Engagement**
  Effective internal communications is one of the key drivers of employee engagement which has been widely researched and proven to add significant value to organisations on all metrics from productivity to customer research.

- **External reputation**

  Market reseachers MOR have highlighted the strength of employee advocacy in shaping an organisation's external reputation. Joep Cornelissen in his book *Corporate Communications* touches on the relationship between reputation and internal conversation.

- **Change management**

  Communication is also a critical success factor for change or transformation programmes. (John Kotter says: "When the environment constantly changes, the organization must innovate to adapt to or control that environment. When your external environment changes, your internal environment should adjust as well, and internal communication is vital during these times."

- **Regulation and compliance**

  There is also in many countries a legal requirement that certain communications take place. For example within the EU, employers are expected to hold consultations with their staff on business decisions that affect them, like redundancy. Effective communications is essential for ensuring compliance with companies' policies on corporate governance, occupational safety and health, environment and quality assurance.

Internal communication strategy

There are two sides to strategy in internal communications. In the first instance there is the organisation's strategy — what it hopes to achieve and how it plans to go about achieving it. That strategy will be supported and, to some extent, delivered through effective internal communications.

In this context internal communication can help on several different levels:

- **Tell**: simply informing people of the direction, non-negotiable
- **Sell**: anticipating some form of backlash, requiring some persuasion
- **Consult**: seeking specific areas of input to the decision-making process
- **Involve**: seeking varying degrees of involvement and co-creation

Secondly, and more importantly, internal communications needs a strategy of its own. It should be positioned more than a simple plan of tactical interventions in support of business activities. The strategy should consider the following:

- **Market**: What does the organisation know about its audiences' needs? How should its audiences be segmented?
- **Message**: What is it the organisation's message is trying to achieve? In what tone should it be conveyed?
- **Media**: Which channels work best for the different audience segments? How will it maximise reach and cut-through? Are there clear editorial guidelines for each?
- **Measurement**: Are there clearly defined success criteria? What are the leading and lagging measures? As well as informing all of the other three M's, it should be used to demonstrate value and measures of performance (ROI, message penetration, hit rates, quality of feedback, etc)

The strategy will inform the best way to organize effective communications.

Internal communications functions

Internal communications functions can require several skills, eg: writing, marketing, event organisation, web channels, facilitation, advertising, stakeholder management, corporate social responsibility, branding and communications training.

Internal communicators are a broad church of professionals with both general and specialist skills. Generalist communicators often take on the role of internal communications business partners or consultants, drawing on the support from internal communications specialists who have one or more of the technical skills required to deliver channels (writing, planning, measurement). In practice, the delineation between these two roles is often blurred but it does highlight the diverse skills required.

Internal communication channels

The internal communications department should be responsible for developing and maintaining a number of 'channels' that allow effective communication to take place across the business. A communications channel refers to the medium used to convey information from sender to receiver - in this case from organisation to employee. The range and quality of channels differs between organisations, depending on their size and technical infrastructure.

The American political scientist and communication theorist Harold Lasswell popularised the concept of the communication channel in his 1948 paper *The Communication of Ideas*[where he proposed a simple five-stage model based around the following question(s):

- Who
- Say what
- In which channel
- To whom
- With what effect?

In reality internal communications is not a linear system and informal channels exist outside the internal pipework of formal communications channels. This is important for those practitioners that (wrongly) believe that internal communications is simply about controlling the message.

Formal channels

Formal channels typically fall into one of four broad categories:

- **Electronic**: - Communications that are delivered and/or accessed electronically, either by computer, telephone, television or other devices. Examples include email, intranet, video and webcasts, electronic newsletters, podcasts, blogs, Wikis, voicemail, conference calls, SMS text messaging, screensaver messaging, desktop alert messages, desktop news feeds and internal social media tools (eg: internal Twitter-style sites such as Yammer)
- **Print**: - Paper-based communications. Examples include magazines, newsletters, brochures, postcards and other desk drops, posters, memos, communication packs for line managers, etc.
- **Face-to-face**: - One-to-one and one-to-many forums where people are physically present. Examples include team meetings or briefings, conferences, site visits, 'back to the floor', consultation forums, 'brown bag' lunches, round-table discussions, 'town meetings', etc.
- **Workspace**: - the working environment. Examples include notice boards, plasma and LCD screens, accessories (eg: mousemats), window decals, etc.

Informal channels

These channels reflect the non-linear dynamics of a social network and can be as, if not more, influential than more formal channels. Often informal internal communications is more likely to stimulate and create discussion and dialogue. The channels often manifest themselves via the rumor-mill, water-cooler conversations, social networking, spoof newsletters, etc.

Selecting channels

One of the key challenges any internal communicator will face is how to select the right channels - and the right mix of channels - for both the audience and the message. The main considerations are:

- **Availability**: what channels either already exist within the organization or can be introduced effectively?
- **Audience**: who are they, where are they based, how do they prefer to access information and how effective will the proposed channel be in reaching them and engaging them?
- **Objectives**: what does the organization want people to learn, think, feel or do as a result of the message?
- **Content**: what is the context and substance of the message? (For example, sensitive messages may need to be communicated face-to-face, rather than by, say, SMS text message.)

Internal communication audiences

Audience segmentation

An internal audience is rarely homogeneous. Audiences differ according to the core business or activity of an organization. For example, a manufacturing company may have four main groups:

- **Management**: (*see Line managers section below*)
- **Executives and specialists**: This group is generally office-based and regularly, if not constantly, online. For example, they spend a lot of time creating and sharing information / knowledge both in meetings and online. They interact with their line managers on a regular basis, even if this is virtually by telephone conference, and also give significant credibility to online news and social media.
- **Technical experts and engineers**: This group is often out at customer sites, spending a significant amount of time on manual tasks. For example, they have an office base which they may visit daily or weekly. They are likely to have a laptop and email account but the key difference is they may only check-in to online information sources at specific times. A lot of their direct communication is by telephone. They make good use of physical notice-boards back at base and printed materials such as newsletters.
- **Factory workers**: Even though production lines are highly automated, factory-based employees still spend most of their time on the factory floor, often working a changing shift pattern. They have limited access to generic online channels, perhaps sharing a computer station to log on to emails and check the intranet. Literacy levels can be low in this audience group which means more emphasis on face-to-face communication and story-telling.

Line managers

Employee communication is an important skill for all line managers, irrespective of their seniority. Like any skill it requires training and development. Often, organisations do not invest the appropriate amount of time and effort in developing managers' communications skills. Too often this leads to managers abdicating responsibility for communications to their 'internal communications department' and a lack of confidence in facilitating discussion in their teams. This raises debate around the following issues:

- The nature of supervisory relationships and organizational communication
- The potency of managers as a channel of official communications
- How best to support managers in their roles

Managers as official channels

Although local leaders are undoubtedly a potent force in communications for the reasons explored below – there is little evidence that they hold a supreme position above all other channels of internal communications.

Research findings suggest that employees like to hear from their line manager on subjects in which the manager or supervisor is expert. So, for example employees like their manager to explain how the corporate strategy will affect our team but they don’t expect them to be the best source on the detailed analysis behind the strategy. Employees might not naturally look to managers for advice on the workings of the pension scheme.

Managers as animated notice boards

Sending information down the line to local supervisors, expecting them to deliver it without any corruption, interpretation or deviation has long been the main focus of 'cascaded' internal communications (for example, UK guidance from The Industrial Society, now the Work Foundation, focused on giving managers very clear instructions about what to say and how to say it). However, in recent years thinking has evolved and literature now concentrates on empowering managers to facilitate discussion rather than cascade management of messages which will have little authority or impact. **Arrow approach** – Communications are carefully constructed and aimed at a target audience. It assumes the more accurate the message, the clearer the understanding of the recipient. Problems arise when it is taken for granted that information is mostly transmitted by words and that recipients are passive receptors.

- **Circuit approach** – Communications are achieved with positive relationships and job satisfaction of employees through understanding and discussion. It assumes that communicating is grounded in mutual understanding. Problems arise because of the myopic view that understanding will lead to agreement and that this understanding should be the sole goal of communications.
- **Dance approach** – Communications are achieved through an intricate combination of the practice, understanding, and intuition. It believes that the communication involves the coordination of meanings, the understanding of common rules, and the recognition of patterns between two or more people.

Communication theory

There is much discussion in the academic world of communication as to what actually constitutes communication. Currently, many definitions of communication are used in order to conceptualize the processes by which people navigate and assign meaning. Communication is also understood as the exchanging of understanding. Additionally the biocommunication theory investigates communicative processes within and among non-humans such as bacteria, animals, fungi and plants.

We might say that communication consists of transmitting information from one person to another. In fact, many scholars of communication take this as a working definition, and use Lasswell's maxim, "who says what to whom in what channel with what effect," as a means of circumscribing the field of **communication theory**.

A simple communication model with a sender transferring a message containing information to a receiver.

Other commentators suggest that a ritual process of communication exists, one not artificially divorceable from a particular historical and social context.

Communication stands so deeply rooted in human behaviors and the structures of society that scholars have difficulty thinking of it while excluding social or behavioral events. Because communication theory remains a relatively young field of inquiry and integrates itself with other disciplines such as philosophy, psychology, and sociology, one probably cannot yet expect a consensus conceptualization of communication across disciplines.

Currently, there is no paradigm from which communication scholars may work. One of the issues facing scholars is the possibility that establishing a communication metatheory will negate their research and stifle the broad body of knowledge in which communication functions.

he Latin verb *informare*, to give form to, to form an idea of. Furthermore, Latin itself already contained the word *informatio* meaning concept or idea, but the extent to which this may have influenced the development of the word *information* in English is unclear.

As a final note, the ancient Greek word for *form* was "μορφή" (morf -> morphe, Morph) and also *είδος* eidos (kind, idea, shape, set), the latter word was famously used in a technical philosophical sense by Plato (and later Aristotle) to denote the ideal identity or essence of something (see Theory of forms). "Eidos" can also be associated with thought, proposition or even concept.

Strategic Communication

Strategic Communication can mean either communicating a concept, a process, or data that satisfies a long term strategic goal of an organization by allowing facilitation of advanced planning, or communicating over long distances usually using international telecommunications or dedicated global network assets to coordinate actions and activities of operationally significant commercial, non-commercial and military business or combat and logistic subunits. It can also mean the related function within organisations that takes care of internal and external communication processes.

History of strategic communication

Strategic communication at its nascent ancient application begun with the first attempts to transmit knowledge through writing either to the following generations, or to locations remote to its origin. The need to increase the distance and speed of transmission may have been one of the factors behind the domestication of the horse which remained the primary mode of communication until the invention of the semaphore, and later the telegraph. The business management reference for Strategic Communication may be the concept of Integrated Management Communication.

Definition of strategic communication

Strategic communication management could be defined as the systematic planning and realization of information flow, communication, media development and image care in a long-term horizon. It conveys deliberate message(s) through the most suitable media to the designated audience(s) at the appropriate time to contribute to and achieve the desired long-term effect. Communication management is process creation. It has to bring three factors into balance: the message(s), the media channel(s) and the audience(s).[1] Current multinational concept development and experimentation defines Strategic Communication as "a function to integrate an organisation's information activities in order to advance its interests and objectives, and to promote the coherence of the organisation". (See Peter E. Westenkirchner: Framework Concept "Strategic Communication in Support of Multinational Coalition Operations within a Comprehensive Approach")

Application objectives

Strategic Communication (SC) provides a conceptual umbrella that enables organizations to integrate their disparate messaging efforts. It allows them to create and distribute communications that, while different in style and purpose, have an inner coherence. This consistency can, in some instances, foster an echo chamber that reinforces the organizational message and brand. At minimum, it prevents contradictory, confusing messaging to different groups across all media platforms.

Defence application

The recently approved NATO Policy on Strategic Communication defines Strategic Communication as "the coordinated and appropriate use of NATO communications activities and capabilities – Public Diplomacy, Military Public Affairs, Information Operations and Psychological Operations, as appropriate – in support of Alliance policies, operations and activities, and in order to advance NATO's aims" (SG(2009)0794). "It is important to underline that Strategic Communication is first and foremost a process that supports and underpins all efforts to achieve the Alliance's objectives; an enabler that guides and informs our decisions, and not an organization in itself. It is for this reason that Strategic Communication considerations should be integrated into the earliest planning phases - communication activities being a consequence of that planning" (MCM-0164-2009).

Commercial application

Strategic Communications in Commercial Environment is the non-military application of strategic communication principles and techniques are a new way for organizations to respond to a changed business landscape that results from today's networked communication environment. Back in the day, organizations could segment publics and audiences and target unique messages to each one. Employees, investors, partners, citizens of local communities, potential buyers and consumers could each receive messages that were not widely known or shared by the other groups. Now, all potential publics and audiences can access information about the organization. Providing dissimilar, even contradictory information is no longer possible and may even be problematic. Consumers see information targeted to investors and partners, employees see messages sent to members of the community. In short, with little effort, almost everyone can see almost everything.

Within organizations, the need to integrate communication efforts is moving the authority for creating messages from silos (media relations, investor relations, public relations, advertising, sales and promotion, community relations, corporate training) into corporate headquarters. When organizations adopt strategic communication processes, the message-originating departments -- although they were never fully autonomous -- must report to corporate communications units that issue guidelines for all organizational communication programs and efforts.

The term "strategic communication" means more than just getting the right message to the right people...and so on. It also means ensuring that communication programs meet the objectives of the organization. In order to meet those objectives and to obtain sufficient evidence to suggest that a program can or will meet them, SC is typically supported by a detailed research plan. Once the objectives are clarified, research to define audiences, to measure current attitudes, and to test ways to change those attitudes must be undertaken. Once the coordinating unit develops concepts, there will be focus groups and/or surveys to identify the most effective concepts. Final messages are also tested. The early research that shapes the message is called "formative evaluation." After implementation of the communication program, "summative evaluation" takes place. This research answers the questions: Did the program reach its goals? What effects did the campaign have? What remains to be done?

Research support for communication programs has long been a facet of advertising and, more broadly, marketing campaigns. In the commercial marketplace, sales are often the measurement for success and failure. In PR, the metric has generally been "clip files," the number of mentions in the editorial press: the more clips and the more influential the publications, the better. The underlying assumptions of strategic communication begin by rejecting these silos and adopting more robust measurements at all stages of program development, implementation, and post-campaign evaluation.

Public administration application

Educational institutions are responding to the perceived need for new ways of planning, developing, and implementing communication programs. In the last two years, a growing number of educational institutions offer programs in strategic communication, usually at the master's level. Prospective students can search the Internet for available programs.

Organizational communication

History of Organizational Communication

The field traces its lineage through business information, business communication, and early mass communication studies published in the 1930s through the 1950s. Until then, organizational communication as a discipline consisted of a few professors within speech departments who had a particular interest in speaking and writing in business settings. The current field is well established with its own theories and empirical concerns distinct from other communication subfields and other approaches to organizations.

Several seminal publications stand out as works broadening the scope and recognizing the importance of communication in the organizing process, and in using the term "organizational communication". Nobel Laureate Herbert Simon wrote in 1947 about "organization communications systems", saying communication is "absolutely essential to organizations".[1]

In the 1950s, organizational communication focused largely on the role of communication in improving organizational life and organizational output. In the 1980s, the field turned away from a business-oriented approach to communication and became concerned more with the constitutive role of communication in organizing. In the 1990s, critical theory influence on the field was felt as organizational communication scholars focused more on communication's possibilities to oppress and liberate organizational members.

Assumptions underlying organizational communication

Some of the main assumptions underlying much of the early organizational communication research were:

- Humans act rationally. Sane people behave in rational ways, they generally have access to all of the information needed to make rational decisions they could articulate, and therefore will make rational decisions, unless there is some breakdown in the communication process.

- Formal logic and empirically verifiable data ought to be the foundation upon which any theory should rest. All we really need to understand communication in organizations is (a) observable and replicable behaviors that can be transformed into variables by some form of measurement, and (b) formally replicable syllogisms that can extend theory from observed data to other groups and settings

- Communication is primarily a mechanical process, in which a message is constructed and encoded by a sender, transmitted through some channel, then received and decoded by a receiver. Distortion, represented as any differences between the original and the received messages, can and ought to be identified and reduced or eliminated.

- Organizations are mechanical things, in which the parts (including employees functioning in defined roles) are interchangeable. What works in one organization will work in another similar organization. Individual differences can be minimized or even eliminated with careful management techniques.

- Organizations function as a container within which communication takes place. Any differences in form or function of communication between that occurring in an organization and in another setting can be identified and studied as factors affecting the communicative activity.

Herbert Simon introduced the concept of **bounded rationality** which challenged assumptions about the perfect rationality of communication participants. He maintained that people making decisions in organizations seldom had complete information, and that even if more information was available, they tended to pick the first acceptable option, rather than exploring further to pick the optimal solution.

Through the 1960s, 1970s and 1980s the field expanded greatly in parallel with several other academic disciplines, looking at communication as more than an intentional act designed to transfer an idea. Research expanded beyond the issue of "how to make people understand what I am saying" to tackle questions such as "how does the act of communicating change, or even define, who I am?", "why do organizations that seem to be saying similar things achieve very different results?" and "to what extent are my relationships with others affected by our various organizational contexts?"

In the early 1990s Peter Senge developed a new theories on Organizational Communication. This theories were learning organization and systems thinking. These have been well received and are now a mainstay in current beliefs toward organizational communications.

Communications networks

Networks are another aspect of direction and flow of communication. Bavelas has shown that communication patterns, or networks, influence groups in several important ways. Communication networks may affect the group's completion of the assigned task on time, the position of the de facto leader in the group, or they may affect the group members' satisfaction from occupying certain positions in the network. Although these findings are based on laboratory experiments, they have important implications for the dynamics of communication in formal organizations.

There are several patterns of communication:

- "Chain",
- "Wheel",
- "Star",
- "All-Channel" network,
- "Circle

    The Chain can readily be seen to represent the hierarchical pattern that characterizes strictly formal information flow, "from the top down," in military and some types of business organizations. The Wheel can be compared with a typical autocratic organization, meaning one-man rule and limited employee participation. The Star is similar to the basic formal structure of many organizations. The All-Channel network, which is an elaboration of Bavelas's Circle used by Guetzkow, is analogous to the free-flow of communication in a group that encourages all of its members to become involved in group decision processes. The All-Channel network may also be compared to some of the informal communication networks.

If it's assumed that messages may move in both directions between stations in the networks, it is easy to see that some individuals occupy key positions with regard to the number of messages they handle and the degree to which they exercise control over the flow of information. For example, the person represented by the central dot in the "Star" handles all messages in the group. In contrast, individuals who occupy stations at the edges of the pattern handle fewer messages and have little or no control over the flow of information.These "peripheral" individuals can communicate with only one or two other persons and must depend entirely on others to relay their messages if they wish to extend their range.

In reporting the results of experiments involving the Circle, Wheel, and Star configurations, Bavelas came to the following tentative conclusions. In patterns with positions located centrally, such as the Wheel and the Star, an organization quickly develops around the people occupying these central positions. In such patterns, the organization is more stable and errors in performance are lower than in patterns having a lower degree of centrality, such as the Circle. However, he also found that the morale of members in high centrality patterns is relatively low. Bavelas speculated that this lower morale could, in the long run, lower the accuracy and speed of such networks.

In problem solving requiring the pooling of data and judgments, or "insight," Bavelas suggested that the ability to evaluate partial results, to look at alternatives, and to restructure problems fell off rapidly when one person was able to assume a more central (that is, more controlling) position in the information flow. For example, insight into a problem requiring change would be less in the Wheel and the Star than in the Circle or the Chain because of the "bottlenecking" effect of data control by central members.

It may be concluded from these laboratory results that the structure of communications within an organization will have a significant influence on the accuracy of decisions, the speed with which they can be reached, and the satisfaction of the people involved. Consequently, in networks in which the responsibility for initiating and passing along messages is shared more evenly among the members, the better the group's morale in the long run.

Direction of communication

If it's considered formal communications as they occur in traditional military organizations, messages have a "one-way" directional characteristic. In the military organization, the formal communication proceeds from superior to subordinate, and its content is presumably clear because it originates at a higher level of expertise and experience. Military communications also carry the additional assumption that the superior is responsible for making his communication clear and understandable to his subordinates. This type of organization assumes that there is little need for two-way exchanges between organizational levels except as they are initiated by a higher level. Because messages from superiors are considered to be more important than those from subordinates, the implicit rule is that communication channels, except for prescribed information flows, should not be cluttered by messages from subordinates but should remain open and free for messages moving down the chain of command. "Juniors should be seen and not heard," is still an unwritten, if not explicit, law of military protocol.

Vestiges of one-way flows of communication still exist in many formal organizations outside the military, and for many of the same reasons as described above. Although management recognizes that prescribed information must flow both downward and upward, managers may not always be convinced that two-way ness should be encouraged. For example, to what extent is a subordinate free to communicate to his superior that he understands or does not understand a message? Is it possible for him to question the superior, ask for clarification, suggest modifications to instructions he has received, or transmit unsolicited messages to his superior, which are not prescribed by the rules? To what extent does the one-way rule of direction affect the efficiency of communication in the organization, in addition to the morale and motivation of subordinates?

These are not merely procedural matters but include questions about the organizational climate, pr psychological atmosphere in which communication takes place. Harold Leavitt has suggested a simple experiment that helps answer some of these questions. A group is assigned the task of re-creating on paper a set of rectangular figures, first as they are described by the leader under one-way conditions, and second as they are described by the leader under two-way conditions.(A different configuration of rectangles is used in the second trial.) In the one-way trial, the leader's back is turned to the group. He describes the rectangles as he sees them. No one in the group is allowed to ask questions and no one may indicate by any audible or visible sign his understanding or his frustration as he attempts to follow the leader's directions. In the two-way trial, the leader faces the group. In this case, the group may ask for clarifications on his description of the rectangles and he can not only see but also can feel and respond to the emotional reactions of group members as they try to re-create his instructions on paper.

On the basis of a number of experimental trials similar to the one described above, Leavitt formed these conclusions:

1. One-way communication is faster than two-way communication.
2. Two-way communication is more accurate than one-way communication.
3. Receivers are more sure of themselves and make more correct judgments of how right or wrong they are in the two-way system.
4. The sender feels psychologically under attack in the two-way system, because his receivers pick up his mistakes and oversights and point them out to him.
5. The two-way method is relatively noisier and looks more disorderly. The one-way method, on the other hand, appears neat and efficient to an outside observer.[3]

Thus, if speed is necessary, if a businesslike appearance is important, if a manager does not want his mistakes recognized, and if he wants to protect his power, then one-way communication seems preferable. In contrast, if the manager wants to get his message across, or if he is concerned about his receivers' feeling that they are participating and are making a contribution, the two-way system is better.

Interpersonal communication

: Interpersonal communication

Another facet of communication in the organization is the process of face-to-face, **interpersonal communication**, between individuals. Such communication may take several forms. Messages may be verbal (that is, expressed in words), or they may not involve words at all but consist of gestures, facial expressions, and certain postures ("body language"). Nonverbal messages may even stem from silence.

Ideally, the meanings sent are the meanings received. This is most often the case when the messages concern something that can be verified objectively. For example, "This piece of pipe fits the threads on the coupling." In this case, the receiver of the message can check the sender's words by actual trial, if necessary. However, when the sender's words describe a feeling or an opinion about something that cannot be checked objectively, meanings can be very unclear. "This work is too hard" or "Watergate was politically justified" are examples of opinions or feelings that cannot be verified. Thus they are subject to interpretation and hence to distorted meanings. The receiver's background of experience and learning may differ enough from that of the sender to cause significantly different perceptions and evaluations of the topic under discussion. As we shall see later, such differences form a basic barrier to communication.

Nonverbal content always accompanies the verbal content of messages. This is reasonably clear in the case of face-to-face communication. As Virginia Satir has pointed out, people cannot help but communicate symbolically (for example, through their clothing or possessions) or through some form of body language. In messages that are conveyed by the telephone, a messenger, or a letter, the situation or context in which the message is sent becomes part of its non-verbal content. For example, if the company has been losing money, and in a letter to the production division, the front office orders a reorganization of the shipping and receiving departments, this could be construed to mean that some people were going to lose their jobs — unless it were made explicitly clear that this would not occur.

A number of variables influence the effectiveness of communication. Some are found in the environment in which communication takes place, some in the personalities of the sender and the receiver, and some in the relationship that exists between sender and receiver. These different variables suggest some of the difficulties of communicating with understanding between two people. The sender wants to formulate an idea and communicate it to the receiver. This desire to communicate may arise from his thoughts or feelings or it may have been triggered by something in the environment. The communication may also be influenced or distorted by the relationship between the sender and the receiver, such as status differences, a staff-line relationship, or a learner-teacher relationship.

Whatever its origin, information travels through a series of filters, both in the sender and in the receiver, before the idea can be transmitted and re-created in the receiver's mind. Physical capacities to see, hear, smell, taste, and touch vary between people, so that the image of reality may be distorted even before the mind goes to work. In addition to physical or sense filters, cognitive filters, or the way in which an individual's mind interprets the world around him, will influence his assumptions and feelings. These filters will determine what the sender of a message says, how he says it, and with what purpose. Filters are present also in the receiver, creating a double complexity that once led Robert Louis Stevenson to say that human communication is "doubly relative". It takes one person to say something and another to decide what he said.

Physical and cognitive, including semantic filters (which decide the meaning of words) combine to form a part of our memory system that helps us respond to reality. In this sense, March and Simon compare a person to a data processing system. Behavior results from an interaction between a person's internal state and environmental stimuli. What we have learned through past experience becomes an inventory, or data bank, consisting of values or goals, sets of expectations and preconceptions about the consequences of acting one way or another, and a variety of possible ways of responding to the situation. This memory system determines what things we will notice and respond to in the environment. At the same time, stimuli in the environment help to determine what parts of the memory system will be activated. Hence, the memory and the environment form an interactive system that causes our behavior. As this interactive system responds to new experiences, new learnings occur which feed back into memory and gradually change its content. This process is how people adapt to a changing world.

Communication Approaches in an Organization

Informal and Formal Communication are used in an organization. Informal ommunication: Informal communication, generally associated with interpersonal, horizontal communication, was primarily seen as a potential hindrance to effective organizational performance. This is no longer the case. Informal communication has become more important to ensuring the effective conduct of work in modern organizations.

Top-down approach: This is also known as downward communication. This approach is used by the Top Level Management to communicate to the lower levels. This is used to implement policies, gudelines, etc. In this type of organizational communication, distortion of the actual information occurs. This could be made effective by feedbacks.

Category:Organizational theory

Communication bloopers: funny, but no joke!
When management recruitment ads call for excellent communications skills, do they mean the ability to use language in a clear and unambigious way? Judging by the statements of many executve personnel, one might well be excused for believing just the opposite, **as these amusing exmples show.**

What makes a communicator *great*?
Why do some speakers stand out as charismatic, charming, approachable or likable, while others are easily overlooked or forgotten? A close examination of the speeches and presentations of the most successful communicators reveals that the speakers have three traits in common. **What are they and why are they so important?**

How to say *no!* the right way
Saying no to a request can be difficult. Perhaps we don't want to feel as though we are insulting the person or even just letting them down. However, when you believe "no" is the appropriate response, you should be able to do it so that you get your point across kindly and politely. **Here's how to do it.**

Are rude people irritating you?
When the impudence, thoughtlessness or sheer bad manners of people around you begins to weigh you down, **these five key points** will make sure you don't fall into the same trap.

We all know people who have masses of academic qualifications yet somehow just don't get it right in the world of work. To succeed, you need to manage your own emotions, and be aware of and sensitive to those of others. A simple exercise will help test your preparedness for both tasks

Warning signs of an unhealthy workplace
If some of these **sickly and counterproductive behaviors** are taking place in your organization, you're probably not very happy at work. And your workplace is in need of renewal and rejuvenation.

Enjoyable conversations: learn the basic steps
Conversation can sometimes seem infinitely complex with all of its nuances. But its basic steps are pretty simple. Those who aren't competent in conversing usually lack skills in at least one of these steps, and usually more than one.

How to impress your boss
"Great job!" or *Well done!"* are words that any employee with an eye on a raise or promotion (or even one with just a strong work ethic) loves to hear. Of course, every supervisor is different and will be impressed by different actions. But here are **three things you can do** that are likely to give any boss a favorable impression of you.

How to improve communication during a conflict
Don't let adrenaline put your brain on auto-pilot when you feel threatened by another's words or actions! Stay calm and **focus on these seven tips** to resolve your conflict quickly by communicating effectively.

Easy ways to bring fun back to work
Especially in these trying times, a little fun can go a long way - even in the workplace! When we lighten up, we reduce stress, break down barriers, open the way to more dialogue, and gain a renewed sense of hope. **Try some of these fun ideas**

Reading body language: 5 mistakes people make

Human beings are genetically programmed to look for facial and behavioral cues. We see someone gesture and automatically make a judgment about the intention of that gesture. Indeed, the ability to 'read' nonverbal signals can provide you with crucial information about other people, which will give you a significant advantage in judging how to interact with them in all kinds of situations. But you have to avoid these five common mistakes that lead people right off the track when they attempt to read body language**.**

HOW TO ENSURE THAT YOUR WRITTEN MESSAGE GETS A REPLY

Funny thing about voicemail. We love it when it's our own - we hate it when it belongs to someone else.

I don't know about you, but when someone doesn't return my messages, I imagine they are gloating behind my back, laughing demonically as they push the delete button to send me to into oblivion.

Actually, I doubt if most people are this cold. But what's so frustrating about voicemail is it gives the decision-maker the opportunity to reject you before you even get a chance to talk to them! If you're starting to feel like a failure because people won't return your messages, here's what to do.

I believe most messages do not get returned because people are overwhelmed. Many of us move through our workday in a state that ranges from mild panic to deep despair.

To get returned, a message must be so compelling that it wins out over the 23 other urgent things vying for the recipient's attention. Yet, many messages do not even come close to addressing the specific needs, desires, wants, and concerns of the person being called.

There's the sales rep who leaves a message saying she would like to stop by and talk with you about advertising in her paper. Yeah right. Like you've got nothing better to do. The copier company calling to sell you toner. Toner? There are six boxes stacked in the closet. Or the person you've never heard of asking you to call him back.

You don't mean to be rude but apparently these people assume you're just sitting around with nothing else to do!

On a busy day, something's got to give and lame, ineffective messages are the first to go.

To help solve this problem, I asked successful friends and sales people to share their best voice-mail techniques. I cannot guarantee that any of these methods will give you a 100% call back ratio, but they will definitely help improve your odds. Test them out and you'll quickly discover the ones that work best for you.

1. Be brief

Try leaving messages with nothing more than your name and number. Do not say why you are calling. Curiosity is a powerful motivator. My sales staff found that this one simple technique increased their call back ratio by 40%! Busy people calling in for messages from the road will also appreciate the fact that your message is brief.

2. The "pains" technique

This is an excellent technique to use as a follow up to a sales presentation. In your initial meeting with the prospect ask probing questions to determine where it "hurts". Make a list of these "pains" and how your product or service can provide specific relief for each concern. Each time you leave a follow up message, mention one of your prospect's "pains" and hint at how you can provide relief. Refer to a different problem each time you call. For example:

- **Message #1:**>*"Ms. Jones, this is Susan Berkley from Berkley Productions at 201-541-8595. I'm calling to offer some solutions as to how our voice recording services can give you a more professional sounding voice mail system and get rid of that annoying recorded voice that was bothering the company president. My number again is 201-541-8595."*

- **Message #2:**>*"Ms. Jones, this is Susan Berkley from Berkley Productions at 201-541-8595. I'm calling with a few solutions to help you reduce those customer complaints about getting lost in your voice mail system that you spoke about in our last meeting. My number again is 201-541-8595."*

- **Message #3:***"Ms. Jones, this is Susan Berkley from Berkley Productions at 201-541-8595. I'm calling with an easy, cost effective way to help you provide information to your Spanish and Vietnamese speaking customers. You seemed concerned about this in our last meeting and I wanted to discuss some of the ways we help our customers meet this challenge. My number again is 201-541-8595."*

3. Tell them you are calling from corporate headquarters
It adds credibility, especially if you are a small or home based business!
"Hello, this is Susan Berkley with Berkley Productions corporate headquarters. The reason for the call is..."

4. Leave your first and last name
Using only your first name creates confusion- "Steve who? I know five guys named Steve!" It also brings to mind service and repair people, delivery drivers, and heavy breathing obscene phone callers.

5. Eliminate the word "just" or other minimizers from your speech.
Examples:

- *"I'm just calling to follow up on yesterday's meeting."*

- *"Nothing important. Just a follow up call to yesterday's meeting."*

- *"Just a little reminder about how our widget can help build your business."*

6. Don't sell anything in the message
Because we are constantly bombarded with advertising, most people have developed a strong sales resistance. The people you are calling will reject you unless you happen to catch them at a moment when they have a passionate desire or need for your product.

7. Make the benefits contingent on speaking with you
"This is Susan Berkley from XYZ distributors. We have just purchased a number of widgets from a company that went out of business and have priced the stock at a deep discount for fast liquidation. To determine if they are the right size and color for your needs, we need to talk. Call me at 201-541-8595."

8. Speak more slowly and clearly than normal

Don't slur or run your words together. The person you are calling is not as familiar with the material as you are and will quickly become annoyed if you make them replay the message because they did not understand it.

9. Spell your name if it is difficult, unusual or of foreign origin
Sometimes unusual names are easier to remember than names that are more common. The listener has to work harder to understand it and is more likely to remember you because he made that extra effort. Reinforce this phenomenon by saying your name clearly and spelling it slowly when you leave your first message. An unusual name can make you stand out from the crowd and invites ice-breaking chit chat about the name's origin.

10. Sound like a winner by speaking with energy, enthusiasm and confidence
Sit up straight or stand when you leave the message. Smile as you speak. Visualize yourself as confident and strong. Use hand gestures and powerful body language. If possible, check your energy level by listening back to your message before sending it.

11. Leave your phone number twice: once at the beginning of your message and once at the end
If the person you are calling missed your number at the beginning they will not have to listen through to the entire message again to get it.

12. Call again and offer some useful information
"I've been thinking about your situation and have a solution that might work. I'd like to share it with you. Please call me at ..."
Do not leave the solution in the message. Use it as bait to get them to call you back.
Caution: do not use this technique unless you actually have something useful to share with the prospect when they call!

13. Fax your prospect a giant message slip
Take a standard "While you were out" phone message slip, fill it out with your message, enlarge it on the copier and fax it to your prospect. *"While You Were Out ... Melissa Smith called Re: A few ideas to help you save big on your taxes."*

14. When all else fails, politely threaten to "close their file"
Making sure there is nothing hostile or impatient in your tone of voice, leave a polite message that goes something like this:

"Mr. Smith, I've been attempting to reach you for several weeks now regarding the proposal you asked us to send on January 24th, but I have not received a call back. I don't want to bug you or clog your voice mail with unwanted messages, so would you please call me back and let me know if you would like me to close your file?".

It is almost humorous how quickly this message has gotten people to call us back. People like to leave their options open and nobody likes to be "terminated".

15. Make sure YOUR outgoing voicemail message sounds as professional as possible
When people call your voicemail do you sound welcoming, honest, energetic and

sincere or do you sound angry, bored or half asleep? Here are several steps to follow to put your "best voice" forward.

- **Script your message.** Writing it out will help you say exactly what you need to say: nothing more, nothing less. You'll also be less likely to flub when reading from a script. And you'll find it easier to control your pacing and tone when you've got something written to practice.
- **Practice your message before you record it.** Say it over and over again out loud to make yourself familiar with the words.
- **Stand while recording your message.** This will add energy and vitality to your voice.
- **Smile while recording your message.** A smile makes your voice sound warm and friendly.
- **Get feedback from at least 3 friends or colleagues.** Does your message sound as good as it could? If not, re-record!
- **Don't leave flubs on your outgoing message.** I am amazed at how many people leave flubs and stumbles on their outgoing message, especially when re-recording is so easy to do!
- **Customize your message daily.** If possible, let people know if you are in or out of the office and when you will be likely to call them back.
- **Include your USP in your message.** Your USP is your unique selling proposition, a phrase that articulates a key benefit to your customer. Boil it down to a brief phrase and use it in your outgoing message. For example: *"Thank you for calling XYZ language school. We guarantee that you'll start speaking the language of your choice in 30 days or less or your money back. Leave your name and number at the tone and we'll get back to you as soon as we get your message."*

How to Respond to Angry Customers

1. Assume that the customer has a right to be angry

Nobody makes mistakes on purpose, but they do happen. If you are working in a call center, behind a counter or in any capacity that directly interfaces with customers, then you are going to encounter an irate customer at some time.

The most common response is to evaluate the merit of the complaint while your are listening to it. Try to curb that common response and replace it with the assumption that the customer has a right to be angry, even before you know the details.

Perhaps the customer feels betrayed because the product or services did not meet expectations. The customer may be angry because he or she made incorrect assumptions that led to improper expectations. The customer may be angry because of previous experiences, previous contacts with your company or simply because the problem occurred at a very inconvenient time in the customer schedule.

Regardless of the circumstances, acknowledge the customer has the privilege to be irate. Listen carefully to how the anger is expressed so you can find the root cause of the emotion.

2. Listen to emotion without emotion

Listen to the inflections and emphasis that the customer places on specific topics to identify the emotional catalyst. Listen to the emotion as well as the words. This will help you to identify the specific item or items that need primary attention.

Resolving a technical issue may be only partially effective if it does not also address the customer emotional concerns. It may not be possible to completely resolve the emotional distress, but it is appropriate to acknowledge it.

Imagine that a customer experienced a technical malfunction when downloading digital images of a special event, wedding or family vacation. The technical issue may be related to hardware or software, but the emotional distress is related to the risk of losing precious memories.

While it is necessary to correct the technical issue, it is also appropriate to acknowledge the risks that create the emotional response. Try to preserve the precious memories or at least explain why they can not be retrieved, but do not ignore the emotional catalyst.

Do not respond with emotion. Remember that the customer anger is not directed at you personally, even if the customer language is directed at you.

If the customer language is attacking and borderline abusive, it is because the customer is looking for acknowledgement and response to the emotional distress as well as the technical or administrative issues. It may be necessary to repeatedly acknowledge the customer emotion to diffuse the situation and reassure the customer that you are attentive to the importance of the emotional distress as well as the technical issue.

3. Be patient

Customer conversations come in waves. When the customer is at the peak of expressing anger, sorrow or distress, be patient and listen. It is not effective to interrupt the customer when he or she is venting combustible sentiments. It is like pouring gasoline on a raging fire. Rather, wait for the waves of emotion to recede and then use that opportunity to interject with reassuring comments.

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Sometime the customer anger will erupt and return like another set of waves. When that happens, be patient and wait for the customer to run out of gas before you approach the fire again. Reiterate your compassion, acknowledge the customer right to be angry and the catalyst for the emotional distress. Takes quiet deep breaths and wait patiently for your turn to speak.

4. Speak softly

If you encounter a loud and abusive customer, respond by speaking softly and with a very steady tone. If you try to shout over the customer or interrupt, then the customer will concentrate on the verbal battle for attention and will not pay attention to the importance of your message.

If you want your message to be heard, wait for a pause in the customer tirade. Silence is your golden cue that it is time to speak your important message in a soft voice. Eventually the customer will have to lower his or her voice to hear what you are saying.

Even though it may seem that the customer does not care about what you have to say at first, remember that the customer approached you for resolution. The customer may have built up a considerable amount of emotion before reaching you, but ultimately the customer does want your advice and assistance to resolve the problem. Once the customer remembers why he or she contacted you, the customer will be receptive to your soft spoken conversation.

5. Reiterate

Make sure that you are addressing the technical, administrative and emotional aspects of the customer concerns. After you have listened carefully to the customer, reiterate the priorities that you believe that you heard from the customer perspective. This will assure that you are focused on the appropriate issues and reassure the customer that you are concentrating on the proper priorities.

Use a soft, firm and inquisitive voice. Ask the customer to confirm that you have restated the facts and priorities accurately, then write them down.

6. Own the problem

It does not matter who created the problem or what transpired before the customer got to you. Tell the customer that you own the problem and will apply your personal effort to achieve results.

Sometimes it may be tempting to distance yourself from the problem by stating that you are not responsible for it, that another department will need to handle it, or that you are just a messenger. Put that temptation in a can and put a lid on it.

Expressing that you do not have ownership of the problem or the potential resolution gives the customer a feeling of being adrift and powerless. If the customer senses that he or she is communicating with someone who is powerless, it will create yet another reason to be frustrated and angry.

Even if you do need to work with other departments, get manager approval or coordinate some other type of response, inform the customer that you will personally take the matter into your own hands and follow-up on the issues. The customer does not know your company, your policies or your procedures. The customer will never be able to navigate the requirements, restrictions or resolution with the same knowledge and experience as you.

Reassure the customer that you will use your knowledge and experience to coordinate the best possible resolution, even if you need to get the assistance of other parties to achieve it.

7. Place the customer first, problem second

In most cases there are two conflicting issues that occur simultaneously when dealing with irate customers. There first issue is the customer emotional distress. The second is the technical or administrative issue that caused the emotional distress. While it may seem logical to focus first on the technical or administrative issue that cause the emotional distress, it is important to acknowledge the customer anger first and the technical issue second.

Resolving the technical issue may or may not fully resolve the root cause of the customer distress. Acknowledge the customer concerns first and try to calm down the customer enough to help you concentrate on the technical or administrative problems.

Sometimes the technical problem may require much more attention because it may impact other customers. Acknowledge the individual customer emotion first, resolve the specific customer technical issue second and reserve addressing any bigger issues as independent activity.

8. Triage

Once you have an opportunity to focus on technical and administrative issues, triage the root cause of the problems to determine what went wrong. Analyze the problem and provide corrective measures or detailed information in an effort to avoid duplicating the problem with other customers. It may be necessary to obtain some additional information from your customer to accurately analyze the root cause of the problem.

9. Correct the issue

Correct the issue for the specific customer and also look for long term corrective measures. It may not be feasible to give your customer a guarantee that the correction will resolve all problems permanently, but it may be appropriate to reassure the customer that you will be available to assist in the event that another different problem should occur again. Demonstrate your confidence that this specific problem is resolved and is not expected to reoccur. Demonstrate your attention to the specific customer by reiterating original concerns and actions that you took to correct the issue.

10. Follow up

When possible, follow-up with the customer after sufficient time has elapsed to demonstrate that the corrective action has been effective. A phone call or a personalized postcard demonstrates individual attention and acknowledgement.

Demonstrating compassion and attentiveness thirty days after a problem has been resolved is a powerful message to show that you really do care about the individual customer. This follow-up after the anger has subsided and the corrective action has been demonstrated as effective may be enough to retain loyal customers and earn a few new ones.

How soon is "as soon as possible"?

Somewhere on what seems like page 666 you will find the following:

"We recommend that you check the popular topics below prior to contacting Technical Support. If you could not find your desired answer, please contact our Technical Support team and we will do our best to help you as soon as possible."

Finally! But no, not yet. Now we had to find sales receipts and enter a bunch of information to prove we'd purchased the product.

Now before I give the zinger, allow me to call your attention again to their wording, *"We will do our best to help you as soon as possible."*

Are you ready? "As soon as possible" for our urgent situation was seven days.

Seven Days.

I don't know about you, but I don't have time to read page after page of tech-speak trying to find an answer to my question. Besides, if I had wanted to become an expert in AVG, I would have gone to school for it.

But apparently I made a mistake. It seems I'm not only supposed to be an expert in my own profession, I now have to read up and become an expert in anti-virus software, too.

How long would *I* stay in business?

In considering this lunacy, I wondered what it would look like if I did customer service the same way as these companies do.

Let's say a software company buys my online learning modules for "the Manager as Trainer." Someone has a question about how to apply the material. They go to my website but find no phone number, only page after page of text describing hundreds of scenarios in which the training might apply. At the top of each page it says,

"We recommend that you check the FAQ section prior to contacting Training Support, as you will often find that your question has already been addressed."

After spending hours sifting through my well-thought out scenarios, they finally give up and send an e-mail. About a week later, I send them a generic message saying I've received their inquiry, and I'll get back to them soon.

How long do you think I'd stay in business?

Exactly.

So why do we keep tolerating this low level of service from others? Well, like I said, no longer will I do so. From this point forward, if I cannot reach a vendor or supplier by phone, or if I do not get a solutions-focused, actually helpful response within one business day, I will find another company for that product or service and I will do business with them instead.

It is high time we stop tolerating such poor customer service and start The Great Boycott of e-mail-only customer service.

Ways to Prevent *Customer From Hell* Experiences

While customers present the issues and challenges, it is most often the way we respond to these issues and challenges that causes customers to become "difficult." This is good news and bad news.

As much as we'd like to point a finger at our customers, the fingers often end up pointing back at us

The bad news is that, as much as we would like to point our fingers at our customers, the fingers often end up pointing back at us. The good news is that it means a lot, if not most, customer conflict is avoidable.

Here are three things you can do to prevent situations from escalating into conflict:

1. Set expectations

Gerard King and Gus Geursen, in their research (*A System Dynamics Investigation Of The Linkage Between Customer Satisfaction And Firm Profitability*), illustrated how important it is to manage the expectations of your customers. They found that managing and meeting customers' expectations is more important to customer satisfaction than the actual quantity and quality we deliver.

This means, for example, that you shouldn't say to a customer, *"I'll get this done right away,"* because your customer and you may have different expectations of what 'right away' means.

Instead, set your customer's expectations by being specific; ie: *"I'll have this done for you by the end of the day."* Then make sure you deliver!

2. Listen

A couple of issues ago, *Winning at Work* focused on "The Art of Listening." Nowhere is this more important than when trying to prevent conflict.

A huge hot button for customers is when they perceive they aren't being listened to.

3. Communicate how important they are

One of the most common triggers for conflict is when a customer begins to believe that you just don't care about them.

It's important that you verbalize how important they are with statements such as, *"I want to get this right for you," "You're an important customer for us," "Let's figure out how to make this work,"* etc.

There are, of course, many other conflict prevention strategies available to us, but these are three of the most powerful. Good luck with them!

How to lose a customer in two Steps or less

It's a universal given that when we shop somewhere we'd like to be treated with respect. When our shopping experience is negative, statistics show it takes only two such incidents and we're likely to shop elsewhere.

The real question is how many customers have you lost due to customer service blunders?

In a survey of more than 2,000 consumers in the U.S and the U.K., nearly half (49 percent) said poor service led them to change service providers in at least one industry over the past year. This according to 2005 survey results appearing in CRM Today.

If the experiences listed below seem familiar, you can see why people make changes.

Poor customer service: case

The dry cleaner near my house advertises that if you bring your clothes in by 9:00 AM they can have them ready for you by 5:00 PM that same day. But when I arrive at 8:30 in the morning and ask for my clothes to be ready that evening, I'm often the recipient of a prolonged sigh, followed by an obligatory "okay."

Heck, if same day service is such a burden, don't advertise it.

Poor customer service: case

A well-known bulk-discount chain store offers special buys on clothing and electronics and stocks large-size containers of food for bargain prices. You have to pay to become a member. A friend of mine says the person signing up new members is friendly enough, but after you're a member, 95% of the employees appear burdened to have to serve you.

Poor customer service: case

A colleague tells about visiting a computer / peripheral equipment store, and that when he's made purchases there (always spending more than $200 per visit), the help behind the counter acts like it's a huge chore to take his money and put his purchases in a bag—if they even bother to offer to bag his purchase at all.

During one visit he even commented: "Hey, I just spent $260 here, could you at least show a little appreciation?"

The result of these experiences? I now drive two miles out of my way to a different dry cleaner, my friend never renewed her membership at that club store, and my colleague has found a different place to shop for computer and printer needs.

Each place of business was given at least two chances, but repeated failures in the customer service arena resulted in losing us as customers.

The fed-up consumer

In another survey, this one conducted in the U.S. by am docs, a provider of customer relationship software, 1,000 U.S. consumers were asked about shopping experiences across a wide variety of industries. Results indicate that consumers "will not take it anymore" when it comes to receiving poor service:

- More than 75 percent said they would hang up after waiting on hold for longer than five minutes.
- More than 80 percent would rather visit the dentist, pay their taxes, or sit in a traffic jam than deal with an unhelpful representative.
- 75 percent said that they tell friends and family about their negative experiences.
- 85 percent reported that negative customer service experiences drive them to switch providers.

With stats like this, it's crucial that anyone having contact with customers (and this goes for internal customers, too) be trained to bathe their patrons with good service and an attitude of appreciation.

Furthermore, treating customers adequately may no longer be enough. Recent research appearing in the *California Management Review* indicates that satisfied customers will return to do business with you 28 percent of the time—but that delighted customers will return 85 percent of the time.

With those numbers, it only makes sense to provide outstanding customer service!

Step 1 for losing a customer

The first step toward losing customers is placing people in customer service positions without providing much in the way of training. These people represent your company! If they don't do it well, whatever money you think you're saving by not training them is being lost many times over with dissatisfied customers slipping away—and taking their money with them.

To prevent losing customers, train service reps on listening to customers and identifying needs as well as acceptable solutions. Think how frustrating it is to deal with a customer service rep who knows very little about the products or service he or she is representing, let alone display an attitude that they don't care about your problem.

Step 2 for losing a customer

Another way to lose customers is provide no feedback to employees on how they're perceived by customers.

One way to raise awareness of good (or bad) customer service in your company is by using a "mystery shopper." The trick here is not to rely on face-to-face shopping. These days, good mystery shopper programs can also evaluate customer service provided on phone calls and through email.

Bottom line: Poor service can quickly lead to lost business. Raising awareness of good customer service among all employees helps keep the customers coming back.

What to do when you can't say yes

As much as you want to please your customers, there will be occasions when it's just not possible - or practical - to accede to their requests. But just as saying "yes" won't always, of itself, keep your clients happy, a refusal doesn't have to mean that they're lost to your business either. It all depends on your creativity and flexibility.

One of the most negative situations one can create with a customer is to say "no." In general, people hate to be told "no." It starts when we are little kids and our parents constantly scream "NO!" at us.

But sometimes saying "no" is unavoidable. In Karen Leland & Keith Bailey's excellent book, *Customer Service for Dummies*, they cover a number of reasons you would have to say "no."

Let's cover some major reasons why we would have to say "no," and what we can or cannot do about them.

It is the law

Sometimes you are asked to do something and agreeing to do it would break a law. This one is simple. Most customers should be comfortable with the reason.

It is company policy

I hate being told someone can't do something because of "company policy."

One Saturday evening my wife and I ventured to a restaurant known for great food at reasonable prices. I decided to try the pork special, which included potatoes and vegetables. I asked what the vegetables were. The waitress told me string beans and corn. Well, I love corn, but hate string beans, and I asked if I could have extra corn instead of the string beans. The waitress said they do not substitute.

So, I asked her just to leave the string beans off. She told me she couldn't do that either. I asked why. She said it was their policy. I told her that at McDonalds if I don't want a pickle, they leave off the pickle.

She looked at me like I was nuts! The dinner came with the string beans and we never went back.

We're out of it!

A company can be out of a part. The book store can be out of a best selling book. A movie theater can be sold out of seats. It is all the same. You have to tell the customer you don't have any more.

So, what do we do? Let's take a lesson from Nordstrom's.

Legend has it that a customer wanted something that Nordstrom's was out of. The employee asked the customer to come back in fifteen minutes. Meanwhile the employee ran to another store in the mall, paid retail for the item and brought it back to Nordstrom's where it was sold to the customer as if Nordstrom's had the item all along.

Great solution when you can do it, but sometimes it is not that easy. One of my retail clients will actually send the customer to the competition, but not before they call the store and have it held in their customers name.

Most of the time the customers are appreciative, seeing that the store is more interested in taking care of the customer than making sale. In the long term, the store gains the customer's s loyalty and trust.

Sometimes you just have to resort to telling the customer when the item will be back in stock. Just make sure you honor your promise. If you say it will be in next Tuesday, it had better be in.

It just can't be done!

Sometimes a customer wants something that just can’t be done or is impossible to get. It is that simple.

Your goal should be to educate the customer why you can’t get them what they want. However, if you are really good, you could try to help find it somewhere else, or maybe find a replacement.

Yes isn't good enough…

Sometimes giving the customer what he/she wants doesn’t ensure the customer will be happy with you.

I remember pulling into a parking lot which had some open spaces I could see from the street only to be told they were full. I argued that I saw open spots. The attendant argued that there weren’t any. He refused to look, even though I told them exactly where they were.

After five minutes of arguing, he finally agreed to look. Sure enough he saw the spaces I had seen from the street.

He angrily waved me in. Even though I got my parking space, I was mad. He "gave in", but he did it too late.

Saying "no isn’t so bad…

No, it *might* not be so bad. One day I went into one of my favorite places, Baskin Robbins, the well known ice cream parlor. I was excited to order my favorite flavor, Quarterback Crunch. To my disappointment, they were out of that flavor.

The girl dishing out the ice cream told me what her favorite flavor was and asked if I wanted to try it. I did and guess what? I now have a new favorite flavor!

Substitution is a viable alternative to many situations. Sometimes it may be obvious, while other times you may have to take a creative approach. With the right attitude, you may find that saying “no” is an opportunity to show how good you are.

So the next time you are forced to say "no" to a customer or client, think of the above. Delivering great service and creating Moments of Magic have always included common sense thinking and flexibility.

The Dangerous Customer

What is a dangerous customer? It is not necessarily a customer that is threatening you with a knife or a gun. (That is not just a dangerous customer, but a dangerous person.) What we are discussing in thisarticle is the customer that puts you into the “danger zone” of lost business.

We aren't talking about customers who have a complaint about you and choose to tell everyone they know. We are talking about that potentially very dangerous type of customer, a *satisfied* customer.

First words make (or break)first impressions

If your job is to receive customers, you only have second or two to work with before an irrevocable impression is registered on the client's mind. The right choice of words will ensure that it's a great one.

Isn't it frustrating when those are the first words that come out of a front line employee's mouth? As if they didn't want to take the time, or couldn't care less about offering a friendly, approachable greeting to the customer.

Meanwhile, the next guy waiting in line thinks to himself, *"Gee, thanks for the warm welcome. Nice first impression."*

Customer service skills that make a big difference

How to build the rapport that leads to success in any business relationship

People part with their money for two reasons. One, you can solve a problem for them. Two, because you make them feel good in the process.

Look at it this way. It's hard to quickly evaluate the expertise of a new dentist. But you immediately know which one makes you feel more comfortable.

You can take lessons from a highly qualified ski instructor. But if his silence makes you feel awkward while riding the chair lift together, you'll switch instructors.

When Super K-Mart and Target carry the same items at about the same prices and they're located close together, where do you buy? You choose the store where the returns are simpler, the people are friendlier, and the appearance is cleaner where you are made to feel more welcome.

The "feel good" factor underlies every aspect of life. Even in the area of parent-teacher conferences, if your child's teacher delivers negative feedback in a way that shows empathy, not harshness, you're more likely to support the next vote to increase taxes for schools.

In June 2003 story, *USA Today* reported that basketball legend Kareem Abdul Jabbar struggles to be considered for NBA and college coaching positions.

Apparently, he's perceived as aloof. A problem because coaching is a combination of building rapport with players, the community, alumni, athletic directors, sponsors and business executives. My best guess is that Mr. Abdul Jabbar is shy or ill at ease with people he does not know well.

Similarly, in the corporate world, if you want a promotion but come across as aloof or reserved, you'll be overlooked in favor of someone who has warm "people skills" - someone who makes others feel good about being around them.

Here's how to build rapport that leads to success in every business relationship.

Use small talk as a picture frame around business conversations

Begin and end with small talk before and after making a presentation to a client, selling a widget, negotiating a contract, providing a service or conferencing with your child's teacher. A study conducted with physicians showed those who spend a few minutes asking patients about their family, their work or what summer plans they have before and/or after an examination are less likely to be sued than those who don't.

Let's face it. People don't sue people they care about. And we care about people who show they care about us.

Express empathy

Everyone is entitled to be listened to, even when in the wrong.

Consider the client who sees the stock market rise 30% but not his own portfolio. The stockbroker knows the client insisted on picking the stocks himself, but it would be a mistake to make the client "wrong".

It's better to say, "I realize it's frustrating to experience this. What can we do from here?" That goes a long way to diffusing negative emotions and helping the client feel better about this relationship -- rather than be tempted to move on to another stockbroker.

Greet people warmly, give eye contact and smile

Be the first to say hello. Be careful, you might be viewed as a snob if you are not the first to say hello.

People often go back to their favorite restaurants because the host greets them with a sincere smile, looks at them directly, and welcomes them with warmth. My husband and I go to our favorite restaurant Carmine's on Penn--and bring our friends there, too--because the wait staff, the host/hostess and the door and even the owner take the time to make us feel extra special.

Use the person's name in conversation

You are more likely to get special treatment by using the person's name you are talking with. When you call to clarify a credit card billing, for example, say, "Joe, thanks for taking the time to help me with this question." That makes Joe feel his role is important.

If you don't know someone's name, take a moment to ask, and then repeat it. Be sure to pronounce it correctly. And never presume your conversation partner has a nickname. My name is Debra, not Debbie. I don't feel good when people call me Debbie. It's a little thing that has big importance.

Show an interest in others

In response to our high tech environment filled with e-mail and fax broadcasts, we need high touch more than ever. That's what you create when you show an interest in the lives of your customers/clients/patients every chance you get.

Dig deeper

When you engage in a conversation, don't leave it too quickly.

If your customer/client/patient mentions her vacation, pick up on the cue and dig deeper. Ask where she went, what she did, what was the highlight, if she would go back.

You'll make her feel good about her life and about taking time with you. Always follow up a question like "How's work?" with "What's been going on at work since the last time we spoke?" This way they know you really want to hear about what is going on with work.

Be a good listener

That means making eye contact and responding with verbal cues to show you hear what the speaker says. Verbal cues include these phrases: tell me more; what happened first, what happened next, that must have been difficult, and so on. Using them makes people feel actively listened to.

Stop being an advisor

When you mention a problem you might be having with an employee or an associate, do people offer advice without asking any questions? Have you ever put together a resume and, as soon as you sent it out, someone told you it was too long or too short or too detailed or not detailed enough?

Jumping in with unsolicited advice happens annoyingly often. Instead of advice, give understanding with simple phrases like: "I know you can work out a solution" or "I hope the job hunt goes well for you." Offer advice only when you are specifically asked for it.

An example I experienced in my business really makes my point about the "feel good" factor. I wanted to find a good print shop near my home and walked into one near the busiest post office in our state. I was greeted with a sign that read: *"Lack of preparation on your part does not constitute an emergency on my part."* I thought how many people would zip into this shop for a few photocopies before mailing off an important package? I doubt they would feel welcome here.

I then visited a printing shop across the street. Two colorful signs posted there made my day. One featured a cactus and said, *"Stuck? We'll help you out in a prickly situation."* The other showing a pot of jam said: *"In a jam? We'll help you out of a sticky situation."*

You can guess which printer made me feel better about forming a business relationship.

Whether you want to land a new job, enhance your practice, gain listings, increase your billable hours, bring new people into your business, or make sure people remember you with referrals - pay attention to the "feel good" factor. And enjoy the success that follows.

The quality of everyday language used in business is on the decline. We are often unaware of the impact that our words have on our customers.

When we use language that is negative or abrupt, we create communication barriers that will frustrate and offend people.

Negative language can quickly destroy even the strongest business relationships.

Below are four types of phrases that most people find irritating and some guidelines for changing them from negative to positive phrases:

Giving orders to your customers

Rather than:
"You have to..."
"You must..."

Use:
"If you will ____, then I can..."
"In order to ____, we need..."

Focusing on what you *can't* do instead of what you *can* do

Rather than:
"I can't do that..."
"We don't do that..."
"You can't..."

Use:
"Here is what I can do for you."

"Let's see what we can do."
"Here is what you can do..."

Criticizing or blaming your customer

Rather than:
"You should have..."
"You never..."
"You failed to..."

Use:
"Here's how we can resolve this..."
"Often..."
"We did not receive..."

Appearing not knowledgeable or unwilling to help

Rather than:
"I don't know."

Use:
"I'll be happy to check on that for you."
"Let me find out for you."

The ability to recognize and change your negative language into positive phrases will provide you with excellent tools to build lasting customer relationships.

It takes integrity and practice to master positive communication skills. But when you do, you will see immediate results in the delighted responses of your co-workers and customers.

So you also hate public speaking?

OK, we'll come straight...this one's not meant to be taken too seriously, but apart from giving you a jolly good laugh, it might put you in a more receptive mood for the more serious stuff below - especially if, somehow you recognize yourself here! *...My stomach's not quite right...when I stand up to speak I'm paralyzed with fright.."* laments Barbara Mcafee in this ditty she both wrote and sings especially for the consulting firm, Spoken Impact. So you see, you're not alone. No way!

...But your speaking skills are better than you think!

If you do see yourself in the top video, this one could be the perfect antidote, because trainer Robert Graham insists you are always better than you think! Robert offers here some fundamentals of successful public speaking. Among the topics he touches on are the importance of viewing your speech as a series of "small conversations", the correct use of the hands and gestures and how to avoid "verbal crutches" and negative body language.

Use Powerpoint, but please, *not* like this!

"Hey, what gives here?", you'll ask when you turn up the sound on this little presentation, "Isn't this also a comedy routine?" Indeed it is! But while you might find Don Macmillan (probably the only professional comedian with a background in hi-tech) hilarious, the lessons he teaches here are dead serious. In his inimitable style, Don points out and explains the all too common mistakes people make when preparing and delivering presentations with the aid of Powerpoint. If you can't stop chuckling on the way, well, why not?

How to Be Persuasive

Successfully persuading others to adopt your point of view is a matter of neither magic nor luck. It's a skill and like any sill, improvement takes know-how, opportunity, and practice. These pointers will help you strengthen your persuasion skills.

When I ask audience members who of them would like to be more persuasive, hands shoot up. Yet, many people approach persuasion in a way that undermines their chance of success; in the process, they succeed only at being unpersuasive.

I recall, for example, the project manager whose hotheadedness led customers to discount even her most astute ideas. And the developer who pooh-poohed everyone else's needs, yet wanted them to rally around his own. And the IT director who was such a relentless talkaholic that people took circuitous routes around the floor to avoid him.

Make no mistake: The starting point in being persuasive is to build trust and credibility so that when you seek to persuade, people will give you a fair hearing. You can then draw from the following suggestions to successfully prepare and present your case.

Choose your cases wisely

If you repeatedly try to gain buy-in for things that are exceedingly unlikely, blatantly unrealistic, or technically impossible, you risk creating a cry-wolf reaction in those you're trying to persuade. Once that happens, they won't take you seriously when you have a legitimate matter to put forward.

Still, sometimes it's worth a shot. One project manager, Cliff, summoned the courage to ask his boss for a three-month leave to pursue some personal goals. Cliff was so sure the answer would be "Are you out of your mind?" that he almost didn't hear his boss say, "OK, let's find a way to make this happen."

Be specific about your desired outcome

If, for example, you'd like more (of whatever), be precise. Two additional testers or twelve? Five new laptops or fifteen? An extra week or two months? And explain why. Most people want to know the "why" behind the "what."

To support your proposal, gather as much relevant data as you can. This will show you've given the matter serious thought and are not just acting on a whim. The fact that you've done your homework gives you a distinct advantage over those who demand, plead, or whine in hopes of being persuasive.

Do for others before asking them to do it for you!

According to the reciprocity principle, people feel obligated to give back when a favor—even an unrequested favor—has been done for them.

This principle has chilling implications when applied for nefarious purposes. But what could be better than providing genuine value to others as a consistent practice? Then, when you seek their support for something that's important to you, they may be more inclined to give it.

Focus on issues pertinent to those you want to persuade

How will they benefit from your desired outcome? What issues could make it difficult for them to honor your request? What objections might they have and how can you counter these objections?

Consider, also, what these people emphasize when they seek to persuade. If, for example, they stress facts and figures, strive to do the same. If they focus on how people—or productivity, deadlines, etc.—will be affected, orient your key points accordingly. The more your own case meshes with what matters to these people, the better your chances of winning them over.

Persuade professionally

Compelling though your case may be, sputtering and stammering will weaken its impact. Too many "ums" and "uhs" won't help either, nor will staring at the ceiling in hopes of sudden inspiration once you're on the spot. </P

If you'll be making your case in spoken form, practice it as if you're giving a presentation be in written form, make it articulate. A typo-laden email message may be fine for trivial communications, but if you want to be persuasive about important matters, a polished, professional-looking write-up will carry more weight.

Pay attention to timing

Teammates who slave over buggy code all weekend may be too bleary-eyed on Monday to care what you want. Your manager may not be sympathetic to your ideas after going a few rounds with a demanding, scope-expanding customer. Some people can't focus before their first (or fifth) cup of coffee. So don’t just pop into the other party's office or cubicle when the mood strikes you and assume you'll get undivided (or even fractional) attention.

I recall a fellow named Hank who was so eager to present his Great Idea to his boss, Chuck, that he confronted Chuck at 8 a.m. on Chuck's first day back from vacation. Not only did Chuck have emails overflowing his inboxes, but his own manager had graciously welcomed him back with a crisis. Did Chuck pay attention to Hank's idea? Not a chance.

Don't expect an instantaneous *'yes'*

It might not be a stretch to persuade a coworker to change today's lunch date to tomorrow. But making a pitch for something big, such as the adoption of agile methods, is unlikely to get an immediate "Sure, why not?" (Wouldn't that be wonderful?) </P

Getting buy-in for something that entails a major change usually takes patience and quiet persistence. Let the idea seep in. Show how other organizations or teams have benefited. Find credible allies who can add clout to your case. Suggest ways to start small and with minimal risk. Give it time. Building your case slowly and steadily will improve your odds of success.

if the answer is *'no'*, learn from the rejection

If you get turned down, accept the decision gracefully. Arguing and "yes, but"-ing will simply peg you as a nuisance, making it even harder to succeed next time around.

Instead, request an explanation and then do your own personal retrospective. Ask yourself: Do I still think my proposal was realistic and reasonable? Did I package my idea appropriately? What should I do differently next time around?

Savor the unexpected *"Go for it!'*

Back when I was an IT manager, there was some expensive hardware my staff and I yearned for that the director would need to fund. To get his go-ahead, we prepared a compellingly persuasive presentation and demo. At the appointed time, the director showed up, took one look at the product, and said, "Buy it!" We did. No complaints!

Are Women Being Heard?

What Men and Women Can Learn From Each Other About Giving Presentations

Only 8 Fortune 500 companies are run by women, and a total of 16 Fortune 1000 companies have women in the top job.

Michael Kinsman of the San Diego Union-Tribune reports that women hold just 15.7 percent of top management jobs in Fortune 500 companies.

There are many reasons, theories and opinions as to why women still lag behind men in the top jobs.

But what happens in conference rooms and at company-wide meetings? When women speak, are they being heard?

Some women don't think so.

Several women I recently spoke with are in the scientific field, a field dominated by men. They felt that their biggest challenge was being heard and that sometimes the same information presented by a man to the same audience would be heard and listened to with more respect and perceived credibility.

Well, it seems that both women and men can learn from each other when it comes to giving presentations.

Dave Zielinski in the May 2004 issue of *Presentations Magazine* explored the subject in depth in his article *From the Playground to the Podium: What Men and Women Can Learn from Each Other*.

I'd like to share with you Dave's conclusions and my thoughts on what men and women can learn from each other in the presenting arena.

What women can learn from men

1. Quash the qualifiers

Dave: Women often soften their statements by qualifiers such as *I sort of thought*,or *in my opinion* or *this might be a better way*. Compare these statements: *In my opinion, the project will work better if we bid separately* versus *The project will work better if we bid separately*. The latter is more powerful.

Dana: Please remove the word *like* from your vocabulary in inappropriate places. For example: *The real estate market in this area has appreciated like 25 percent in the last year* versus *The real estate market in this area has appreciated 25 percent in the last year*.

2. Go by the numbers

Dave: When organizing a message, many men like to announce a number before each point: *Point 1 is X, Point 2 is Y, Point 3 is Z*. This isn't always good in personal conversation, but it works well in presentation settings where audiences have less patience for rambling or digression.

Dana: This is a great tactic for keeping both the presenter and the audience on track. It also helps in the development of a presentation to prioritize and organize your information.

3. Accessorize minimally

Dave: Because women have more clothing options than men, the odds are greater they'll make apparel decisions that distract an audience. Presentation coaches suggest simple but classy attire and the minimal accessorizing.

Dana: Remember you want to keep your apparel a step up from your audience. If you are being brought in as a subject matter expert, be sure to look the part. Audiences make very quick judgments on your credibility from your appearance alone.

4. Grab authority and keep it

Dave: Whether it's true or not, many men seem more comfortable with authority than women. Women who want to be perceived as more authoritative should minimize the factors that undermine authority—digression, indecisiveness, equivocation—and learn to be assertive in a way that radiates confidence.

Dana: Speak clearly, directly and project confidence with your voice. If you believe and know that what you have to say is important, your audience will too.

What Men Can Learn From Women

1. Temper the talking head

Dave: Replace the monologue with dialogue. Energize the audience by asking questions, getting feedback, have a conversation with the audience; don't lecture.

Dana: Change the dynamic every few minutes – go from telling a story, to having interaction, to showing visuals – keep it moving.

2. Use inclusive language

Dave: Women tend to use words such as *we*, *our* and *us*, while men tend to say *I*, *me* and *mine* more often. Check your ego at the door and get better results!

Dana: Also remember to be inclusive by making eye contact around the room, one person at a time.

3. Cater to the audience

Dave: Men more often present from their own perspective of what they think the audience should know, rather than thoroughly researching what the audience wants to learn or hear. Men are also slower to shift gears if they sense they are losing an audience.

Women, it seems, are better at accurately gauging the emotional temperature and interest level of a room.

4. Emote every now and then

Dave: No matter how the genders evolve, females will probably always be more comfortable expressing their emotions than males. But times have changed for men. Crybabies aren't exactly in vogue, but displaying honest emotions is now associated more with inner strength than with weakness.

Some of the important qualities for a leader are If you can tap into the emotions of your audience you will always have a better connection – speak to their hearts and minds.

5. Don't drone

Dave: Whether it's to avoid showing emotion or seeming too enthusiastic about something, men are the champions of vocal monotony in the presentation world. The answer isn't to talk more like a woman, but the least you can do is be a less boring man.

Dana: We all want to hear speakers who are passionate and enthusiastic about what they present. I'm not suggesting that men become cheerleaders, but a little enthusiasm, a smile and some energy in the voice will do wonders.

See if this helps: Imagine a recent sports game you attended and think about what you would tell your best friend about the game. I bet you'd have some enthusiasm and energy in your voice.

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Course Name	: Organizational Theory and Management

Course description
The Course deals with organizational theories of management, details with motivation aspects of employees in organizational settings, rational planning model, personality theories, organizational structure, organizational culture, as well as organizational development and its interventions.

Course objectives
- To build the students capacity in becoming motivated employees at their work places after school.
- To educate students with the various issues that may affect the organizational development.
- To provide skills of understanding organizational structures& culture on performance management.
- To transfer basic knowledge of management to students.

Course content
Introduction
- Definition of organizational theory
- History of organizational management
- Specific contribution of different scholars to organizational development
- Methods used in organizational studies

Theories and models of Organizational Management
- Scientific Management
- Rational decision making Model
- Mintzberg's managerial roles

Motivation in Organizations
There are many different motivation theories that include
Attribution theory
Equity theory
Maslow's hierarchy of needs
Incentive theory
Model of emotional labor in organizations
Frederick Hertzberg two-factor theory
Their criticisms and relevance to organizational performance

Rational planning model
- Definition of the model
- Method of verifying the problem
- Its requirements and limitations
- The bounded rational decision making model: a realistic approach
- Assumptions of the bounded rational decision making model

Personality traits theories
- The Big five personality traits these include; Openness, conscientiousness, extraversion, agreeableness, neuroticism.
- Implications of the theories to the organizational development, management & performance.
- Criticisms of the theories.

Organizational structure

- Definition of organizational structure
- Common success criteria for organizational structures
- Forms of Organizational structures

Organizational Development (OD)

- Definition of organizational development
- Overview of organizational development
- Different concepts used in OD
- OD interventions

Organizational Culture

- Definition of organizational culture
- Types of organizational cultures
- Elements used to describe organizational culture
- Organizational communication perspective on culture

Mode of delivery Face to face lectures

Assessment
Coursework 40%
Exams 60%
Total Mark 100%

Organizational studies, **organizational behavior**, and **organizational theory** is the systematic study and careful application of knowledge about how people - as individuals and as groups - act within organizations. Organizational Behaviour studies encompasses the study of organizations from multiple viewpoints, methods, and levels of analysis. For instance, one divides these multiple viewpoints into three perspectives: modern, symbolic, and postmodern. Another traditional distinction, present especially in American academia, is between the study of "micro" organizational behavior -- which refers to individual and group dynamics in an organizational setting -- and "macro" organizational theory which studies whole organizations, how they adapt, and the strategies and structures that guide them. To this distinction, some scholars have added an interest in "meso" -- primarily interested in power, culture, and the networks of individuals and units in organizations -- and "field" level analysis which study how whole populations of organizations interact. In Europe these distinctions do exist as well, but are more rarely reflected in departmental divisions.

Whenever people interact in organizations, many factors come into play. Modern organizational studies attempt to understand and model these factors. Like all modernist social sciences, organizational studies seek to control, predict, and explain. There is some controversy over the ethics of controlling workers' behavior. As such, organizational behavior or OB (and its cousin, Industrial psychology) have at times been accused of being the scientific tool of the powerful] Those accusations notwithstanding, OB can play a major role in organizational development and success.

One of the main goal of organizational theorists is, according ot Simms (1994) is "to revitalize organizational theory and develop a better conceptualization of organizational life."An organizational theorist should carefully consider levels assumptions being made in theory, and is concerned to help managers and administrators.

History

The Greek philosopher Plato wrote about the essence of leadership. Aristotle addressed the topic of persuasive communication. The writings of 16th century Italian philosopher Niccolò Machiavelli laid the foundation for contemporary work on organizational power and politics. In 1776, Adam Smith advocated a new form of organizational structure based on the division of labour. One hundred years later, German sociologist Max Weber wrote about rational organizations and initiated discussion of charismatic leadership. Soon after, Frederick Winslow Taylor introduced the systematic use of goal setting and rewards to motivate employees. In the 1920s, Australian-born Harvard professor Elton Mayo and his colleagues conducted productivity studies at Western Electric's Hawthorne plant in the United States.

Though it traces its roots back to Max Weber and earlier, organizational studies is generally considered to have begun as an academic discipline with the advent of scientific management in the 1890s, with Taylorism representing the peak of this movement. Proponents of scientific management held that rationalizing the organization with precise sets of instructions and time-motion studies would lead to increased productivity. Studies of different compensation systems were carried out.

After the First World War, the focus of organizational studies shifted to analysis of how human factors and psychology affected organizations, a transformation propelled by the identification of the Hawthorne Effect. This Human Relations Movement focused on teams, motivation, and the actualization of the goals of individuals within organizations.

Prominent early scholars included Chester Barnard, Henri Fayol, Frederick Herzberg, Abraham Maslow, David McClelland, and Victor Vroom.

The Second World War further shifted the field, as the invention of large-scale logistics and operations research led to a renewed interest in rationalist approaches to the study of organizations. Interest grew in theory and methods native to the sciences, including systems theory, the study of organizations with a complexity theory perspective and complexity strategy. Influential work was done by Herbert Alexander Simon and James G. March and the so-called "Carnegie School" of organizational behavior.

In the 1960s and 1970s, the field was strongly influenced by social psychology and the emphasis in academic study was on quantitative research. An explosion of theorizing, much of it at Stanford University and Carnegie Mellon, produced Bounded Rationality, Informal Organization, Contingency Theory, Resource Dependence, Institutional Theory, and Organizational Ecology theories, among many others.

Starting in the 1980s, cultural explanations of organizations and change became an important part of study. Qualitative methods of study became more acceptable, informed by anthropology, psychology and sociology. A leading scholar was Karl Weick.

Specific Contributions

Frederick Winslow Taylor

Frederick Winslow Taylor (1856-1915) was the first person who attempted to study human behavior at work using a systematic approach. Taylor studied human characteristics, social environment, task, physical environment, capacity, speed, durability, cost and their interaction with each other. His overall objective was to reduce and/or remove human variability. Taylor worked to achieve his goal of making work behaviors stable and predictable so that maximum output could be achieved. He relied strongly upon monetary incentive systems, believing that humans are primarily motivated by money. He faced some strong criticism, including being accused of telling managers to treat workers as machines without minds, but his work was very productive and laid many foundation principles for modern management studies. An enlightening book about the life of Frederick Winslow Taylor and his studies is that by Kanigel (1997).

Elton Mayo

Elton Mayo, an Australian national, headed the Hawthorne Studies at Harvard. In his classic writing in 1931, Human Problems of an Industrial Civilization, he advised managers to deal with emotional needs of employees at work.

Mary Parker Follett

Mary Parker Follett was a pioneer management consultant in the industrial world. As a writer, she provided analyses on workers as having complex combinations of attitude, beliefs, and needs. She told managers to motivate employees on their job performance, a "pull" rather than a "push" strategy.

Douglas McGregor

Douglas McGregor proposed two theories/assumptions, which are very nearly the opposite of each other, about human nature based on his experience as a management consultant. His first theory was “Theory X”, which is pessimistic and negative; and according to McGregor it is how managers traditionally perceive their workers. Then, in order to help managers replace that theory/assumption, he gave “Theory Y” which takes a more modern and positive approach. He believed that managers could achieve more if they start perceiving their employees as self-energized, committed, responsible and creative beings. By means of his Theory Y, he in fact challenged the traditional theorists to adopt a developmental approach to their employees. He also wrote a book, The Human Side of Enterprise, in 1960; this book has become a foundation for the modern view of employees at work.

Current state of the field

Organizational behaviour is currently a growing field. Organizational studies departments generally form part of business schools, although many universities also have industrial psychology and industrial economics programs.

The field is highly influential in the business world with practitioners like Peter Drucker and Peter Senge, who turned the academic research into business practices. Organizational behaviour is becoming more important in the global economy as people with diverse backgrounds and cultural values have to work together effectively and efficiently. It is also under increasing criticism as a field for its ethnocentric and pro-capitalist assumptions (see Critical Management Studies).

During the last 20 years organizational behavior study and practice has developed and expanded through creating integrations with other domains:

- Anthropology became an interesting prism to understanding firms as communities, by introducing concepts like Organizational culture, 'organizational rituals' and 'symbolic acts' enabling new ways to understand organizations as communities.
- Leadership Understanding: the crucial role of leadership at various level of an organization in the process of change management.
- Ethics and their importance as pillars of any vision and one of the most important driving forces in an organization.

Methods used in organizational studies

A variety of methods are used in organizational studies. They include quantitative methods found in other social sciences such as multiple regression, non-parametric statistics, time dependent analysis, and ANOVA. In addition, computer simulation in organizational studies has a long history in organizational studies. Qualitative methods are also used, such as ethnography, which involves direct participant observation, single and multiple case analysis, and other historical methods. In the last fifteen years or so, there has been greater focus on language, metaphors, and organizational storytelling.

Kurt Lewin attended the Macy conferences and is commonly identified as the founder of the movement to study groups scientifically.

The systems framework is also fundamental to organizational theory as organizations are complex dynamic goal-oriented processes. One of the early thinkers in the field was Alexander Bogdanov, who developed his Tectology, a theory widely considered a precursor of Bertalanffy's General Systems Theory, aiming to model and design human organizations. Kurt Lewin was particularly influential in developing the systems perspective within organizational theory and coined the term "systems of ideology", from his frustration with behavioural psychologies that became an obstacle to sustainable work in psychology (see Ash 1992: 198-207). The complexity theory perspective on organizations is another systems view of organizations.

The systems approach to organizations relies heavily upon achieving negative entropy through openness and feedback. A systemic view on organizations is transdisciplinary and integrative. In other words, it transcends the perspectives of individual disciplines, integrating them on the basis of a common "code", or more exactly, on the basis of the formal apparatus provided by systems theory. The systems approach gives primacy to the interrelationships, not to the elements of the system. It is from these dynamic interrelationships that new properties of the system emerge. In recent years, *systems thinking* has been developed to provide techniques for studying systems in holistic ways to supplement traditional reductionistic methods. In this more recent tradition, systems theory in organizational studies is considered by some as a humanistic extension of the natural sciences.

Topic 2;Theories and models of organizational studies

Decision making

- Mintzberg's managerial roles
- Rational Decision-Making Model
- **Scientific management**

Organization structures and dynamics

- Bureaucracy
- Complexity theory and organizations
- Contingency theory
- Hybrid organisation
- Informal Organization

Personality traits theories

- Big Five personality traits
- Holland's Typology of Personality and Congruent Occupations
- Myers-Briggs Type Indicator

Control and stress modelling

- Herzberg's Two factor theory
- Theory X and Theory Y

Motivation in organizations

Motivation the forces either internal or external to a person that arouse enthusiasm and resistance to pursue a certain course of action. According to Baron et al. (2008): "Although motivation is a broad and complex concept, organizational scientists have agreed on its basic characteristics. Drawing from various social sciences, we define motivation as the set of processes that arouse, direct, and maintain human behavior toward attaining some goal"

There are many different motivation theories such as:

- Attribution theory
- Equity theory
- Maslow's hierarchy of needs
- Incentive theory (psychology)
- Model of emotional labor in organizations
- Frederick Herzberg two-factor theory

Theories and models of organizational studies

Topic 2 b;Frederick Winslow Taylor

to improve industrial efficiency. He is regarded as the father of scientific management, and was one of the first management consultants.[1]

Taylor was one of the intellectual leaders of the Efficiency Movement and his ideas, broadly conceived, were highly influential in the Progressive Era.

Scientific management

Taylor believed that the industrial management of his day was amateurish, that management could be formulated as an academic discipline, and that the best results would come from the partnership between a trained and qualified management and a cooperative and innovative workforce. Each side needed the other, and there was no need for trade unions.

Future U.S. Supreme Court justice Louis Brandeis coined the term *scientific management* in the course of his argument for the Eastern Rate Case before the Interstate Commerce Commission in 1910. Brandeis debated that railroads, when governed according to the principles of Taylor, did not need to raise rates to increase wages. Taylor used Brandeis's term in the title of his monograph *The Principles of Scientific Management,* published in 1911. The Eastern Rate Case propelled Taylor's ideas to the forefront of the management agenda. Taylor wrote to Brandeis "I have rarely seen a new movement started with such great momentum as you have given this one." Taylor's approach is also often referred to, as *Taylor's Principles*, or frequently disparagingly, as *Taylorism*. Taylor's scientific management consisted of four principles:

1. Replace rule-of-thumb work methods with methods based on a scientific study of the tasks.
2. Scientifically select, train, and develop each employee rather than passively leaving them to train themselves.
3. Provide "Detailed instruction and supervision of each worker in the performance of that worker's discrete task" (Montgomery 1997: 250).
4. Divide work nearly equally between managers and workers, so that the managers apply scientific management principles to planning the work and the workers actually perform the tasks.

Managers and workers

Taylor had very precise ideas about how to introduce his system:

It is only through *enforced* standardization of methods, *enforced* adoption of the best implements and working conditions, and *enforced* cooperation that this faster work can be assured. And the duty of enforcing the adoption of standards and enforcing this cooperation rests with *management* alone.

Workers were supposed to be incapable of understanding what they were doing. According to Taylor this was true even for rather simple tasks.

'I can say, without the slightest hesitation,' Taylor told a congressional committee, 'that the science of handling pig-iron is so great that the man who is ... physically able to handle pig-iron and is sufficiently phlegmatic and stupid to choose this for his occupation is rarely able to comprehend the science of handling pig-iron.

The introduction of his system was often resented by workers and provoked numerous strikes. The strike at Watertown Arsenal led to the congressional investigation in 1912. Taylor believed the labourer was worthy of his hire, and pay was linked to productivity. His workers were able to earn substantially more than those in similar industries and this earned him enemies among the owners of factories where scientific management was not in use.

Propaganda techniques

Taylor promised to reconcile labor and capital.

With the triumph of scientific management, unions would have nothing left to do, and they would have been cleansed of their most evil feature: the restriction of output. To underscore this idea, Taylor fashioned the myth that 'there has never been a strike of men working under scientific management', trying to give it credibility by constant repetition. In similar fashion he incessantly linked his proposals to shorter hours of work, without bothering to produce evidence of "Taylorized" firms that reduced working hours, and he revised his famous tale of Schmidt carrying pig iron at Bethlehem Steel at least three times, obscuring some aspects of his study and stressing others, so that each successive version made Schmidt's exertions more impressive, more voluntary and more rewarding to him than the last. Unlike [Harrington] Emerson, Taylor was not a charlatan, but his ideological message required the suppression of all evidence of worker's dissent, of coercion, or of any human motives or aspirations other than those his vision of progress could encompass.

Management theory

Taylor thought that by analyzing work, the "One Best Way" to do it would be found. He is most remembered for developing the time and motion study. He would break a job into its component parts and measure each to the hundredth of a minute. One of his most famous studies involved shovels. He noticed that workers used the same shovel for all materials. He determined that the most effective load was 21½ lb, and found or designed shovels that for each material would scoop up that amount. He was generally unsuccessful in getting his concepts applied and was dismissed from

Bethlehem Steel. It was largely through the efforts of his disciples (most notably H.L. Gantt) that industry came to implement his ideas. Nevertheless, the book he wrote after parting company with Bethlehem Steel, *Shop Management*, sold well.

Relations with ASME

Taylor was president of the American Society of Mechanical Engineers (ASME) from 1906 to 1907. While president, he tried to implement his system into the management of the ASME but was met with much resistance. He was only able to reorganize the publications department and then only partially. He also forced out the ASME's long-time secretary, Morris L. Cooke, and replaced him with Calvin W. Rice. His tenure as president was trouble-ridden and marked the beginning of a period of internal dissension within the ASME during the Progressive Age.

In 1912, Taylor collected a number of his articles into a book-length manuscript which he submitted to the ASME for publication. The ASME formed an ad hoc committee to review the text. The committee included Taylor allies such as James Mapes Dodge and Henry R. Towne. The committee delegated the report to the editor of the *American Machinist*, Leon P. Alford. Alford was a critic of the Taylor system and the report was negative. The committee modified the report slightly, but accepted Alford's recommendation not to publish Taylor's book. Taylor angrily withdrew the book and published *Principles* without ASME approval.

Criticism of Taylor

Management theorist Henry Mintzberg is highly critical of Taylor’s methods. Mintzberg states that an obsession with efficiency allows measureable benefits to overshadow less quantifiable social benefits completely, and social values get left behind

Topic 2 c;Henry Mintzberg

Professor **Henry Mintzberg**, OC, OQ, FRSC (born in Montreal, September 2, 1939) is an internationally renowned academic and author on business and management. He is currently the Cleghorn Professor of Management Studies at the Desautels Faculty of Management of McGill University in Montreal, Quebec, Canada, where he has been teaching since 1968, after earning his Master's degree in Management and Ph.D. from the MIT Sloan School of Management in 1965 and 1968 respectively.[1] His undergraduate degree in mechanical engineering was from McGill University. From 1991 to 1999, he was a visiting professor at INSEAD.

Henry Mintzberg writes prolifically on the topics of management and business strategy, with more than 150 articles and fifteen books to his name. His seminal book, *The Rise and Fall of Strategic Planning* (Mintzberg 1994), criticizes some of the practices of strategic planning today.

He recently published a book entitled *Managers Not MBAs* (Mintzberg 2004) which outlines what he believes to be wrong with management education today. Rather controversially, Mintzberg claims that prestigious graduate management schools like Harvard Business School and the Wharton Business School at the University of

Pennsylvania are obsessed with numbers and that their overzealous attempts to make management a science are damaging the discipline of management. Mintzberg advocates more emphasis on post graduate programs that educate practicing managers (rather than students with little real world experience) by relying upon action learning and insights from their own problems and experiences. (See http://www.impm.org/ and http://www.CoachingOurselves.com/)

Ironically, although Professor Mintzberg is quite critical about the strategy consulting business, he has twice won the McKinsey Award for publishing the best article in the Harvard Business Review. Also, he is credited with co-creating the organigraph, which is taught in business schools.[2]

In 1997 he was made an Officer of the Order of Canada. In 1998 he was made an Officer of the National Order of Quebec. He is now a member of the Strategic Management Society.

MIntzberg runs two programs which have been designed to teach his alternative approach to management and strategic planning at McGill University: the International Masters in Practicing Management (I.M.P.M.) in association with the McGill Executive Institute and the International Masters for Health Leadership (I.M.H.L.). With Phil LeNir, he owns CoachingOurselves International, a private company using his alternative approach for management development directly in the workplace.

He is married to Sasha Sadilova and has two children from a previous marriage, Susie and Lisa.

Theory on Organizational Forms

The organizational configurations framework of Mintzberg is a model that describes six valid organizational configurations

1. **Mutual adjustment**,which achieves coordination by the simple process of informal communication (as between two operating employees)
2. **Direct supervision**, is achieved by having one person issue orders or instructions to several others whose work interrelates (as when a boss tells others what is to be done, one step at a time)
3. **Standardization of work processes**, which achieves coordination by specifying the work processes of people carrying out interrelated tasks (those standards usually being developed in the technostructure to be carried out in the operating core, as in the case of the work instructions that come out of time-and-motion studies)
4. **Standardization of outputs**, which achieves coordination by specifying the results of different work (again usually developed in the technostructure, as in a financial plan that specifies subunit performance targets or specifications that outline the dimensions of a product to be produced)
5. **Standardization of skills** (as well as knowledge), in which different work is coordinated by virtue of the related training the workers have received (as in

medical specialists - say a surgeon and an anesthetist in an operating room – responding almost automatically to each other's standardized procedures)
6. **Standardization of norms**, in which it is the norms infusing the work that are controlled, usually for the entire organization, so that everyone functions according to the same set of beliefs (as in a religious order)

According to the organizational configurations model of Mintzberg each organization can consist of a maximum of six basic parts:

1. Strategic Apex (top management)
2. Middle Line (middle management)
3. Operating Core (operations, operational processes)
4. Techno structure (analysts that design systems, processes, etc)
5. Support Staff (support outside of operating workflow)
6. Ideology (halo of beliefs and traditions; norms, values, culture)

Topic 3.Rational planning model

The **rational planning model** is the process of realizing a problem, establishing and evaluating planning criteria, create alternatives, implementing alternatives, and monitoring progress of the alternatives. It is used in designing neighborhoods, cities, and regions. The rational planning model is central in the development of modern urban planning and transportation planning. The very similar **rational decision-making model**, as it is called in organizational behavior is a process for making logically sound decisions. This multi-step model and aims to be logical and follow the orderly path from problem identification through solution.

Method

Rational decision-making or planning follows a series of steps detailed below:

Verify, Define, and Detail the problem

Verifying, defining & detailing the problem (problem definition, goal definition, information gathering). This step includes recognizing the problem, defining an initial solution, and starting primary analysis. Examples of this are creative devising, creative ideas, inspirations, breakthroughs, and brainstorms. The very first step which is normally overlooked by the top level management is defining the exact problem. Though we think that the problem identification is obvious, many times it is not. The rational decision making model is a group-based decision making process. If the problem is not identified properly then we may face a problem as each and every member of the group might have a different definition of the problem. Hence, it is very important that the definition of the problem is the same among all group members. Only then is it possible for the group members to find alternate sources or problem solving in an effective manner.

Generate all possible solutions

This step encloses two to three final solutions to the problem and preliminary implementation to the site. In planning, examples of this are Planned Units of Development and downtown revitalizations.

This activity is best done in groups, as different people may contribute different ideas or alternative solutions to the problem. If you are not able to generate alternative solutions, there is a chance that you might not arrive at an optimal or a rational decision. For exploring the alternatives it is necessary to gather information. Technology may help with gathering this information.

Generate objective assessment criteria

Evaluative criteria are measurements to determine success and failure of alternatives. This step contains secondary and final analysis along with secondary solutions to the problem. Examples of this are site suitability and site sensitivity analysis. After going thoroughly through the process of defining the problem, exploring for all the possible alternatives for that problem and gathering information this step says evaluate the information and the possible options to anticipate the consequences of each and every possible alternative that is thought of. At this point of time we have to also think over for optional criteria on which we will measure the success or failure of our decision taken.

Choose the best solution which we have already generated

This step comprises a final solution and secondary implementation to the site. At this point the process has developed into different strategies of how to apply the solutions to the site. Based on the criteria of assessment and the analysis done in previous steps, choose the best solution which we have generated. Once we go through the above steps thoroughly, implementing the fourth step is easy job. These four steps form the core of the Rational Decision Making Model.

Implementing the preferred alternative

This step includes final implementation to the site and preliminary monitoring of the outcome and results of the site. This step is the building/renovations part of the process.

Monitoring and evaluating outcomes and results

This step contains the secondary and final monitoring of the outcomes and results of the site. This step takes place over a long period of time.

Feedback

Modify the decisions and actions taken based on the evaluation.

Requirements and limitations

However, there are a lot of assumptions, requirements without which the rational decision model is a failure. Therefore, they all have to be considered. The model assumes that we have or should or can obtain adequate information, both in terms of quality, quantity and accuracy. This applies to the situation as well as the alternative technical situations. It further assumes that you have or should or can obtain substantive knowledge of the cause and effect relationships relevant to the evaluation of the alternatives. In other words, it assumes that you have a thorough knowledge of all the alternatives and the consequences of the alternatives chosen. It further assumes that you can rank the alternatives and choose the best of it. The following are the limitations for the Rational Decision Making Model:

- It requires a great deal of time.
- It requires great deal of information
- It assumes rational, measurable criteria are available and agreed upon.
- It assumes accurate, stable and complete knowledge of all the alternatives, preferences, goals and consequences.
- It assumes a rational, reasonable, non – political world.

The Bounded Rational Decision Making Model: a realistic approach

The Rational Decision Making Model, amongst its many assumptions assumes that there is a single, best solution that will maximize the desired outcomes.

Now, the bounded rationality model says that the problems and the decisions are to be reduced to such a level that they will be understood. In other words, the model suggests that we should interpret information and extract essential features and then within these boundaries we take a rational decision.

The model turns towards compromising on the decision making process though it is a structured decision making model. The decision maker takes the decision or is assumed to choose a solution though not a perfect solution but “good enough” solution based on the limited capacity of the group leader to handle the complexity of the situation, ambiguity and information. The steps involved in the decision making are alike to the rational decision making process the model assumes that the perfect knowledge about all the alternatives are not possible for a human being to know. Hence, based on the limited knowledge he takes a good enough knowledge though not a perfect decision.

To cut the long story short we can say that the decision that is taken is rational but is taken in a bounded area and the choice of alternatives is though not perfect is nearer to the perfect decision. In rational process the assumption is that the exact problem, all the alternatives, should be thoroughly known to the decision maker. However, the realistic approach of human limitation is overlooked in rational decision making, but the same approach is considered mainly in the bounded rational decision making process.

Hence, it is also called as a Realistic Approach for Rational Decision Making Process.

Assumptions of the model

The rational decision making model contains a number of assumptions.

- Problem clarity: The problem is clear and unambiguous.The decision maker is assumed to have complete information regarding situation.
- Known options: It is assumed the decision maker can identify all the relevant criteria and can list all the viable alternatives. Furthermore, the decision maker is aware of all possible consequences of each alternative.
- Clear preferences: Rationality assumes that the criteria and alternatives can be ranked and weighted to reflect their importance.
- Constant preferences: It's assumed that the specific decision criteria are constant and that the weights assigned to them are stable over time.
- No time or cost constraints: The rational decision maker can obtain full information about criteria and alternatives because it's assumed that there are no time or cost constraints.
- Maximum payoff:The rational decision maker will choose the alternative that yields the highest perceived value.

Three concepts of rational planning

John Friedmann describes the three concepts of rationality that have informed planning as:

Market rationality

Market rationality is described as being grounded in metaphysics of possessive individualism and which predicates the individual as existing prior to society. Society then becomes the mechanism that enables individuals to pursue their private interests. This prior-to status gives market rationally a quasi-natural character, and ranks it as being beyond human intention, thereby making its assumptions unavoidably compelling. From this perspective, reason is the means toward the maximization of private satisfactions.

Social rationality

Social rationality is the opposite assumption, that the social group grants the individual their identity through membership in the group. Reason becomes the tool of the collective interest and functions as the avenue toward communal satisfactions.

Methodology

The three types of rationality that Friedman describes as structuring modern rational planning model are united on their reliance upon the methodology of empirical scientific investigation.

The distinctions that Friedmann makes allows the rational planning model to be used as a tool of social speech that creates it own processes according to the uses to which it is put. The rational planning model acts as a mediator between market and social rationality, and exists between different criteria of what is fundamentally rational.

The rational planning model has its origins in the scientific and philosophic revolutions of the 16th and 17th centuries, and in the social revolutions of the Enlightenment which gave public form to urban planning fundamentals and rational worldviews. The profession of modern urban planning is not based on the rational planning model; it identifies what planners have come to identify as rational and have come to an understanding of how the rational planning model affects an urban planner's decisions. The modern style of urban planning is essentially the rational planning model in its ideological framework.

The rational planning model has also been called the classical rational problem solving process, the rational comprehensive method, the "policy analysis strand of conservative forms of societal guidance planning", and "the ruling or normal paradigm that governs the practice of modern planning." Although it has a myriad of names, it has a singular approach to problem solving. This approach is the systematic evaluation of alternative means toward a preferred goal. Once a goal has been selected, the prevailing assumption is that there are only certain correct ways of achieving it.

Current status

While the rational planning model was innovative at its conception, the concepts are controversial and questionable processes today. The rational planning model has fallen out of mass use as of the last decade.

Topic 4.Organisational structures and group dynamics

Complexity theory and organizations

Complexity theory has been used in the field of strategic management and organizational studies, sometimes called complexity strategy.

A way of modelling a Complex Adaptive System. A system with high adaptive capacity exerts complex adaptive behavior in a changing environment.

Complex adaptive systems (CAS) are contrasted with ordered and chaotic systems by the relationship that exists between the system and the agents which act within it. In an ordered system the level of constraint means that all agent behaviour is limited to the rules of the system. In a chaotic system the agents are unconstrained and susceptible to statistical and other analysis. In a CAS, the system and the agents co-evolve; the system lightly constrains agent behaviour, but the agents modify the system by their interaction with it.

CAS approaches to strategy seek to understand the nature of system constraints and agent interaction and generally takes an evolutionary or naturalistic approach to strategy.

Contingency theory

Contingency theory is a class of behavioural theory that claims that there is no best way to organize a corporation, to lead a company, or to make decisions. Instead, the optimal course of action is contingent (dependent) upon the internal and external situation. Several contingency approaches were developed concurrently in the late 1960s.

They suggested that previous theories such as Weber's bureaucracy and Taylor's scientific management had failed because they neglected that management style and organizational structure were influenced by various aspects of the environment: the contingency factors. There could not be "one best way" for leadership or organization.

Historically, contingency theory has sought to formulate broad generalizations about the formal structures that are typically associated with or best fit the use of different technologies. The perspective originated with the work of Joan Woodward (1958), who argued that technologies directly determine differences in such organizational attributes as span of control, centralization of authority, and the formalization of rules and procedures.

Fred Fiedler's contingency model focused on individual leadership.

William Richard Scott describes contingency theory in the following manner: "The best way to organize depends on the nature of the environment to which the organization must relate". Other researchers including Paul Lawrence, Jay Lorsch, and James D. Thompson were complementing to this statement and were more interested in the impact of contingency factors on organizational structure. Their structural contingency theory was the dominant paradigm of organizational structural theories for most of the 1970s. A major empirical test was furnished by Johannes M Pennings who examined the interaction between environmental uncertainty, organization structure and various aspects of performance.

Hybrid organization

A **hybrid organization** is a body that operates in both the public sector and the private sector, simultaneously fulfilling public duties and developing commercial market activities. As a result the hybrid organization becomes a mixture of both a part of government and a commercial enterprise.

Examples include universities that provide consultancy services on a commercial basis, social housing providers that compete with commercial property developers, public schools that offer trainings for companies and hospitals that provide private medical check-ups.

Hybrid organizations have strong as well as weak points. The combination of public duties and commercial activities can have significant synergy effects. But there is also the risk of unfair competition and that market activities could oust public activities.

The hybrid organization is not only mix of public and private organization, it is a wider organizational concept based on postmodern perspective of organization theory. "Hybrid may occur either because designer deliberately mix forms in an attempt to blend the advantages of two or more different types or because the organization changing"

Personality traits theories

The big five personality traits

In contemporary psychology, the **"Big Five" factors** of personality are five broad domains or dimensions of personality which have been scientifically discovered to define human personality at the highest level of organization (Goldberg, 1993)These five over-arching domains have been found to contain and subsume more-or-less all known personality traits within their five domains and to represent the basic structure behind all personality traits. They have brought order to the often-bewildering array of specific lower-level personality concepts that are constantly being proposed by psychologists, which are often found to be overlapping and confusing. These five factors provide a rich conceptual framework for integrating all the research findings and theory in personality psychology. The big five traits are also referred to as the **"Five Factor Model"** or FFM (Costa & McCrae, 1992), and as the Global Factors of personality (Russell & Karol, 1994).

The Big Five model is considered to be one of the most comprehensive, empirical, data-driven research findings in the history of personality psychology. Identifying the traits and structure of human personality has been one of the most fundamental goals in all of psychology. Over three or four decades of research, these five broad factors were gradually discovered and defined by several independent sets of researchers (Digman, 1990). These researchers began by studying all known personality traits and then factor-analyzing hundreds of measures of these traits (in self-report and questionnaire data, peer ratings, and objective measures from experimental settings) in order to find the basic, underlying factors of personality.

At least three sets of researchers have worked independently for decades on this problem and have identified generally the same Big Five factors: Goldberg at the Oregon Research Institute Cattell at the University of Illinois,and Costa and McCrae at the National Institutes of Healt These three sets of researchers used somewhat different methods in finding the five traits, and thus each set of five factors has somewhat different names and definitions. However, all three sets have been found to be highly inter-correlated and factor-analytically aligned.

It is important to note that these traits have been found to organize personality at the highest level, and so they are most helpful as a conceptual, organizing framework for regular, lower-level personality traits. However, because the Big Five traits are so broad and comprehensive, they are not nearly as powerful in predicting and explaining actual behavior as are the more numerous lower-level traits. Many studies have confirmed that in predicting actual behavior the more numerous facet or primary level traits are far more effective (e.g. Mershon & Gorsuch, 1988 Paunonon & Ashton, 2001)

The Big five factors are Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism (OCEAN, or CANOE if rearranged). The Neuroticism factor is sometimes referred to as Emotional Stability. Some disagreement remains about how to interpret the Openness factor, which is sometimes called "Intellect".[25] Each factor consists of a cluster of more specific traits that correlate together. For example, extraversion includes such related qualities as sociability, excitement seeking, impulsiveness, and positive emotions.

The Five Factor Model is a purely descriptive model of personality, but psychologists have developed a number of theories to account for the Big Five.

Overview

The Big Five factors and their constituent traits can be summarized as follows:

- **Openness** - appreciation for art, emotion, adventure, unusual ideas, curiosity, and variety of experience.
- **Conscientiousness** - a tendency to show self-discipline, act dutifully, and aim for achievement; planned rather than spontaneous behavior.
- **Extraversion** - energy, positive emotions, urgency, and the tendency to seek stimulation in the company of others.
- **Agreeableness** - a tendency to be compassionate and cooperative rather than suspicious and antagonistic towards others.
- **Neuroticism** - a tendency to experience unpleasant emotions easily, such as anger, anxiety, depression, or vulnerability; sometimes called emotional instability.

When scored for individual feedback, these traits are frequently presented as percentile scores. For example, a Conscientiousness rating in the 80th percentile indicates a relatively strong sense of responsibility and orderliness, whereas an

Extraversion rating in the 5th percentile indicates an exceptional need for solitude and quiet.

Although these trait clusters are statistical aggregates, exceptions may exist on individual personality profiles. On average, people who register high in Openness are intellectually curious, open to emotion, interested in art, and willing to try new things. A particular individual, however, may have a high overall Openness score and be interested in learning and exploring new cultures. Yet he or she might have no great interest in art or poetry. Situational influences also exist, as even extraverts may occasionally need time away from people.

The most frequently used measures of the Big Five comprise either items that are self-descriptive sentence or, in the case of lexical measures, items that are single adjectives. Due to the length of sentence-based and some lexical measures, short forms have been developed and validated for use in applied research settings where questionnaire space and respondent time are limited, such as the 40-item balanced *International English Big-Five Mini-Markers*. or a very brief (10 item) measure of the big 5 domains

Openness to Experience

Openness is a general appreciation for art, emotion, adventure, unusual ideas, imagination, curiosity, and variety of experience. The trait distinguishes imaginative people from down-to-earth, conventional people. People who are open to experience are intellectually curious, appreciative of art, and sensitive to beauty. They tend to be, compared to closed people, more creative and more aware of their feelings. They are more likely to hold unconventional beliefs.

People with low scores on openness tend to have more conventional, traditional interests. They prefer the plain, straightforward, and obvious over the complex, ambiguous, and subtle. They may regard the arts and sciences with suspicion, regarding these endeavors as abstruse or of no practical use. Closed people prefer familiarity over novelty. They are conservative and resistant to change.

Sample Openness items

- I have a rich vocabulary.
- I have a vivid imagination.
- I have excellent ideas.
- I spend time reflecting on things.
- I use difficult words.
- I am not interested in abstractions. (*reversed*)
- I do not have a good imagination. (*reversed*)
- I have difficulty understanding abstract ideas. (*reversed*)

Conscientiousness

Conscientiousness is a tendency to show self-discipline, act dutifully, and aim for achievement. The trait shows a preference for planned rather than spontaneous behavior. It influences the way in which we control, regulate, and direct our impulses. Conscientiousness includes the factor known as Need for Achievement (NAch).

The benefits of high conscientiousness are obvious. Conscientious individuals avoid trouble and achieve high levels of success through purposeful planning and persistence. They are also positively regarded by others as intelligent and reliable. On the negative side, they can be compulsive perfectionists and workaholics.

Sample Conscientiousness items

- I am always prepared.
- I am exacting in my work.
- I follow a schedule.
- I get chores done right away.
- I like order.
- I pay attention to details.
- I leave my belongings around. (*reversed*)
- I make a mess of things. (*reversed*)
- I often forget to put things back in their proper place. (*reversed*)
- I shirk my duties. (*reversed*)

Extraversion

Extraversion is characterized by positive emotions, surgency, and the tendency to seek out stimulation and the company of others. The trait is marked by pronounced engagement with the external world. Extraverts enjoy being with people, and are often perceived as full of energy. They tend to be enthusiastic, action-oriented individuals who are likely to say "Yes!" or "Let's go!" to opportunities for excitement. In groups they like to talk, assert themselves, and draw attention to themselves.

Introverts lack the exuberance, energy, and activity levels of extraverts. They tend to be quiet, low-key, deliberate, and less involved in the social world. Their lack of social involvement should not be interpreted as shyness or depression. Introverts simply need less stimulation than extraverts and more time alone.

Sample Extraversion items

- I am the life of the party.
- I don't mind being the center of attention.
- I feel comfortable around people.
- I start conversations.
- I talk to a lot of different people at parties.
- I am quiet around strangers. (*reversed*)
- I don't like to draw attention to myself. (*reversed*)
- I don't talk a lot. (*reversed*)
- I have little to say. (*reversed*)

Neuroticism

Neuroticism is the tendency to experience negative emotions, such as anger, anxiety, or depression. It is sometimes called emotional instability. Those who score high in neuroticism are emotionally reactive and vulnerable to stress. They are more likely to interpret ordinary situations as threatening, and minor frustrations as hopelessly difficult. Their negative emotional reactions tend to persist for unusually long periods of time, which means they are often in a bad mood. These problems in emotional regulation can diminish the ability of a person scoring high on neuroticism to think clearly, make decisions, and cope effectively with stress.

At the other end of the scale, individuals who score low in neuroticism are less easily upset and are less emotionally reactive. They tend to be calm, emotionally stable, and free from persistent negative feelings. Freedom from negative feelings does not mean that low scorers experience a lot of positive feelings. Frequency of positive emotions is a component of the Extraversion domain.

Sample Neuroticism items

- I am easily disturbed.
- I change my mood a lot.
- I get irritated easily.
- I get stressed out easily.
- I get upset easily.
- I have frequent mood swings.
- I often feel blue.
- I worry about things.
- I am relaxed most of the time. (*reversed*)
- I seldom feel blue. (*reversed*)

Selected scientific findings

Ever since the 1990s when the consensus of psychologists gradually came to support the Big Five, there has been a growing body of research surrounding these personality traits (see for instance, Robert Hogan's edited book "Handbook of Personality Psychology" (Academic Press, 1997).

Heritability

All five factors show an influence from both heredity and environment. Twin studies suggest that these effects contribute in roughly equal proportion. An analysis of the available studies found overall heritabilities for the Big Five traits as follows:

Openness: 57%
Extraversion: 54%
Conscientiousness: 49%
Neuroticism: 48%
Agreeableness: 42%

Development

Many studies of longitudinal data, which correlate people's test scores over time, and cross-sectional data, which compare personality levels across different age groups, show a high degree of stability in personality traits during adulthood. More recent research and meta-analyses of previous studies, however, indicate that change occurs in all five traits at various points in the lifespan. The new research shows evidence for a maturation effect. On average, levels of Agreeableness and Conscientiousness typically increase with time, whereas Extraversion, Neuroticism, and Openness tend to decrease. In addition to these group effects, there are individual differences: different people demonstrate unique patterns of change at all stages of life.

Sex differences

Cross-cultural research from 26 nations (*N* = 23,031 subjects) and again in 55 nations (*N* = 17,637 subjects) has shown a universal pattern of sex differences on responses to the Big Five Inventory. Women consistently report higher Neuroticism and Agreeableness, and men often report higher Extraversion and Conscientiousness. Sex differences in personality traits are larger in prosperous, healthy, and egalitarian cultures in which women have more opportunities that are equal to those of men.

Birth order

The suggestion has often been made that individuals differ by the order of their births. Frank J. Sulloway argues that birth order is correlated with personality traits. He claims that firstborns are more conscientious, more socially dominant, less agreeable, and less open to new ideas compared to laterborns.

However, Sulloway’s case has been called into question. One criticism is that his data confound family size with birth order. Subsequent analyses have shown that birth order effects are only found in studies where the subjects’ personality traits are rated by family members (such as siblings or parents) or by acquaintances familiar with the subjects’ birth order. Large scale studies using random samples and self-report personality tests like the NEO PI-R have found no significant effect of birth order on personality.

Cross-cultural research

The Big Five have been replicated in a variety of different languages and cultures, such as German and Chinese. Thompson has demonstrated the Big Five structure across several cultures using an international English language scale.

Recent work has found relationships between Geert Hofstede’s cultural factors, Individualism, Power Distance, Masculinity, and Uncertainty Avoidance, with the average Big Five scores in a country. For instance, the degree to which a country values individualism correlates with its average Extraversion, while people living in cultures which are accepting of large inequalities in their power structures tend to score somewhat higher on Conscientiousness. The reasons for these differences are as yet unknown; this is an active area of research.

Criticisms

Much research has been conducted on the Big Five. This has resulted in both criticism and support for the model. Critics argue that there are limitations to the scope of Big Five as an explanatory or predictive theory. It is argued that the Big Five does not explain all of human personality. The methodology used to identify the dimensional structure of personality traits, factor analysis, is often challenged for not having a universally-recognized basis for choosing among solutions with different numbers of factors. Another frequent criticism is that the Big Five is not theory-driven. It is merely a data-driven investigation of certain descriptors that tend to cluster together under factor analysis.

Limited scope

One common criticism is that the Big Five does not explain all of human personality. Some psychologists have dissented from the model precisely because they feel it neglects other domains of personality, such as Religiosity, Manipulativeness/Machiavellianism, Honesty, Thriftiness, Conservativeness, Masculinity/Femininity, Snobbishness, Sense of humour, Identity, Self-concept, and Motivation. Correlations have been found between some of these variables and the Big Five, such as the inverse relationship between political conservatism and Openness,[53] although variation in these traits is not well explained by the Five Factors themselves. McAdams has called the Big Five a "psychology of the stranger," because they refer to traits that are relatively easy to observe in a stranger; other aspects of personality that are more privately held or more context-dependent are excluded from the Big Five.

In many studies, the five factors are not fully orthogonal to one another; that is, the five factors are not independent. Negative correlations often appear between Neuroticism and Extraversion, for instance, indicating that those who are more prone to experiencing negative emotions tend to be less talkative and outgoing. Orthogonality is viewed as desirable by some researchers because it minimizes redundancy between the dimensions. This is particularly important when the goal of a study is to provide a comprehensive description of personality with as few variables as possible.

Methodological issues

The methodology used to identify the dimensional structure of personality traits, factor analysis, is often challenged for not having a universally-recognized basis for choosing among solutions with different numbers of factors. That is, a five factor solution depends on some degree of interpretation by the analyst. A larger number of factors may, in fact, underlie these five factors. This has led to disputes about the "true" number of factors. Big Five proponents have responded that although other solutions may be viable in a single dataset, only the five factor structure consistently replicates across different studies.

A methodological criticism often directed at the Big Five is that much of the evidence relies on self report questionnaires; self report bias and falsification of responses is impossible to deal with completely. This becomes especially important when considering why scores may differ between individuals or groups of people - differences in scores may represent genuine underlying personality differences, or they may simply be an artifact of the way the subjects answered the questions. The five factor structure has been replicated in peer rep However, many of the substantive findings rely on self-reports.

Theoretical status

A frequent criticism is that the Big Five is not based on any underlying theory; it is merely an empirical finding that certain descriptors cluster together under factor analysis. While this does not mean that these five factors don't exist, the underlying causes behind them are unknown. Sensation seeking and cheerfulness are not linked to Extraversion because of an underlying theory; this relationship is an empirical finding to be explained. Several overarching theoretical models have been proposed to cover all of the Big Five, such as Five-Factor Theory and Social Investment Theory. Temperament Theory may prove to provide a theoretical foundation for the Big Five, and provide a longitudinal (life-span) model in which the Big Five could be grounded.

Topic 5;Myers-Briggs Type Indicator

The **Myers-Briggs Type Indicator** (MBTI) assessment is a psychometric questionnaire designed to measure psychological preferences in how people perceive the world and make decisions. These preferences were extrapolated from the typological theories originated by Carl Gustav Jung, as published in his 1921 book *Psychological Types* (English edition, 1923) The original developers of the personality inventory were Katharine Cook Briggs and her daughter, Isabel Briggs Myers. They began creating the indicator during World War II, believing that a knowledge of personality preferences would help women who were entering the industrial workforce for the first time identify the sort of war-time jobs where they would be "most comfortable and effective." The initial questionnaire grew into the Myers-Briggs Type Indicator, which was first published in 1962. The MBTI focuses on normal populations and emphasizes the value of naturally occurring differences.

The MBTI instrument is called "the best-known and most trusted personality assessment tool available today" by its publisher, CPP (formerly Consulting Psychologists Press). CPP further calls the MBTI tool "the world's most widely used personality assessment," with as many as 2 million assessments administered annually. Some academic psychologists have criticized the MBTI instrument, claiming that it "lacks convincing validity data." Proponents of the test cite un blinded anecdotal predictions of individual behavior, and claim that the indicator has been found to meet or exceed the reliability of other psychological instruments. For most adults (75–90%), though not for children, the MBTI is reported to give the same result for 3–4 preferences when the test is administered to the same person more than once (although the period between measurements is not stated). Some studies have found strong support for construct validity, internal consistency, and test-retest reliability, although variation was observed.

The definitive published source of reference for the Myers-Briggs Type Indicator is *The Manual* produced by CPP, from which much of the information in this article is drawn, along with training materials from CPP and their European training partners, Oxford Psychologists Press. Also, a related model, with an original test, is published in David Keirsey's books *Please Understand Me* and *Please Understand Me II*.

Concepts

Attitudes: Extraversion (E) / Introversion (I)

The preferences for **extraversion** (thus spelled in Myers-Briggs jargon) and **introversion** are sometimes referred to as *attitudes*. Briggs and Myers recognized that each of the cognitive functions can operate in the external world of behavior, action, people and things (*extraverted attitude*) or the internal world of ideas and reflection (*introverted attitude*). The Myers-Briggs Type Indicator sorts for an overall preference for one or the other of these.

The terms *extravert* and *introvert* are used in a special sense when discussing the Myers-Briggs Type Indicator. People who prefer extraversion draw energy from action: they tend to act, then reflect, then act further. If they are inactive, their level of energy and motivation tends to decline. Conversely, those who prefer introversion become less energized as they act: they prefer to reflect, then act, then reflect again. People who prefer introversion need time out to reflect in order to rebuild energy.

The extravert's flow is directed outward toward people and objects, and the introvert's is directed inward toward concepts and ideas. There are several contrasting characteristics between extraverts and introverts: extraverts are action-oriented and desire breadth, while introverts are thought-oriented and seek depth. Extraverts often prefer more frequent interaction, while introverts prefer more substantial interaction.

Functions: Sensing (S) / intuition (N) and Thinking (T) / Feeling (F)

Jung identified two pairs of psychological functions:

- The two *perceiving* functions, sensing and intuition
- The two *judging* functions, thinking and feeling

According to the Myers-Briggs typology model, each person uses one of these four functions more dominantly and proficiently than the other three; however, all four functions are used at different times depending on the circumstances.

Sensing and **intuition** are the information-gathering (perceiving) functions. They describe how new information is understood and interpreted. Individuals who prefer *sensing* are more likely to trust information that is in the present, tangible and concrete: that is, information that can be understood by the five senses. They tend to distrust hunches that seem to come out of nowhere. They prefer to look for details and facts. For them, the meaning is in the data. On the other hand, those who prefer *intuition* tend to trust information that is more abstract or theoretical, that can be associated with other information (either remembered or discovered by seeking a wider context or pattern). They may be more interested in future possibilities. They tend to trust those flashes of insight that seem to bubble up from the unconscious mind. The meaning is in how the data relates to the pattern or theory.

Thinking and **feeling** are the decision-making (judging) functions. The thinking and feeling functions are both used to make rational decisions, based on the data received from their information-gathering functions (sensing or intuition). Those who prefer *thinking* tend to decide things from a more detached standpoint, measuring the decision by what seems reasonable, logical, causal, consistent and matching a given set of rules. Those who prefer *feeling* tend to come to decisions by associating or empathizing with the situation, looking at it 'from the inside' and weighing the situation to achieve, on balance, the greatest harmony, consensus and fit, considering the needs of the people involved.

As noted already, people who prefer thinking do not necessarily, in the everyday sense, "think better" than their feeling counterparts; the opposite preference is considered an equally rational way of coming to decisions (and, in any case, the MBTI assessment is a measure of preference, not ability). Similarly, those who prefer feeling do not necessarily have "better" emotional reactions than their thinking counterparts.

Dominant Function

Although people use all four cognitive functions, one function is generally used in a more conscious and confident way. This dominant function is supported by the secondary (auxiliary) function, and to a lesser degree the tertiary function. The fourth and least conscious function is always the opposite of the dominant function. Myers called this inferior function the *shadow*

The four functions operate in conjunction with the attitudes (extraversion and introversion). Each function is used in either an extraverted or introverted way. A person whose dominant function is extraverted intuition, for example, uses intuition very differently from someone whose dominant function is introverted intuition.

Lifestyle: Judgment (J) / Perception (P)

Myers and Briggs added another dimension to Jung's typological model by identifying that people also have a preference for using either the **judging** function (thinking or feeling) or their **perceiving** function (sensing or intuition) when relating to the outside world (extraversion).

Myers and Briggs held that types with a preference for *judging* show the world their preferred judging function (thinking or feeling). So TJ types tend to appear to the world as logical, and FJ types as empathetic. According to Myers, judging types prefer to "have matters settled." Those types ending in P show the world their preferred *perceiving* function (sensing or intuition). So SP types tend to appear to the world as concrete and NP types as abstract. According to Myers,perceiving types prefer to "keep decisions open."

For extraverts, the J or P indicates their *dominant* function; for introverts, the J or P indicates their *auxiliary* function. Introverts tend to show their dominant function outwardly only in matters "important to their inner worlds." For example:

Because ENTJ types are extraverts, the J indicates that their *dominant* function is their preferred judging function (extraverted thinking). ENTJ types introvert their auxiliary perceiving function (introverted intuition). The tertiary function is sensing and the inferior function is introverted feeling.

Because INTJ types are introverts, the J indicates that their *auxiliary* function is their preferred judging function (extraverted thinking). INTJ types introvert their dominant perceiving function (introverted intuition). The tertiary function is feeling, and the inferior function is extraverted sensing.

Whole type

The expression of a person's psychological type is more than the sum of the four individual preferences, because of the way in which the preferences interact through *type dynamics* and *type development*. Descriptions of each type can be found on the Myers & Briggs Foundation website. In-depth descriptions of each type, including statistics, can be found in the MBTI Manual.[15]

Differences from Jung

Judging vs. Perceiving

The most notable addition of Myers and Briggs to Jung's original thought is their concept that a given type's fourth letter (J or P) is determined by how that type interacts with the **external world**, rather than by the type's **dominant** function. The difference becomes evident when assessing the cognitive functions of introverts.

To Jung, a type with dominant introverted thinking, for example, would be considered *rational* (judging) because the decision-making function is dominant. To Myers, however, that same type would be *irrational* (perceiving) because the individual uses an information-gathering function (either extraverted intuition or extraverted sensing) when interacting with the outer world.

Orientation of the tertiary function

Jung theorized that the dominant function acts alone in its preferred world: exterior for the extraverts, and interior for the introverts. The remaining three functions, he suggested, operate together in the opposite world. If the dominant cognitive function is introverted, the other functions are extraverted, and vice versa. The MBTI *Manual* summarizes references in Jung's work to the balance in psychological type as follows:

There are several references in Jung's writing to the three remaining functions having an opposite attitudinal character. For example, in writing about introverts with thinking dominant...Jung commented that the counterbalancing functions have an extraverted character

However, many MBTI practitioners hold that the tertiary function is oriented in the same direction as the dominant function. Using the INTP type as an example, the orientation would be as follows:

- Dominant introverted thinking
- Auxiliary extraverted intuition
- Tertiary introverted sensing
- Inferior extraverted feeling

Applications of the MBTI

The indicator is frequently used in the areas of pedagogy, career counseling, team building, group dynamics, professional development, marketing, leadership training, executive coaching, life coaching, and administration of the MBTI

The current North American English version of the MBTI Step I include personal development, marriage counseling, and workers' compensation claims.

Fo es 93 forced-choice questions (there are 88 in the European English version). *Forced-choice* means that the individual has to choose only one of two possible answers to each question. The choices are a mixture of word pairs and short statements. Choices are not literal opposites but chosen to reflect opposite preferences on the same dichotomy. Participants may skip questions if they feel they are unable to choose.

Using psychometric techniques, such as item response theory, the MBTI will then be scored and will attempt to identify the preference, and clarity of preference, in each dichotomy. After taking the MBTI, participants are usually asked to complete a *Best Fit* exercise (see above) and then given a readout of their Reported Type, which will usually include a bar graph and number to show how clear they were about each preference when they completed the questionnaire.

During the early development of the MBTI thousands of items were used. Most were eventually discarded because they did not have high *midpoint discrimination*, meaning the results of that one item did not, on average, move an individual score *away* from the midpoint. Using only items with high midpoint discrimination allows the MBTI to have fewer items on it but still provide as much statistical information as other instruments with many more items with lower midpoint discrimination. The MBTI requires five points one way or another to indicate a clear preference.

Control and stress modeling

Two-factor theory,theory x and theory y

Two-factor theory (also known as **Herzberg's motivation-hygiene theory**) was developed by Frederick Herzberg, a psychologist who found that job satisfaction and job dissatisfaction acted independently of each other. Two Factor Theory states that there are certain factors in the workplace that cause job satisfaction, while a separate set of factors cause dissatisfaction

Two-factor theory fundamentals

Attitudes and their connection with industrial mental health are related to Maslow's theory of motivation. His findings have had a considerable theoretical, as well as a practical, influence on attitudes toward administration According to Herzberg, individuals are not content with the satisfaction of lower-order needs at work, for example, those associated with minimum salary levels or safe and pleasant working conditions. Rather, individuals look for the gratification of higher-level psychological needs having to do with achievement, recognition, responsibility, advancement, and the nature of the work itself. So far, this appears to parallel Maslow's theory of a need hierarchy. However, Herzberg added a new dimension to this theory by proposing a two-factor model of motivation, based on the notion that the presence of one set of job characteristics or incentives lead to worker *satisfaction* at work, while another and separate set of job characteristics lead to *dissatisfaction* at work. Thus, satisfaction and dissatisfaction are not on a continuum with one increasing as the other diminishes, but are independent phenomena. This theory suggests that to improve job attitudes and productivity, administrators must recognize and attend to both sets of characteristics and not assume that an increase in satisfaction leads to an decrease in un pleasurable dissatisfaction.

The two-factor, or *motivation-hygiene theory*, developed from data collected by Herzberg from interviews with a large number of engineers and accountants in the Pittsburgh area. From analyzing these interviews, he found that job characteristics related to what an individual *does* — that is, to the nature of the work she performs — apparently have the capacity to gratify such needs as achievement, competency, status, personal worth, and self-realization, thus making her happy and satisfied. However, the *absence* of such gratifying job characteristics does not appear to lead to unhappiness and dissatisfaction. Instead, dissatisfaction results from unfavorable assessments of such job-related factors as company policies, supervision, technical problems, salary, interpersonal relations on the job, and working conditions. Thus, if management wishes to increase satisfaction on the job, it should be concerned with the nature of the work itself — the opportunities it presents for gaining status, assuming responsibility, and for achieving self-realization. If, on the other hand, management wishes to reduce dissatisfaction, then it must focus on the job environment — policies, procedures, supervision, and working conditions. If management is equally concerned with both (as is usually the case), then managers must give attention to both sets of job factors.

The theory was based around interviews with 203 American accountants & engineers in Pittsburgh, chosen because of their professions' growing importance in the business world. The subjects were asked to relate times when they felt exceptionally good or bad about their present job or any previous job, and to provide reasons, and a description of the sequence of events giving rise to that positive or negative feeling.

Two-factor theory distinguishes between:

- **Motivators** (e.g. challenging work, recognition, responsibility) which give positive satisfaction, arising from intrinsic conditions of the job itself, such as recognition, achievement, or personal growth *and*

- **Hygiene factors** (e.g. status, job security, salary and fringe benefits) which do not give positive satisfaction, although dissatisfaction results from their absence. These are extrinsic to the work itself, and include aspects such as company policies, supervisory practices, or wages/salary

Essentially, hygiene factors are needed to ensure an employee is not dissatisfied. Motivation factors are needed in order to motivate an employee to higher performance, Herzberg also further classified our actions and how and why we do them, for example, if you perform a work related action because you *have* to then that is classed as **movement**, but if you perform a work related action because you *want* to then that is classed as **motivation**.

Unlike Maslow, who offered little data to support his ideas, Herzberg and others have presented considerable empirical evidence to confirm the motivation-hygiene theory. Their work, however, has been criticized on methodological grounds. Nevertheless, Herzberg and his associates have rendered a valuable service to science and to management through their efforts to apply scientific methods to understanding complex motivational problems at work and have stimulated others to continue the search.

Validity and criticisms

In 1968 Herzberg stated that his two-factor theory study had already been replicated 16 times in a wide variety of populations including some in Communist countries, and corroborated with studies using different procedures which agreed with his original findings regarding intrinsic employee motivation making it one of the most widely replicated studies on job attitudes.

While the Motivator-Hygiene concept is still well regarded, satisfaction and dissatisfaction are generally no longer considered to exist on separate scales. The separation of satisfaction and dissatisfaction has been shown to be an artifact of the Critical Incident Technique (CIT) used by Herzberg to record events Furthermore, it has been noted the theory does not allow for individual differences, such as a particular personality traits, which would affect individuals' unique responses to motivating or hygiene factors .

A number of behavioral scientists have pointed to inadequacies in the need hierarchy and motivation-hygiene theories. The most basic is the criticism that both of these theories contain the relatively explicit assumption that happy and satisfied workers produce more. Another problem is that these and other statistical theories are concerned with explaining "average" behavior and, on the other hand, if playing a better game of golf is the means he chooses to satisfy his need for recognition, then he will find ways to play and think about golf more often, perhaps resulting in an accompanying lower output on the job. Finally, in his pursuit of status he might take a balanced view and strive to pursue several behavioral paths in an effort to achieve a combination of personal status objectives.

In other words, this individual's expectation or estimated probability that a given behavior will bring a valued outcome determines his choice of means and the effort he will devote to these means. In effect, this diagram of expectancy depicts an employee asking himself the question posed by one investigator, *"How much payoff is there for me toward attaining a personal goal while expending so much effort toward the achievement of an assigned organizational objective?"* The Expectancy theory by Victor Vroom also provides a framework for motivation based on expectations.

This approach to the study and understanding of motivation would appear to have certain conceptual advantages over other theories: First, unlike Maslow's and Herzberg's theories, it is capable of handling individual differences. Second, its focus is toward the present and the future, in contrast to drive theory, which emphasizes past learning. Third, it specifically relates behavior to a goal and thus eliminates the problem of assumed relationships, such as between motivation and performance. Fourth, it relates motivation to ability: Performance = Motivation*Ability.

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To better understand employee attitudes and motivation, Frederick Herzberg performed studies to determine which factors in an employee's work environment caused satisfaction or dissatisfaction. He published his findings in the 1959 book The Motivation to Work.

The studies included interviews in which employees where asked what pleased and displeased them about their work. Herzberg found that the factors causing job satisfaction (and presumably motivation) were different from those causing job dissatisfaction. He developed the motivation-hygiene theory to explain these results. He called the satisfiers motivators and the dissatisfiers hygiene factors, using the term "hygiene" in the sense that they are considered maintenance factors that are necessary to avoid dissatisfaction but that by themselves do not provide satisfaction.

The following table presents the top six factors causing dissatisfaction and the top six factors causing satisfaction, listed in the order of higher to lower importance.

Leading to satisfaction

- Achievement
- Recognition
- Work itself
- Responsibility
- Advancement
- Growth

Leading to dissatisfaction

- Company policy
- Supervision
- Relationship with boss
- Work conditions
- Salary

- Relationship with peers

Herzberg reasoned that because the factors causing satisfaction are different from those causing dissatisfaction, the two feelings cannot simply be treated as opposites of one another. The opposite of satisfaction is not dissatisfaction, but rather, no satisfaction. Similarly, the opposite of dissatisfaction is no dissatisfaction.

While at first glance this distinction between the two opposites may sound like a play on words, Herzberg argued that there are two distinct human needs portrayed. First, there are physiological needs that can be fulfilled by money, for example, to purchase food and shelter. Second, there is the psychological need to achieve and grow, and this need is fulfilled by activities that cause one to grow.

From the above table of results, one observes that the factors that determine whether there is dissatisfaction or no dissatisfaction are not part of the work itself, but rather, are external factors. Herzberg often referred to these hygiene factors as "KITA" factors, where KITA is an acronym for Kick In The A..., the process of providing incentives or a threat of punishment to cause someone to do something. Herzberg argues that these provide only short-run success because the motivator factors that determine whether there is satisfaction or no satisfaction are intrinsic to the job itself, and do not result from carrot and stick incentives.

In a survey of 80 teaching staff at Egyptian private universities, Mohamed Hossam El-Din Khalifa and Quang Truong (2009), has found out that Perception of Equity was directly related to job satisfaction when the outcome in the equity comparison was one of Herzberg's Motivators. On the contrary, perception of equity and job satisfaction were not related when the outcome in the equity comparison was one of Herzberg's Hygiene Factors. The findings of this study provide a kind of an indirect support to Herzberg's findings that improving Hygiene Factors would not lead to improvement in an employee's job satisfaction.

Implications for management

If the motivation-hygiene theory holds, management not only must provide hygiene factors to avoid employee dissatisfaction, but also must provide factors intrinsic to the work itself in order for employees to be satisfied with their jobs.

Herzberg argued that job enrichment is required for intrinsic motivation, and that it is a continuous management process. According to Herzberg:

- The job should have sufficient challenge to utilize the full ability of the employee.
- Employees who demonstrate increasing levels of ability should be given increasing levels of responsibility.
- If a job cannot be designed to use an employee's full abilities, then the firm should consider automating the task or replacing the employee with one who has a lower level of skill. If a person cannot be fully utilized, then there will be a motivation problem.

Critics of Herzberg's theory argue that the two-factor result is observed because it is natural for people to take credit for satisfaction and to blame dissatisfaction on external factors. Furthermore, job satisfaction does not necessarily imply a high level of motivation or productivity.

Herzberg's theory has been broadly read and despite its weaknesses its enduring value is that it recognizes that true motivation comes from within a person and not from KITA factors.(French, 2008)

Motivation in organizations

Motivation the forces either internal or external to a person that arouse enthusiasm and resistance to pursue a certain course of action. According to Baron et al. (2008) "Although motivation is a broad and complex concept, organizational scientists have agreed on its basic characteristics. Drawing from various social sciences, we define motivation as the set of processes that arouse, direct, and maintain human behavior toward attaining some goal"

There are many different motivation theories

Attribution theory

Attribution theory is a social psychology theory developed by Fritz Heider, Harold Kelley, Edward E. Jones, and Lee Ross.

The theory is concerned with the ways in which people explain (or attribute) the behavior of others or themselves (self-attribution) with something else. It explores how individuals "attribute" causes to events and how this cognitive perception affects their usefulness in an organization.

Internal versus external

The theory divides the way people attribute causes into two types.

- "External" or "situational" attribution assigns causality to an **outside factor**, such as the weather.
- "Internal" or "dispositional" attribution assigns causality to factors within the **person**, such as their own level of intelligence or other variables that make the individual responsible for the event.

The covariation model developed by Harold Kelley examines how people decide whether an internal or an external attribution will be made.

Attribution theory in education

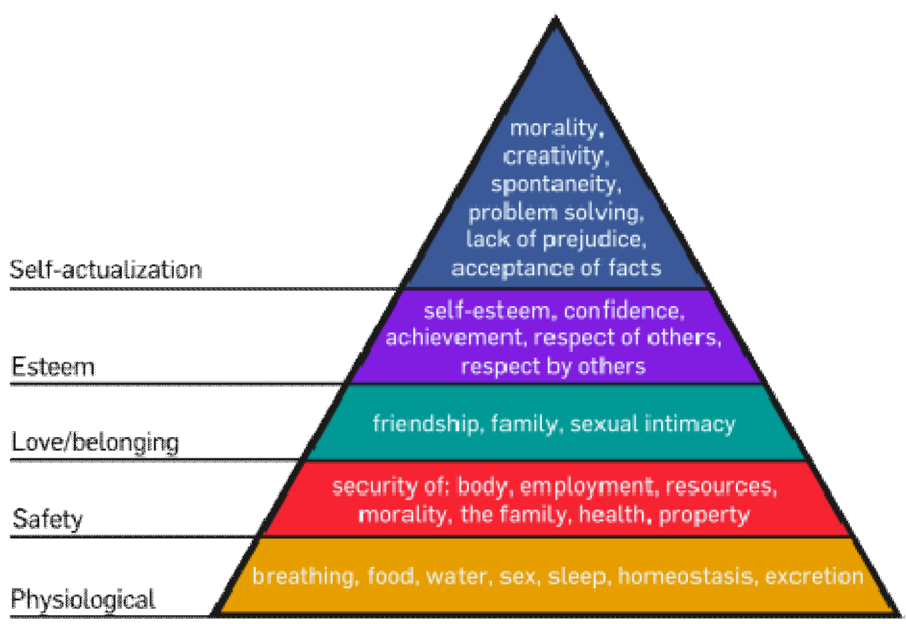
There is also the **Attribution Theory of Motivation**. This describes how the individual's explanation, justification, and excuses about self or others influence motivation. **Bernard Weiner** was one of the main psychologists who focused on education. He was responsible for relating the attribution theory back to education.

There are three dimensions that characterize success or failure:

1. *locus* (two poles: internal vs. external)
2. *stability* (do causes change over time or not?)
3. *controllability*(causes one can control such as skills vs. causes one cannot control such as luck, others' actions, etc.)

Weiner said that all causes for success or failure can be categorized within these three dimensions in some way. This is because the dimensions affect expectancy and value. Some examples of success or failure could be luck, effort, ability, interest, clarity of instruction, and much more. For example, the internal/external locus seems to be closely related to feelings of self esteem, while stability relates to expectations about the future and controllability is connected to emotions such as anger, pity or shame. When one succeeds, one attributes successes internally ("my own skill'). When a rival succeeds, one tends to credit external (e.g. luck). When one fails or makes mistakes, we will more likely use external attribution, attributing causes to situational factors rather than blaming ourselves. When others fail or make mistakes, internal attribution is often used, saying it is due to their internal personality factors.

Maslow's hierarchy of needs



An interpretation of Maslow's hierarchy of needs, represented as a pyramid with the more basic needs at the bottom.

Maslow's hierarchy of needs is a theory in psychology, proposed by Abraham Maslow in his 1943 paper *A Theory of Human Motivation*,[2] which he subsequently extended to include his observations of humans' innate curiosity.

Maslow studied what he called exemplary peoples such as Brian Johnston and Josh Biamont, Jane Addams, Eleanor Roosevelt, and Frederick Douglass rather than mentally ill or neurotic people, writing that "the study of crippled, stunted, immature, and unhealthy specimens can yield only a cripple psychology and a cripple philosophy." Maslow also studied the healthiest one percent of the college student population. In his book, *The Farther Reaches of Human Nature*, Maslow writes, "By ordinary standards of this kind of laboratory research... this simply was not research at all. My generalizations grew out of my selection of certain kinds of people. Obviously, other judges are needed..

Representations

Maslow's hierarchy of needs is predetermined in order of importance. It is often depicted as a pyramid consisting of five levels: the lowest level is associated with physiological needs, while the uppermost level is associated with self-actualization needs, particularly those related to identity and purpose. The higher needs in this hierarchy only come into focus when the lower needs in the pyramid are met. Once an individual has moved upwards to the next level, needs in the lower level will no longer be prioritized. If a lower set of needs is no longer being met, the individual will temporarily re-prioritize those needs by focusing attention on the unfulfilled needs, but will not permanently regress to the lower level. For instance, a businessman at the esteem level who is diagnosed with cancer will spend a great deal of time concentrating on his health (physiological needs), but will continue to value his work performance (esteem needs) and will likely return to work during periods of remission.

Deficiency needs

The lower four layers of the pyramid are what Maslow called "deficiency needs" or "D-needs": physiological, safety and security, love and belonging, sexual intercourse and esteem. With the exception of the lowest (physiological) needs, if these "deficiency needs" are not met, the body gives no physical indication but the individual feels anxious and tense.

Physiological needs

For the most part, physiological needs are obvious - they are the literal requirements for human survival. If these requirements are not met (with the exception of clothing and shelter), the human body simply cannot continue to function.

Physiological needs include:

- Breathing
- Food
- Sex

Lack of air and food will kill an individual. Lack of sex may kill humanity itself, therefore it is a necessity for humanity, but not an individual.

Safety needs

With their physical needs relatively satisfied, the individual's safety needs take over and dominate their behavior. These needs have to do with people's yearning for a predictable, orderly world in which injustice and inconsistency are under control, the familiar frequent and the unfamiliar rare. In the world of work, these safety needs manifest themselves in such things as a preference for job security, grievance procedures for protecting the individual from unilateral authority, savings accounts, insurance policies, and the like.

For the most part, physiological and safety needs are reasonably well satisfied in the "First World." The obvious exceptions, of course, are people outside the mainstream — the poor and the disadvantaged. They still struggle to satisfy the basic physiological and safety needs. They are primarily concerned with survival: obtaining adequate food, clothing, shelter, and seeking justice from the dominant societal groups.

Safety and Security needs include:

- Personal security
- Financial security
- Health and well-being
- Safety net against accidents/illness and the adverse impacts

Social needs

After physiological and safety needs are fulfilled, the third layer of human needs is social. This psychological aspect of Maslow's hierarchy involves emotionally-based relationships in general, such as:

- Friendship
- Intimacy
- Having a supportive and communicative family

Humans need to feel a sense of belonging and acceptance, whether it comes from a large social group, such as clubs, office culture, religious groups, professional organizations, sports teams, gangs ("Safety in numbers"), or small social connections (family members, intimate partners, mentors, close colleagues, confidants). They need to love and be loved (sexually and non-sexually) by others. In the absence of these elements, many people become susceptible to loneliness, social anxiety, and clinical depression. This need for belonging can often overcome the physiological and security needs, depending on the strength of the peer pressure; an anorexic, for example, may ignore the need to eat and the security of health for a feeling of control and belonging.

Esteem

All humans have a need to be respected, to have self-esteem, self-respect. Also known as the *belonging need*, esteem presents the normal human desire to be accepted and valued by others. People need to engage themselves to gain recognition and have an activity or activities that give the person a sense of contribution, to feel accepted and self-valued, be it in a profession or hobby. Imbalances at this level can result in low self-esteem or an inferiority complex. People with low self-esteem need respect from others. They may seek fame or glory, which again depends on others. It may be noted, however, that many people with low self-esteem will not be able to improve their view of themselves simply by receiving fame, respect, and glory externally, but must first accept themselves internally. Psychological imbalances such as depression can also prevent one from obtaining self-esteem on both levels.

Most people have a need for a stable self-respect and self-esteem. Maslow noted two versions of esteem needs, a lower one and a higher one. The lower one is the need for the respect of others, the need for status, recognition, fame, prestige, and attention. The higher one is the need for self-esteem, strength, competence, mastery, self-confidence, independence and freedom. The last one is higher because it rests more on inner competence won through experience. Deprivation of these needs can lead to an inferiority complex, weakness and helplessness.

Maslow stresses the dangers associated with self-esteem based on fame and outer recognition instead of inner competence. Healthy self-respect is based on earned respect.

Self-actualization

The motivation to realize one's own maximum potential and possibilities is considered to be the master motive or the only real motive, all other motives being its various forms. In Maslow's hierarchy of needs, the need for self-actualization is the final need that manifests when lower level needs have been satisfied. Classical Adlerian psychotherapy promotes this level of psychological development, utilizing the foundation of a 12-stage therapeutic model to realistically satisfy the basic needs, leading to an advanced stage of "meta-therapy," creative living, and self/other/task-actualization. Maslow's writings are used as inspirational resources.

Self-transcendence

Near the end of his life Maslow proposed that there was a level on the hierarchy that was above self-actualization: self-transcendence[7]. "[Transcenders] may be said to be much more often aware of the realm of Being (B-realm and B-cognition), to be living at the level of Being... to have unitive consciousness and “plateau experience” (serene and contemplative B-cognitions rather than climactic ones) ... and to have or to have had peak experience (mystic, sacral, ecstatic) with illuminations or insights. Analysis of reality or cognitions which changed their view of the world and of themselves, perhaps occasionally, perhaps as a usual thing."[8] Maslow later did a study on 12 people he believed possessed the qualities of Self-transcendence. Many of the qualities were guilt for the misfortune of someone, creativity, humility, intelligence, and divergent thinking. They were mainly loners, had deep relationships, and were very normal on the outside. Maslow estimated that only 2% of the population will ever achieve this level of the hierarchy in their lifetime, and that it was absolutely impossible for a child to possess these traits.

.Criticisms

While Maslow's theory was regarded as an improvement over previous theories of personality and motivation, it had its detractors. For example, in their extensive review of research which is dependent on Maslow's theory, Wahba and Bridgewell[9] found little evidence for the ranking of needs Maslow described, or even for the existence of a definite hierarchy at all. Chilean economist and philosopher Manfred Max-Neef has also argued fundamental human needs are non-hierarchical, and are ontologically universal and invariant in nature - part of the condition of being human; poverty, he argues, is the result of any one of these needs being frustrated, denied or unfulfilled.

Informal organization

The **informal organization** is the interlocking social structure that governs how people work together in practice. It is the aggregate of behaviors, interactions, norms, personal and professional connections through which work gets done and relationships are built among people who share a common organizational affiliation or cluster of affiliations. It consists of a dynamic set of personal relationships, social networks, communities of common interest, and emotional sources of motivation. The informal organization evolves organically and spontaneously in response to changes in the work environment, the flux of people through its porous boundaries, and the complex social dynamics of its members.

Tended effectively, the informal organization complements the more explicit structures, plans, and processes of the formal organization: it can accelerate and enhance responses to unanticipated events, foster innovation, enable people to solve problems that require collaboration across boundaries, and create footpaths showing where the formal organization may someday need to pave a way.

The informal organization and the formal organization

The nature of the informal organization becomes more distinct when its key characteristics are juxtaposed with those of the formal organization.

Key characteristics of the informal organization:

- evolving constantly
- grass roots
- dynamic and responsive
- excellent at motivation
- requires insider knowledge to be seen
- treats people as individuals
- flat and fluid
- cohered by trust and reciprocity
- difficult to pin down
- essential for situations that change quickly or are not yet fully understood

Key characteristics of the formal organization:

- enduring, unless deliberately altered
- top-down

- missionary
- static
- excellent at alignment
- plain to see
- equates “person” with “role”
- hierarchical
- bound together by codified rules and order
- easily understood and explained
- critical for dealing with situations that are known and consistent

Historically, some have regarded the informal organization as the byproduct of insufficient formal organization—arguing, for example, that “it can hardly be questioned that the ideal situation in the business organization would be one where no informal organization existed.” [1] However, the contemporary approach—one suggested as early as 1925 by Mary Parker Follett, the pioneer of community centers and author of influential works on management philosophy—is to integrate the informal organization and the formal organization, recognizing the strengths and limitations of each. Integration, as Follett defined it, means breaking down apparent sources of conflict into their basic elements and then building new solutions that neither allow domination nor require compromise.[2] In other words, integrating the informal organization with the formal organization replaces competition with coherence.

At a societal level, the importance of the relationship between formal and informal structures can be seen in the relationship between civil society and state authority. The power of integrating the formal organization and the informal organization can also be seen in many successful businesses.

Functions of informal organizations

Keith Davis suggests that informal groups serve at least four major functions within the formal organizational structure.
1. They perpetuate the cultural and social values that the group holds dear. Certain values are usually already held in common among informal group members. Day-to-day interaction reinforces these values that perpetuate a particular lifestyle and preserve group unity and integrity. For example, a college management class of 50 students may contain several informal groups that constitute the informal organization within the formal structure of the class. These groups may develop out of fraternity or sorority relationships, dorm residency, project work teams, or seating arrangements. Dress codes, hairstyles, and political party involvement are reinforced among the group members.
2. They provide social status and satisfaction that may not be obtained from the formal organization. In a large organization (or classroom), a worker (or student) may feel like an anonymous number rather than a unique individual. Members of informal groups, however, share jokes and gripes, eat together, play and work together, and are friends-which contributes to personal esteem, satisfaction, and a feeling of worth.
3. They promote communication among members. The informal group develops a communication channel or system (i.e., grapevine) to keep its members informed about what management actions will affect them in various ways. Many astute

managers use the grape- vine to "informally" convey certain information about company actions and rumors.
4. They provide social control by influencing and regulating behavior inside and outside the group. Internal control persuades members of the group to conform to its lifestyle. For example, if a student starts to wear a coat and tie to class, informal group members may razz and convince the student that such attire is not acceptable and therefore to return to sandals, jeans, and T-shirts. External control is directed to such groups as management, union leadership, and other informal groups.

Disadvantages of informal groups

Informal organizations also possess the following potential disadvantages and problems that require astute and careful management attention.

Resistance to change.

Perpetuation of values and lifestyle causes informal groups to become overly protective of their "culture" and therefore resist change. For example, if restriction of output was the norm in an autocratic management group, it must continue to be so, even though management changes have brought about a more participative administration. A minority female student may have a tough time being fully accepted on a project team composed of three white, prejudiced young men-regardless of her academic competency.

Role conflict.

The quest for informal group satisfaction may lead members away from formal organizational objectives. What is good for and desired by informal group members is not always good for the organization. Doubling the number of coffee breaks and the length of the lunch period may be desirable for group members but costly and unprofitable for the firm. Employees' desire to fulfill the requirements and services of both the informal group and management results in role conflict. Role conflict can be reduced by carefully attempting to integrate interests, goals, methods, and evaluation systems of both the informal and formal organizations, resulting in greater productivity and satisfaction on everyone's behalf.

Rumor

The grapevine dispenses truth and rumor with equal vengeance. Ill-informed employees communicate unverified and untrue information that can create a devastating effect on employees. This can undermine morale, establish bad attitudes, and often result in deviant or, even violent behavior. For example, a student who flunks an exam can start a rumor that a professor is making sexually harassing advances toward one of the students in class. This can create all sorts of ill feelings toward the professor and even result in vengeful acts like "egging" the residence or knocking over the mail box.

conformity

Social control promotes and encourages conformity among informal group members, thereby making them reluctant to act too aggressively or perform at too high a level. This can harm the formal organization by stifling initiative, creativity, and diversity of performance. In some British factories, if a group member gets "out of line", tools may be hidden, air may be let out of tires, and other group members may refuse to talk to the deviant for days or weeks. Obviously, these types of actions can force a good worker to leave the organization.

Benefits of the informal organization

Although informal organizations create unique challenges and potential problems for management, they also provide a number of benefits for the formal organization.

blend with formal system

Formal plans. policies, procedures, and standards cannot solve every problem in a dynamic organization; therefore, informal systems must blend with formal ones to get work done. As early as 1951, Robert Dubin recognized that "informal relations in the organization serve to preserve the organization from the self-destruction that would result from literal obedience to the formal policies, rules, regulations, and procedures." No college or university could function merely by everyone following the "letter of the law" with respect to written policies and procedures. Faculty, staff, and student informal groups must cooperate in fulfilling the spirit of the law" to effectuate an organized, sensibly run enterprise.

Lighten management workload

Managers are less inclined to check up on workers when they know the informal organization is cooperating with them. This encourages delegation, decentralization, and greater worker support of the manager, which suggests a probable improvement in performance and overall productivity. When a professor perceives that students are conscientiously working on their term papers and group projects, there are likely to be fewer "pap tests" or impromptu progress reports. This eases the professors load and that of the students and promotes a better relation- ship between both parties.

Fill gaps in management abilities

For instance, if a manager is weak in financial planning and analysis, a subordinate may informally assist in preparing reports through either suggestions or direct involvement. ' Act as a safety valve. Employees experience frustration, tension, and emotional problems with management and other employees. The informal group provides a means for relieving these emotional and psychological pressures by allowing a person to discuss them among friends openly and candidly. In faculty lounge conversations, frustrations with the dean, department head, or students are "blown off" among empathetic colleagues.

Encourage improved management practice

Perhaps a subtle benefit of informal groups is that they encourage managers to prepare, plan, organize, and control in a more professional fashion. Managers who comprehend the power of the informal organization recognize that it is a "check and balance" on their use of authority. Changes and projects are introduced with more careful thought and consideration, knowing that the informal organization can easily kill a poorly planned project.

Business Approaches

1. **Rapid growth.** Starbucks, which grew from 100 employees to over 100,000 in just over a decade, provides structures to support improvisation. In a July 1998 Fast Company article on rapid growth, Starbucks chairman Howard Schultz said, “You can’t grow if you’re driven only by process, or only by the creative spirit. You’ve got to achieve a fragile balance between the two sides of the corporate brain.”
2. **Learning organization.** Following a four-year study of the Toyota Production System, Steven J. Spear and H. Kent Bowen concluded in Harvard Business Review that the legendary flexibility of Toyota’s operations is due to the way the scientific method is ingrained in its workers – not through formal training or manuals (the production system has never been written down) but through unwritten principles that govern how workers work, interact, construct, and learn.

Idea generation. Texas Instruments credits its “Lunatic Fringe”—“an informal and amorphous group of TI engineers (and their peers and contacts outside the company),” according to Fortune Magazine—for its recent successes. "There's this continuum between total chaos and total order," Gene Frantz, the hub of this informal network, explained to Fortune. “About 95% of the people in TI are total order, and I thank God for them every day, because they create the products that allow me to spend money**.** I'm down here in total chaos, that total chaos of innovation. As a company we recognize the difference between those two and encourage both to occur."

Organizational structure

An **organizational structure** is a mainly hierarchical concept of subordination of entities that collaborate and contribute to serve one common aim.

Organizations are a variant of clustered entities. An organization can be structured in many different ways and styles, depending on their objectives and ambiance. The structure of an organization will determine the modes in which it operates and performs.

Organizational structure allows the expressed allocation of responsibilities for different functions and processes to different entities such as the branch, department, workgroup and individual. Individuals in an organizational structure are normally hired under time-limited work contracts or work orders, or under permanent employment contracts or program orders.

Operational organizations and informal organizations

The set organizational structure may not coincide with facts, evolving in operational action. Such divergence decreases performance, when growing. E.g. a wrong organizational structure may hamper cooperation and thus hinder the completion of orders in due time and within limits of resources and budgets. Organizational structures shall be adaptive to process requirements, aiming to optimize the ratio of effort and input to output.

An effective organizational structure shall facilitate working relationships between various entities in the organization and may improve the working efficiency within the organizational units. Organization shall retain a set order and control to enable monitoring the processes. Organization shall support command for coping with a mix of orders and a change of conditions while performing work. Organization shall allow for application of individual skills to enable high flexibility and apply creativity. When a business expands, the chain of command will lengthen and the spans of control will widen. When an organization comes to age, the flexibility will decrease and the creativity will fatigue. Therefore organizational structures shall be altered from time to time to enable recovery. If such alteration is prevented internally, the final escape is to turn down the organization to prepare for a re-launch in an entirely new set up.

Success factors

Common success criteria for organizational structures are:

- Decentralized reporting
- Flat hierarchy
- High transient speed
- High transparency
- Low residual mass
- Permanent monitoring
- Rapid response
- Shared reliability
- Matrix hierarchy

Organizational structures developed from the ancient times of hunters and collectors in tribal organizations through highly royal and clerical power structures to industrial structures and today's post-industrial structures.

Organizational structure types

Pre-bureaucratic structures

Pre-bureaucratic (entrepreneurial) structures lack standardization of tasks. This structure is most common in smaller organizations and is best used to solve simple tasks. The structure is totally centralized. The strategic leader makes all key decisions and most communication is done by one on one conversations. It is particularly useful for new (entrepreneurial) business as it enables the founder to control growth and development.

They are usually based on traditional domination or charismatic domination in the sense of Max Weber's tripartite classification of authority.

Bureaucratic structures

Bureaucratic structures have a certain degree of standardization. They are better suited for more complex or larger scale organizations. They usually adopt a tall structure. Then tension between bureaucratic structures and non-bureaucratic is echoed in Burns and Stalker distinction between mechanistic and organic structures.

Functional structure

Employees within the functional divisions of an organization tend to perform a specialized set of tasks, for instance the engineering department would be staffed only with engineers. This leads to operational efficiencies within that group. However it could also lead to a lack of communication between the functional groups within an organization, making the organization slow and inflexible.

As a whole, a functional organization is best suited as a producer of standardized goods and services at large volume and low cost. Coordination and specialization of tasks are centralized in a functional structure, which makes producing a limited amount of products or services efficient and predictable. Moreover, efficiencies can further be realized as functional organizations integrate their activities vertically so that products are sold and distributed quickly and at low cost . For instance, a small business could start making the components it requires for production of its products instead of procuring it from an external organization.

Divisional structure

Also called a "product structure", the divisional structure groups each organizational function into a divisions. Each division within a divisional structure contains all the necessary resources and functions within it. Divisions can be categorized from different points of view. There can be made a distinction on geograpical basis (an US division and an EU division) or on product/service basis (different products for different customers: households or companies). Another example, an automobile company with a divisional structure might have one division for SUVs, another division for subcompact cars, and another division for sedans. Each division would have its own sales, engineering and marketing departments.

Matrix structure

The matrix structure groups employees by both function and product. This structure can combine the best of both separate structures. A matrix organization frequently uses teams of employees to accomplish work, in order to take advantage of the strengths, as well as make up for the weaknesses, of functional and decentralized forms. An example would be a company that produces two products, "product a" and "product b". Using the matrix structure, this company would organize functions within the company as follows: "product a" sales department, "product a" customer service department, "product a" accounting, "product b" sales department, "product b" customer service department, "product b" accounting department. Matrix structure is the most complex of the different organizational structures.

- **Weak/Functional Matrix:** A project manager with only limited authority is assigned to oversee the cross- functional aspects of the project. The functional managers maintain control over their resources and project areas.
- **Balanced/Functional Matrix:** A project manager is assigned to oversee the project. Power is shared equally between the project manager and the functional managers. It brings the best aspects of functional and projectized organizations. However, this is the most difficult system to maintain as the sharing power is delicate proposition.
- **Strong/Project Matrix:** A project manager is primarily responsible for the project. Functional managers provide technical expertise and assign resources as needed.

Among these matrixes, there is no best format; implementation success always depends on organization's purpose and function.

Organizational circle: moving back to flat

The flat structure is common in enterpreneurial start-ups, university spin offs or small companies in general. As the company grows, however, it becomes more complex and hierarchical, which leads to an expanded structure, with more levels and departments.

Often, it would result in bureaucracy, the most prevalent structure in the past. It is still, however, relevant in former Soviet Republics and China, as well as in most governmental organizations all over the world. Shell Group used to represent the typical bureaucracy: top-heavy and hierarchical. It featured multiple levels of command and duplicate service companies existing in different regions. All this made Shell apprehensive to market changes , leading to its incapacity to grow and develop further. The failure of this structure became the main reason for the company restructuring into a matrix.

Starbucks is one of the numerous large organizations that successfully developed the matrix structure supporting their focused strategy. Its design combines functional and product based divisions, with employees reporting to two heads Creating a team spirit, the company empowers employees to make their own decisions and train them to develop both hard and soft skills. That makes Starbucks one of the best at customer service.

Some experts also mention the multinational design , common in global companies, such as Procter & Gamble, Toyota and Unilever. This structure can be seen as a complex form of the matrix, as it maintains coordination among products, functions and geographic areas.

In general, over the last decade, it has become increasingly clear that through the forces of globalization, competition and more demanding customers, the structure of many companies has become flatter, less hierarchical, more fluid and even virtual.

Team

One of the newest organizational structures developed in the 20th century is *team*. In small businesses, the team structure can define the entire organization . Teams can be both horizontal and vertical. While an organization is constituted as a set of people who synergize individual competencies to achieve newer dimensions, the quality of organizational structure revolves around the competencies of teams in totality.For example, every one of the Whole Foods Market stores, the largest natural-foods grocer in the US developing a focused strategy, is an autonomous profit centre composed of an average of 10 self-managed teams, while team leaders in each store and each region are also a team. Larger bureaucratic organizations can benefit from the flexibility of teams as well. Xerox, Motorola, and DaimlerChrysler are all among the companies that actively use teams to perform tasks.

Network

Another modern structure is network. While business giants risk becoming *too clumsy to proact, act and react efficiently* [13], the new network organizations contract out any business function, that can be done better or more cheaply. In essence, managers in network structures spend most of their time coordinating and controlling external relations, usually by electronic means. H&M is outsourcing its clothing to a network of 700 suppliers, more than two-thirds of which are based in low-cost Asian countries. Not owning any factories, H&M can be more flexible than many other retailers in lowering its costs, which aligns with its low-cost strategy[14]. The potential management opportunities offered by recent advances in complex networks theory have been demonstrated [15] including applications to product design and development [16], and innovation problem in markets and industries [17]

Organization development

Organization development (OD) is often defined as a planned, top-down, organization-wide effort to increase the organization's effectiveness and health. According to Warren Bennis, OD is a complex strategy intended to change the beliefs, attitudes, values, and structure of organizations so that they can better adapt to new technologies, markets, and challenges. OD is neither "anything done to better an organization" nor is it "the training function of the organization"; it is a particular kind of change process designed to bring about a particular kind of end result. OD can involve interventions in the organization's "processes," using behavioural science knowledge[1] as well as organizational reflection, system improvement, planning, and self-analysis].

Kurt Lewin (1898 - 1947) is widely recognized as the founding father of OD, although he died before the concept became current in the mid-1950s. From Lewin came the ideas of group dynamics, and action research which underpin the basic OD process as well as providing its collaborative consultant/client ethos. Institutionally, Lewin founded the "Research Center for Group Dynamics" at MIT, which moved to Michigan after his death. RCGD colleagues were among those who founded the National Training Laboratories (NTL), from which the T-group and group-based OD emerged. In the UK, working as close as was possible with Lewin and his colleagues, the Tavistock Institute of Human Relations was important in developing systems theories. Important too was the joint TIHR journal Human Relations, although nowadays the Journal of Applied Behavioral Sciences is seen as the leading OD journal.

The term "Organization Development" is often used interchangeably with Organizational effectiveness, especially when used as the name of a department within an organization. Organization Development is a growing field that is responsive to many new approaches including Positive Adult Development.

Overview

At the core of OD is the concept of organization, defined as two or more people working together toward one or more shared goal(s). Development in this context is the notion that an organization may become more effective over time at achieving its goals.

OD is a long range effort to improve organization's problem solving and renewal processes, particularly through more effective and collaborative management of organizational culture, often with the assistance of a change agent or catalyst and the use of the theory and technology of applied behavioral science.

Organization development is a "*contractual relationship* between a *change agent* and a *sponsoring organization* entered into for the purpose of *using applied behavioral science* in a *systems context* to *improve organizational performance* and the *capacity of the organization to improve itself*

Organization development is an ongoing, systematic process to implement effective change in an organization. Organization development is known as both a field of applied behavioral science focused on understanding and managing organizational change and as a field of scientific study and inquiry. It is interdisciplinary in nature and draws on sociology, psychology, and theories of motivation, learning, and personality.

Contractual Relationship

Although neither the sponsoring organization nor the change agent can be sure at the outset of the exact nature of the problem or problems to be dealt with or how long the change agents' help will be needed, it is essential that some tentative agreement on these matters be reached. The sponsoring organization needs to know generally what the change agent's preliminary plan is, what its own commitments are in relation to personal commitments and responsibility for the program, and what the change agent's fee will be. The change agent must assure himself that the organization's, and particularly the top executives', commitment to change is strong enough to support the kind of self-analysis and personal involvement requisite to success of the program. Recognizing the uncertainties lying ahead on both sides, a termination agreement permitting either side to withdraw at any time is usually included.

Change Agent

A change agent in the sense used here is not a technical expert skilled in such functional areas as accounting, production, or finance. He is a behavioral scientist who knows how to get people in an organization involved in solving their own problems. His main strength is a comprehensive knowledge of human behavior, supported by a number of intervention techniques (to be discussed later). The change agent can be either external or internal to the organization. An internal change agent is usually a staff person who has expertise in the behavioral sciences and in the intervention technology of OD. Beckhard reports several cases in which line people have been trained in OD and have returned to their organizations to engage in successful change assignments. The change agent may be a staff or line member of the organization who is schooled in OD theory and technique. In such a case, the "contractual relationship" is an in-house agreement that should probably be explicit with respect to all of the conditions involved except the fee.

Sponsoring Organization

The initiative for OD programs comes from an organization that has a problem. This means that top management or someone authorized by top management is aware that a problem exists and has decided to seek help in solving it. There is a direct analogy here to the practice of psychotherapy: The client or patient must actively seek help in finding a solution to his problems. This indicates a willingness on the part of the client organization to accept help and assures the organization that management is actively concerned.

Applied Behavioral Science

One of the outstanding characteristics of OD that distinguishes it from most other improvement programs is that it is based on a "helping relationship." Some believe that the change agent is not a physician to the organization's ills; that s/he does not examine the "patient," make a diagnosis, and write a prescription. Nor does s/he try to teach organizational members a new inventory of knowledge which they then transfer to the job situation. Using theory and methods drawn from such behavioral sciences as (industrial/organisational psychology, industrial sociology, communication, cultural anthropology, administrative theory, organizational behavior, economics, and political science, the change agent's main function is to help the organization define and solve its own problems. The basic method used is known as action research. This approach, which is described in detail later, consists of a preliminary diagnosis, collecting data, feedback of the data to the client, data exploration by the client group, action planning based on the data, and taking action.

Systems Context

OD deals with a total system — the organization as a whole, including its relevant environment — or with a subsystem or systems — departments or work groups — in the context of the total system. Parts of systems, for example, individuals, cliques, structures, norms, values, and products are not considered in isolation; the principle of interdependency, that is, that change in one part of a system affects the other parts, is fully recognized. Thus, OD interventions focus on the total culture and cultural processes of organizations. The focus is also on groups, since the relevant behavior of individuals in organizations and groups is generally a product of group influences rather than personality.

Improved Organizational Performance

The objective of OD is to improve the organization's capacity to handle its internal and external functioning and relationships. This would include such things as improved interpersonal and group processes, more effective communication, enhanced ability to cope with organizational problems of all kinds, more effective decision processes, more appropriate leadership style, improved skill in dealing with destructive conflict, and higher levels of trust and cooperation among organizational members. These objectives stem from a value system based on an optimistic view of the nature of man — that man in a supportive environment is capable of achieving higher levels of development and accomplishment. Essential to organization development and effectiveness is the scientific method — inquiry, a rigorous search for causes, experimental testing of hypotheses, and review of results.

Organizational Self-Renewal

The ultimate aim of OD practitioners is to "work themselves out of a job" by leaving the client organization with a set of tools, behaviors, attitudes, and an action plan with which to monitor its own state of health and to take corrective steps toward its own renewal and development. This is consistent with the systems concept of feedback as a regulatory and corrective mechanism.

Early development

Kurt Lewin played a key role in the evolution of organization development as it is known today. As early as World War II, Lewin experimented with a collaborative change process (involving himself as consultant and a client group) based on a three-step process of planning, taking action, and measuring results. This was the forerunner of action research, an important element of OD, which will be discussed later. Lewin then participated in the beginnings of laboratory training, or T-groups, and, after his death in 1947, his close associates helped to develop survey-research methods at the University of Michigan. These procedures became important parts of OD as developments in this field continued at the National Training Laboratories and in growing numbers of universities and private consulting firms across the country.

The failure of off-site laboratory training to live up to its early promise was one of the important forces stimulating the development of OD. Laboratory training is learning from a person's "here and now" experience as a member of an ongoing training group. Such groups usually meet without a specific agenda. Their purpose is for the members to learn about themselves from their spontaneous "here and now" responses to an ambiguous hypothetical situation. Problems of leadership, structure, status, communication, and self-serving behavior typically arise in such a group. The members have an opportunity to learn something about themselves and to practice such skills as listening, observing others, and functioning as effective group members.

Modern development

In recent years, serious questioning has emerged about the relevance of OD to managing change in modern organizations. The need for "reinventing" the field has become a topic that even some of its "founding fathers" are discussing critically.

With this call for reinvention and change, scholars have begun to examine organizational development from an emotion-based standpoint. For example, deKlerk (2007) writes about how emotional trauma can negatively affect performance. Due to downsizing, outsourcing, mergers, restructuring, continual changes, invasions of privacy, harassment, and abuses of power, many employees experience the emotions of aggression, anxiety, apprehension, cynicism, and fear, which can lead to performance decreases. deKlerk (2007) suggests that in order to heal the trauma and increase performance, O.D. practitioners must acknowledge the existence of the trauma, provide a safe place for employees to discuss their feelings, symbolize the trauma and put it into perspective, and then allow for and deal with the emotional responses. One method of achieving this is by having employees draw pictures of what they feel about the situation, and then having them explain their drawings with each other. Drawing pictures is beneficial because it allows employees to express emotions they normally would not be able to put into words. Also, drawings often prompt active participation in the activity, as everyone is required to draw a picture and then discuss its meaning.

OD interventions

"Interventions" are principal learning processes in the "action" stage (see *Figure 1*) of organization development. Interventions are structured activities used individually or in combination by the members of a client system to improve their social or task performance. They may be introduced by a change agent as part of an improvement program, or they may be used by the client following a program to check on the state of the organization's health, or to effect necessary changes in its own behavior. "Structured activities" mean such diverse procedures as experiential exercises, questionnaires, attitude surveys, interviews, relevant group discussions, and even lunchtime meetings between the change agent and a member of the client organization. Every action that influences an organization's improvement program in a change agent-client system relationship can be said to be an intervention.

There are many possible intervention strategies from which to choose. Several assumptions about the nature and functioning of organizations are made in the choice of a particular strategy. Beckhard lists six such assumptions:

1. The basic building blocks of an organization are groups (teams). Therefore, the basic units of change are groups, not individuals.
2. An always relevant change goal is the reduction of inappropriate competition between parts of the organization and the development of a more collaborative condition.
3. Decision making in a healthy organization is located where the information sources are, rather than in a particular role or level of hierarchy.

4. Organizations, subunits of organizations, and individuals continuously manage their affairs against goals. Controls are interim measurements, not the basis of managerial strategy.
5. One goal of a healthy organization is to develop generally open communication, mutual trust, and confidence between and across levels.
6. People support what they help create. People affected by a change must be allowed active participation and a sense of ownership in the planning and conduct of the change.

Interventions range from those designed to improve the effectiveness of individuals through those designed to deal with teams and groups, intergroup relations, and the total organization. There are interventions that focus on task issues (what people do), and those that focus on process issues (how people go about doing it). Finally, interventions may be roughly classified according to which change mechanism they tend to emphasize: for example, feedback, awareness of changing cultural norms, interaction and communication, conflict, and education through either new knowledge or skill practice.

One of the most difficult tasks confronting the change agent is to help create in the client system a safe climate for learning and change. In a favorable climate, human learning builds on itself and continues indefinitely during man's lifetime. Out of new behavior, new dilemmas and problems emerge as the spiral continues upward to new levels. In an unfavorable climate, in contrast, learning is far less certain, and in an atmosphere of psychological threat, it often stops altogether. Unfreezing old ways can be inhibited in organizations because the climate makes employees feel that it is inappropriate to reveal true feelings, even though such revelations could be constructive. In an inhibited atmosphere, therefore, necessary feedback is not available. Also, trying out new ways may be viewed as risky because it violates established norms. Such an organization may also be constrained because of the law of systems: If one part changes, other parts will become involved. Hence, it is easier to maintain the status quo. Hierarchical authority, specialization, span of control, and other characteristics of formal systems also discourage experimentation.

The change agent must address himself to all of these hazards and obstacles. Some of the things which will help him are:

1. A real need in the client system to change
2. Genuine support from management
3. Setting a personal example: listening, supporting behavior
4. A sound background in the behavioral sciences
5. A working knowledge of systems theory
6. A belief in man as a rational, self-educating being fully capable of learning better ways to do things.

A few examples of interventions include team building, coaching, Large Group Interventions, mentoring, performance appraisal, downsizing, TQM, and leadership development.

Organizational culture

Organizational culture is an idea in the field of Organizational studies and management which describes the psychology, attitudes, experiences, beliefs and values (personal and cultural values) of an organization. It has been defined as "the specific collection of values and norms that are shared by people and groups in an organization and that control the way they interact with each other and with stakeholders outside the organization."

This definition continues to explain **organizational values** also known as "beliefs and ideas about what kinds of goals members of an organization should pursue and ideas about the appropriate kinds or standards of behavior organizational members should use to achieve these goals. From organizational values develop organizational norms, guidelines or expectations that prescribe appropriate kinds of behavior by employees in particular situations and control the behavior of organizational members towards one another."

Organizational culture is not the same as **corporate culture**. It is wider and deeper concepts, something that an organization 'is' rather than what it 'has'

Corporate culture is the total sum of the values, customs, traditions and meanings that make a company unique. Corporate culture is often called "the character of an organization" since it embodies the vision of the company’s founders. The values of a corporate culture influence the ethical standards within a corporation, as well as managerial behavior.

Senior management may try to determine a *corporate culture*. They may wish to impose corporate values and standards of behavior that specifically reflect the objectives of the organization. In addition, there will also be an extant internal culture within the workforce. Work-groups within the organization have their own behavioral quirks and interactions which, to an extent, affect the whole system. Roger Harrison's four-culture typology, and adapted by Charles Handy, suggests that unlike organizational culture, corporate culture can be 'imported'. For example, computer technicians will have expertise, language and behaviors gained independently of the organization, but their presence can influence the culture of the organization as a whole.

Strong/weak cultures

Strong culture is said to exist where staff respond to stimulus because of their alignment to organizational values. In such environments, strong cultures help firms operate like well-oiled machines, cruising along with outstanding execution and perhaps minor tweaking of existing procedures here and there.

Conversely, there is **weak culture** where there is little alignment with organizational values and control must be exercised through extensive procedures and bureaucracy.

Where culture is strong—people do things because they believe it is the right thing to do—there is a risk of another phenomenon, Groupthink. "Groupthink" was described by Irving L. Janis. He defined it as "...a quick and easy way to refer to a mode of thinking that people engage when they are deeply involved in a cohesive ingroup, when members' strivings for unanimity override their motivation to realistically appraise alternatives of action." This is a state where people, even if they have different ideas, do not challenge organizational thinking, and therefore there is a reduced capacity for innovative thoughts. This could occur, for example, where there is heavy reliance on a central charismatic figure in the organization, or where there is an evangelical belief in the organization’s values, or also in groups where a friendly climate is at the base of their identity (avoidance of conflict). In fact group think is very common, it happens all the time, in almost every group. Members that are defiant are often turned down or seen as a negative influence by the rest of the group, because they bring conflict.

Innovative organizations need individuals who are prepared to challenge the status quo—be it groupthink or bureaucracy, and also need procedures to implement new ideas effectively.

Types of organizational cultures

- **The Tough-Guy Macho Culture**. Feedback is quick and the rewards are high. This often applies to fast moving financial activities such as brokerage, but could also apply to a police force, or athletes competing in team sports. This can be a very stressful culture in which to operate.
- **The Work Hard/Play Hard Culture** is characterized by few risks being taken, all with rapid feedback. This is typical in large organizations, which strive for high quality customer service. It is often characterized by team meetings, jargon and buzzwords.
- **The Bet your Company Culture**, where big stakes decisions are taken, but it may be years before the results are known. Typically, these might involve development or exploration projects, which take years to come to fruition, such as oil prospecting or military aviation.
- **The Process Culture** occurs in organizations where there is little or no feedback. People become bogged down with how things are done not with what is to be achieved. This is often associated with bureaucracies. While it is easy to criticize these cultures for being overly cautious or bogged down in red tape, they do produce consistent results, which is ideal in, for example, public services.

- A **Power Culture** which concentrates power among a few. Control radiates from the center like a web. Power Cultures have few rules and little bureaucracy; swift decisions can ensue.
- In a **Role Culture**, people have clearly delegated authorities within a highly defined structure. Typically, these organizations form hierarchical bureaucracies. Power derives from a person's position and little scope exists for expert power.
- By contrast, in a **Task Culture**, teams are formed to solve particular problems. Power derives from expertise as long as a team requires expertise. These cultures often feature the multiple reporting lines of a matrix structure.
- A **Person Culture** exists where all individuals believe themselves superior to the organization. Survival can become difficult for such organizations, since the concept of an organization suggests that a group of like-minded individuals pursue the organizational goals. Some professional partnerships

can operate as person cultures, because each partner brings a particular expertise and clientele to the firm.

The Blame culture This culture cultivates distrust and fear, people blame each other to avoid being reprimanded or put down, this results in no new ideas or personal initiative because people don't want to risk being wrong.

Multi-directional culture This culture cultivates minimized cross-department communication and cooperation. Loyalty is only to specific groups (departments). Each department becomes a clique and is often critical of other departments which in turn creates lots of gossip. The lack of cooperation and Multi-Direction is manifested in the organization's inefficiency.

Live and let live culture This culture is Complacency, it manifests Mental Stagnation and Low Creativity. People here have little future vision and have given up their passion. There is average cooperation and communication, and things do work, but they do not grow. People have developed their personal relationships and decided who to stay away from, there is not much left to learn.

Brand congruent culture People in this culture believe in the product or service of the organization, they feel good about what their company is trying to achieve and cooperate to achieve it. People here are passionate and seem to have similar goals in the organisation. They use personal resources to actively solve problems and while they don't always accept the actions of management or others around them, they see their job as important. Most everyone in this culture is operating at the level of Group.

Leadership enriched culture People view the organization as an extension of themselves, they feel good about what they personally achieve through the organization and have exceptional Cooperation. Individual goals are aligned with the goals of the organization and people will do what it takes to make things happen. As a group, the organization is more like family providing personal fulfillment which often transcends ego so people are consistently bringing out the best in each other. In this culture, Leaders do not develop followers, but develop other leaders. Most everyone in this culture is operating at the level of Organization.

• Constructive Cultures, in which members are encouraged to interact with people and approach tasks in ways that help them meet their higher-order satisfaction needs. • Passive/Defensive Cultures, in which members believe they must interact with people in ways that will not threaten their own security. • Aggressive/Defensive Cultures, in which members are expected to approach tasks in forceful ways to protect their status and security.

The Constructive Cluster, this includes cultural norms that reflect expectations for members to interact with others and approach tasks in ways that will help them meet their higher order satisfaction needs for affiliation, esteem, and self-actualization.

The four cultural norms in this cluster are:

• Achievement • Self-Actualizing • Humanistic-Encouraging • Affiliative

Organizations with Constructive cultures encourage members to work to their full potential, resulting in high levels of motivation, satisfaction, teamwork, service quality, and sales growth. Constructive norms are evident in environments where quality is valued over quantity, creativity is valued over conformity, cooperation is believed to lead to better results than competition, and effectiveness is judged at the system level rather than the component level. These types of cultural norms are consistent with (and supportive of) the objectives behind empowerment, total quality management, transformational leadership, continuous improvement, reengineering, and learning organizations.

The Passive/Defensive Cluster Norms that reflect expectations for members to interact with people in ways that will not threaten their own security are in the Passive/Defensive Cluster.

The four Passive/Defensive cultural norms are:

• Approval • Conventional • Dependent • Avoidance

In organizations with Passive/Defensive cultures, members feel pressured to think and behave in ways that are inconsistent with the way they believe they should in order to be effective. People are expected to please others (particularly superiors) and avoid interpersonal conflict. Rules, procedures, and orders are more important than personal beliefs, ideas, and judgment. Passive/Defensive cultures experience a lot of unresolved conflict and turnover, and organizational members report lower levels of motivation and satisfaction.

The Aggressive/Defensive Cluster The Aggressive/Defensive Cluster includes cultural norms that reflect expectations for members to approach tasks in ways that protect their status and security.

The Aggressive/Defensive cultural norms are:

• Oppositional • Power • Competitive • Perfectionistic

Organizations with Aggressive/Defensive cultures encourage or require members to appear competent, controlled, and superior. Members who seek assistance, admit shortcomings, or concede their position are viewed as incompetent or weak. These organizations emphasize finding errors, weeding out “mistakes,” and encouraging members to compete against each other rather than competitors. The short-term gains associated with these strategies are often at the expense of long-term growth.

Elements used to describe organizational culture

- **The Paradigm**: What the organization is about; what it does; its mission; its values.
- **Control Systems**: The processes in place to monitor what is going on. Role cultures would have vast rulebooks. There would be more reliance on individualism in a power culture.

- **Organizational Structures**: Reporting lines, hierarchies, and the way that work flows through the business.
- **Power Structures**: Who makes the decisions, how widely spread is power, and on what is power based?
- **Symbols**: These include organizational logos and designs, but also extend to symbols of power such as parking spaces and executive washrooms.
- **Rituals and Routines**: Management meetings, board reports and so on may become more habitual than necessary.
- **Stories and Myths**: build up about people and events, and convey a message about what is valued within the organization.

These elements may overlap. Power structures may depend on control systems, which may exploit the very rituals that generate stories which may not be true.

Entrepreneurial culture

Stephen McGuire defined and validated a model of organizational culture that predicts revenue from new sources. An Entrepreneurial Organizational Culture (EOC) is a system of shared values, beliefs and norms of members of an organization, including valuing creativity and tolerance of creative people, believing that innovating and seizing market opportunities are appropriate behaviors to deal with problems of survival and prosperity, environmental uncertainty, and competitors' threats, and expecting organizational members to behave accordingly.

Elements of Entrepreneurial Culture

- People and enpowerment focused
- Value creation through innovation and change
- Attention to the basics
- Hands-on management
- Doing the right thing
- Freedom to grow and to fail
- Commitment and personal responsibility
- Emphasis on the future

Organizational communication perspective on culture

The organizational communication perspective on culture is divided into three areas:

- **Traditionalism**: Views culture through objective things such as stories, rituals, and symbols
- **Interpretivism**: Views culture through a network of shared meanings (organization members sharing subjective meanings)
- **Critical-Interpretivism**: Views culture through a network of shared meanings as well as the power struggles created by a similar network of competing meanings

There are many different types of communication that contribute in creating an organizational culture:

- **Metaphors** such as comparing an organization to a machine or a family reveal employees' shared meanings of experiences at the organization.
- **Stories** can provide examples for employees of how to or not to act in certain situations.
- **Rites and ceremonies** combine stories, metaphors, and symbols into one. Several different kinds of rites that affect organizational culture:
    - **Rites of passage**: employees move into new roles
    - **Rites of degradation**: employees have power taken away from them
    - **Rites of enhancement**: public recognition for an employee's accomplishments
    - **Rites of renewal**: improve existing social structures
    - **Rites of conflict reduction**: resolve arguments between certain members or groups
    - **Rites of integration**: reawaken feelings of membership in the organization
- **Reflexive comments** are explanations, justifications, and criticisms of our own actions. This includes:
    - **Plans**: comments about anticipated actions
    - **Commentaries**: comments about action in the present
    - **Accounts**: comments about an action or even that has already occurred

  Such comments reveal interpretive meanings held by the speaker as well as the social rules they follow.

- **Fantasy Themes** are common creative interpretations of events that reflect beliefs, values, and goals of the organization. They lead to rhetorical visions, or views of the organization and its environment held by organization members.

Schema

Schemata (plural of schema) are knowledge structures a person forms from past experiences allowing them to respond to similar events more efficiently in the future by guiding the processing of information. Schemata are created through interaction with others and thus inherently involve communication.

Stanley G. Harris argues that five categories of in-organization schemata are necessary for organizational culture:

- **Self-in-organization schemata**: a person's concept of themselves within the context of the organization, including their personality, roles, and behavior
- **Person-in-organization schemata**: a person's memories, impressions and expectations of other individuals within the organization
- **Organization schemata**: subset of person schemata, a person's generalized perspective on others as a whole in the organization
- **Object/concept-in-organization schemata**: knowledge an individual has of organization aspects other than other people
- **Event-in-organization schemata**: a person's knowledge of social events within an organization

All of these categories together represent a person's knowledge of an organization. Organizational culture is created when the schemata's of individuals within an organization come to resemble each other. This is primarily done through organizational communication as individuals directly or indirectly share knowledge and meanings.

Mergers, organizational culture, and cultural leadership

One of the biggest obstacles in the way of the merging of two organizations is organizational culture. Each organization has its own unique culture and most often, when brought together, these cultures clash. When mergers fail employees point to issues such as identity, communication problems, human resources problems, ego clashes, and inter-group conflicts, which all fall under the category of "cultural differences". One way to combat such difficulties is through cultural leadership. Organizational leaders must also be cultural leaders and help facilitate the change from the two old cultures into the one new culture. This is done through cultural innovation followed by cultural maintenance.

- **Cultural innovation** includes:
  - **Creating** a new culture: recognizing past cultural differences and setting realistic expectations for change
  - **Changing** the culture: weakening and replacing the old cultures
- **Cultural maintenance** includes:
  - **Integrating** the new culture: reconciling the differences between the old cultures and the new one
  - **Embodying** the new culture: Establishing, affirming, and keeping the new culture

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Course Name	: Elements of Human resource Management

Course Description

The Course deals with comprehensive analysis of Human Resource Management (HRM), its features, goals, and various theories behind HRM, workforce planning, recruitment in HRM, training and development, skills management, relevance of time & skills Management in HRM, Wage and Salaries, Payroll, Employee benefits, Performance Appraisal (PA).

Course Objectives

- To help students get exposed to theoretical perspectives of managing human resources in Organizations.
- To help students develop knowledge to analyze different processes involved in recruiting employees in various work places.
- To provide students with opportunities of getting exposed to different motivational theories most applicable in Human resource management.

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Mode of delivery Face to face lectures

Assessment
Course work 40%
Exams 60%
Total Mark 100%

Definition

Human Resource Management (HRM) is the function within an organization that focuses on recruitment of, management of, and providing direction for the people who work in the organization. Human Resource Management can also be performed by line managers.

Human Resource Management is the organizational function that deals with issues related to people such as compensation, hiring, performance management, organization development, safety, wellness, benefits, employee motivation, communication, administration, and training.

INTRODUCTION

Human resource management (HRM) is the strategic and coherent approach to the management of an organization's most valued assets - the people working there who individually and collectively contribute to the achievement of the objectives of the business. The terms "human resource management" and "human resources" (HR) have largely replaced the term "personnel management" as a description of the processes involved in managing people in organizations. In simple sense, HRM means employing people, developing their resources, utilizing, maintaining and compensating their services in tune with the job and organizational requirement.

Features

Its features include:

- Organizational management
- Personnel administration
- Manpower management
- Industrial managementBut these traditional expressions are becoming less common for the theoretical discipline. Sometimes even employee and industrial relations are confusingly listed as synonyms although these normally refer to the relationship between management and workers and the behavior of workers in companies.

The theoretical discipline is based primarily on the assumption that employees are individuals with varying goals and needs, and as such should not be thought of as basic business resources, such as trucks and filing cabinets. The field takes a positive view of workers, assuming that virtually all wish to contribute to the enterprise productively, and that the main obstacles to their endeavors are lack of knowledge, insufficient training, and failures of process.

HRM is seen by practitioners in the field as a more innovative view of workplace management than the traditional approach. Its techniques force the managers of an enterprise to express their goals with specificity so that they can be understood and undertaken by the workforce, and to provide the resources needed for them to successfully accomplish their assignments. As such, HRM techniques, when properly practiced, are expressive of the goals and operating practices of the enterprise overall. HRM is also seen by many to have a key role in risk reduction within organizations .Synonyms such as *personnel management* are often used in a more restricted sense to describe activities that are necessary in the recruiting of a workforce, providing its members with payroll and benefits, and administrating their work-life needs. So if we move to actual definitions, Torrington and Hall (1987) define personnel management as being:

"a series of activities which: first enable working people and their employing organisations to agree about the objectives and nature of their working relationship and, secondly, ensures that the agreement is fulfilled" (p. 49).

While Miller (1987) suggests that HRM relates to:

".......those decisions and actions which concern the management of employees at all levels in the business and which are related to the implementation of strategies directed towards creating and sustaining competitive advantage" (p. 352).

Academic theory

The goal of human resource management is to help an organization to meet strategic goals by attracting, and maintaining employees and also to manage them effectively. The key word here perhaps is "fit", i.e. a HRM approach seeks to ensure a fit between the management of an organization's employees, and the overall strategic direction of the company (Miller, 1989).

The basic premise of the academic theory of HRM is that humans are not machines, therefore we need to have an interdisciplinary examination of people in the workplace. Fields such as psychology, industrial engineering, industrial, Legal/Paralegal Studies and organizational psychology, industrial relations, sociology, and critical theories: postmodernism, post-structuralism play a major role. Many colleges and universities offer bachelor and master degrees in Human Resources Management.

One widely used scheme to describe the role of HRM, developed by Dave Ulrich, defines 4 fields for the HRM function:

- Strategic business partner
- Change management
- Employee champion
- Administration

However, many HR functions these days struggle to get beyond the roles of administration and employee champion, and are seen rather as reactive than strategically proactive partners for the top management. In addition, HR organizations also have the difficulty in proving how their activities and processes add value to the company. Only in the recent years HR scholars and HR professionals are focusing to develop models that can measure if HR adds value.

Critical Academic Theory

Postmodernism plays an important part in Academic Theory and particularly in Critical Theory. Indeed Karen Legge in 'Human Resource Management: Rhetorics and Realities' poses the debate of whether HRM is a modernist project or a postmodern discourse (Legge 2004). In many ways, critically or not, many writers contend that HRM itself is an attempt to move away from the modernist traditions of personnel (man as machine) towards a postmodernist view of HRM (man as individuals). Critiques include the notion that because 'Human' is the subject we should recognize that people are complex and that it is only through various discourses that we understand the world. Man is not Machine, no matter what attempts are made to change it i.e. Fordism / Taylorism, McDonaldisation (Modernism).

Critical Theory also questions whether HRM is the pursuit of "attitudinal shaping" (Wilkinson 1998), particularly when considering empowerment, or perhaps more precisely pseudo-empowerment - as the critical perspective notes. Many critics note the move away from Man as Machine is often in many ways, more a Linguistic (discursive) move away than a real attempt to recognise the Human in Human Resource Management.

Critical Theory, in particular postmodernism (poststructualism), recognises that because the subject is people in the workplace, the subject is a complex one, and therefore simplistic notions of 'the best way' or a unitary perspectives on the subject are too simplistic. It also considers the complex subject of power, power games, and office politics. Power in the workplace is a vast and complex subject that cannot be easily defined. This leaves many critics to suggest that Management 'Gurus', consultants, 'best practice' and HR models are often overly simplistic, but in order to sell an idea, they are simplified, and often lead Management as a whole to fall into the trap of oversimplifying the relationship.

Business practice

Human resources management comprises several processes. Together they are supposed to achieve the above mentioned goal. These processes can be performed in an HR department, but some tasks can also be outsourced or performed by line-managers or other departments. When effectively integrated they provide significant economic benefit to the company. Workforce planning

- Recruitment (sometimes separated into attraction and selection)
- Induction and Orientation
- Skills management
- Training and development
- Personnel administration
- Compensation in wage or salary
- Time management
- Travel management (sometimes assigned to accounting rather than HRM)
- Payroll (sometimes assigned to accounting rather than HRM)
- Employee benefits administration
- Personnel cost planning
- Performance appraisal

Careers and education

The sort of careers available in HRM are varied. There are generalist HRM jobs such as human resource assistant. There are careers involved with employment, recruitment and placement and these are usually conducted by interviewers, EEO (Equal Employment Opportunity) specialists or college recruiters. Training and development specialism is often conducted by trainers and orientation specialists. Compensation and benefits tasks are handled by compensation analysts, salary administrators, and benefits administrators.

Several universities offer programs of study pertaining to HRM and broader fields. Cornell University created the world's first school for college-level study in HRM (ILR School).[9] University of Illinois at Urbana-Champaign also now has a school dedicated to the study of HRM, while several business schools also house a center or department dedicated to such studies; e.g., Michigan State University, Ohio State University, and Purdue University.

Professional organizations

Professional organizations in HRM include the Society for Human Resource Management, the Australian Human Resources Institute (AHRI), the Chartered Institute of Personnel and Development (CIPD), the International Public Management Association for HR (IPMA-HR), Management Association of Nepal (MAN) and the International Personnel Management Association of Canada (IPMA-Canada), Human Capital Institute (HCI)

Functions

The Human Resources Management (HRM) function includes a variety of activities, and key among them is deciding what staffing needs you have and whether to use independent contractors or hire employees to fill these needs, recruiting and training the best employees, ensuring they are high performers, dealing with performance issues, and ensuring your personnel and management practices conform to various regulations. Activities also include managing your approach to employee benefits and compensation, employee records and personnel policies. Usually small businesses (for-profit or nonprofit) have to carry out these activities themselves because they can't yet afford part- or full-time help. However, they should always ensure that employees have -- and are aware of -- personnel policies which conform to current regulations. These policies are often in the form of employee manuals, which all employees have.

Note that some people distinguish a difference between HRM (a major management activity) and HRD (Human Resource Development, a profession). Those people might include HRM in HRD, explaining that HRD includes the broader range of activities to develop personnel inside of organizations, including, eg, career development, training, organization development, etc.

There is a long-standing argument about where HR-related functions should be organized into large organizations, eg, "should HR be in the Organization Development department or the other way around?"

The HRM function and HRD profession have undergone tremendous change over the past 20-30 years. Many years ago, large organizations looked to the "Personnel Department," mostly to manage the paperwork around hiring and paying people. More recently, organizations consider the "HR Department" as playing a major role in staffing, training and helping to manage people so that people and the organization are performing at maximum capability in a highly fulfilling manner.

Karen et al (2004). ***Human Resource Management***

2. Workforce planning

Strategic Workforce Planning is the business process for ensuring that an organization has suitable access to talent to ensure future business success. Access to talent includes considering all potential access sources (employment, contracting out, partnerships, changing business activities to modify the types of talent required, etc. By talent is meant the skills, knowledge, predisposition and ability to undertake required activities including decisions making. Strategic Planning considers the business risks concerning insufficient, disrupted, miss-deployed talent on the organization's business priorities.

Strategic Workforce Planning is analogous to the treasurer role which is concerned with ensuring the organization has suitable access to working capital. This role also looks at multiple sources for access and similar risks to those mentioned above.

One of the more restrictive and potentially dangerous assumptions is that Strategic Planning is only about talent in the form of employees. Hiring is a strategy for accessing talent and will often be the superior one. However, the use of employees to meet talent needs carries with it unique risks that can be mitigated using alternative access sourcing arrangements. Regardless of the access source used, insightful assessment of the strategy's attendant business risk is prudent.

The process for starting out Strategic Workforce Planning is link with the organization's strategy. This means identifying the critical talent needs that if not met can materially adversely impact business success. Once the business risks are fully appreciated then attention turns to schedule and timing. Assessing current internal capability and assessing its relative position when it will be called upon in the future. Speculating on future sourcing options and identifying the preferred sourcing option. Implementation and execution follow. Attention to periodically reviewing the "sanity" of the current plan is prudent.

4.5 Closing the Gaps

Workforce analytics approach

The focus is to analyze current and historical employee data to identify key relationships among variables and use this to provide insight into the workforce they need for the future..

Modeling approach

This approach incorporates forecasting and scenario planning. Forecasting uses quantitative data to create forecasts incorporating multiple what-if and modeling the future. Scenario Planning being the more useful tool where there are uncertainties, therefore incorporating quantitative and qualitative.

Segmentation approach

Breaking the workforce into segments along the lines of their jobs and determining relevance to strategic intent. Provides a technique for prioritizing.

Steps in Workforce Planning

Though there is no definitive ‘Start here’ activity for any of the approaches to Strategic Workforce Planning, there are five fundamentals activities that most Workforce Plan models have:

- Environment Scan
- Current Workforce Profile
- Future Workforce View
- Analysis and Targeted Future
- Closing the gaps

Environment Scan

Environment Scanning is a form of business intelligence. In the context of Workforce Planning it is used to identify the set of facts or circumstances that surround a workforce situation or event.

Current Workforce Profile

Current State is a profile of the demand and supply factors both internally and externally of the workforce the organization has ‘today’.

Future Workforce View

Future View is determining the organization’s needs considering the emerging trends and issues identified during the Environment Scanning.

Future View is often where the different approaches identified above are applied: Quantitative futuring: understanding the future you are currently tracking to by forecasting; Qualitative futuring: scenario planning potential alternative futures in terms of capabilities and demographics to deliver the business strategy.

Analysis and Targeted Future

Qualitative and quantitative futuring creates the content for an organizational unit to analyse and identify critical elements. As the critical elements are identified the Targeted Future begins to take form. The targeted future is the future that the organization is going to target as being the best fit in terms of business strategy and is achievable given the surrounding factors (internal/external, supply/demand).

Closing the Gaps

Closing the gaps is about the people management (human resources) programs and practices that deliver the workforce needed for today and tomorrow. The process is about determining appropriate actions to close the gaps and therefore deliver the targeted future.

There are 8 key areas that Closing the Gaps needs to focus on -

Resourcing, Learning and Development, Remuneration, Industrial Relations, Recruitment, Retention, Knowledge Management, Job design.

3. Recruitment

Recruitment refers to the process of screening, and selecting qualified people for a job at an organization or firm, or for a vacancy in a volunteer-based some components of the recruitment process, mid- and large-size organizations and companies often retain professional recruiters or outsource some of the process to recruitment agencies. External recruitment is the process of attracting and selecting employees from outside the organization.

The recruitment industry has four main types of agencies: employment agencies, recruitment websites and job search engines, "headhunters" for executive and professional recruitment, and in-house recruitment. The stages in recruitment include sourcing candidates by advertising or other methods, and screening and selecting potential candidates using tests or interviews.

Agency types

The recruitment industry has four main types of agencies. Their recruiters aim to channel candidates into the hiring organizations application process. As a general rule, the agencies are paid by the companies, not the candidates.

Traditional Agency

Also known as a employment agencies, recruitment agencies have historically had a physical location. A candidate visits a local branch for a short interview and an assessment before being taken onto the agency's books. Recruitment consultants then work to match their pool of candidates to their clients' open positions. Suitable candidates are short-listed and put forward for an interview with potential employers on a temporary ("temp") or permanent ("perm") basis.

Compensation to agencies take several forms, the most popular:

- A contingency fee paid by the company when a recommended candidate accepts a job with the client company (typically 20%-30% based and calculated of the candidates first-year base salary – though fees as low as 12.5% can be found online), which usually has some form of guarantee (30–90 days standard), should the candidate fail to perform and is terminated within a set period of time (refundable fully or prorated)
- An advance payment that serves as a retainer, also paid by the company, non-refundable paid in full depending on outcome and success (eg. 30% up front, 30% in 90 days and the remainder once a search is completed). This form of compensation is generally reserved for high level executive search/headhunters
- Hourly Compensation for temporary workers and projects. A pre-negotiated hourly fee, in which the agency is paid and pays the applicant as a consultant for services as a third party. Many contracts allow a consultant to transition to a full-time status upon completion of a certain number of hours with or without a conversion fee.

Headhunters

A "headhunter" is industry term for a third-party recruiter who seeks out candidates, often when normal recruitment efforts have failed. Headhunters are generally considered more aggressive than in-house recruiters or may have preexisting industry experience and contacts. They may use advanced sales techniques, such as initially posing as clients to gather employee contacts, as well as visiting candidate offices. They may also purchase expensive lists of names and job titles, but more often will generate their own lists. They may prepare a candidate for the interview, help negotiate the salary, and conduct closure to the search. They are frequently members in good standing of industry trade groups and associations. Headhunters will often attend trade shows and other meetings nationally or even internationally that may be attended by potential candidates and hiring managers.

Headhunters are typically small operations that make high margins on candidate placements (sometimes more than 30% of the candidate's annual compensation). Due to their higher costs, headhunters are usually employed to fill senior management and executive level roles. Headhunters are also used to recruit very specialized individuals; for example, in some fields, such as emerging scientific research areas, there may only be a handful of top-level professionals who are active in the field. In this case, since there are so few qualified candidates, it makes more sense to directly recruit them one-by-one, rather than advertise internationally for candidates. While in-house recruiters tend to attract candidates for specific jobs, headhunters will both attract candidates and actively seek them out as well. To do so, they may network, cultivate relationships with various companies, maintain large databases, purchase company directories or candidate lists, and cold call prospective recruits

In-House Recruitment

Larger employers tend to undertake their own in-house recruitment, using their human resources department, front-line hiring managers and recruitment personnel who handle targeted functions and populations. In addition to coordinating with the agencies mentioned above, in-house recruiters may advertise job vacancies on their own websites, coordinate internal employee referrals, work with external associations, trade groups and/or focus on campus graduate recruitment. While job postings are common, networking is by far the most significant approach when reaching out to fill positions. Alternatively a large employer may choose to outsource all or some of their recruitment process(recruitment process outsourcing).

Passive Candidate Research Firms / Sourcing Firms

These firms provide competitive passive candidate intelligence to support company's recruiting efforts. Normally they will generate varying degrees of candidate information from those people currently engaged in the position a company is looking to fill. These firms usually charge a per hour fee or by candidate lead. Many times this uncovers names that cannot be found with other methods and will allow internal recruiters the ability to focus their efforts solely on recruiting.

Process

Job Analysis

The proper start to a recruitment effort is to perform a job analysis, to document the actual or intended requirement of the job to be performed. This information is captured in a job description and provides the recruitment effort with the boundaries and objectives of the search. Oftentimes a company will have job descriptions that represent a historical collection of tasks performed in the past. These job descriptions need to be reviewed or updated prior to a recruitment effort to reflect present day requirements. Starting a recruitment with an accurate job analysis and job description insures the recruitment effort starts off on a proper track for success.

Sourcing

Sourcing involves 1) advertising, a common part of the recruiting process, often encompassing multiple media, such as the Internet, general newspapers, job ad newspapers, professional publications, window advertisements, job centers, and campus graduate recruitment programs; and 2) recruiting research, which is the proactive identification of relevant talent who may not respond to job postings and other recruitment advertising methods done in #1. This initial research for so-called passive prospects, also called name-generation, results in a list of prospects who can then be contacted to solicit interest, obtain a resume/CV, and be screened (see below).

Screening and selection

Suitability for a job is typically assessed by looking for skills, e.g. communication, typing, and computer skills. Qualifications may be shown through résumés, job applications, interviews, educational or professional experience, the testimony of references, or in-house testing, such as for software knowledge, typing skills, numeracy, and literacy, through psychological tests or employment testing. In some countries, employers are legally mandated to provide equal opportunity in hiring. Business management software is used by many recruitment agencies to automate the testing process. Many recruiters and agencies are using an Applicant tracking system to perform many of the filtering tasks, along with software tools for psychometric testing

On boarding

"On boarding" is a term which describes the introduction or "induction" process. A well-planned introduction helps new employees become fully operational quickly and is often integrated with a new company and environment. On boarding is included in the recruitment process for retention purposes. Many companies have on boarding campaigns in hopes to retain top talent that is new to the company, campaigns may last anywhere from 1 week to 6 months.

Internet Recruitment / Websites

Such sites have two main features: job boards and a résumé/curriculum vitae (CV) database. Job boards allow member companies to post job vacancies. Alternatively, candidates can upload a résumé to be included in searches by member companies. Fees are charged for job postings and access to search resumes. Since the late 1990s, the recruitment website has evolved to encompass end-to-end recruitment. Websites capture candidate details and then pool them in client accessed candidate management interfaces (also online). Key players in this sector provide e-recruitment software and services to organizations of all sizes and within numerous industry sectors, who want to e-enable entirely or partly their recruitment process in order to improve business performance.

The online software provided by those who specialize in online recruitment helps organizations attract, test, recruit, employ and retain quality staff with a minimal amount of administration. Online recruitment websites can be very helpful to find candidates that are very actively looking for work and post their resumes online, but they will not attract the "passive" candidates who might respond favorably to an opportunity that is presented to them through other means. Also, some candidates who are actively looking to change jobs are hesitant to put their resumes on the job boards, for fear that their current companies, co-workers, customers or others might see their resumes.

Job search engines

The emergence of meta-search engines, allow job-seekers to search across multiple websites. Some of these new search engines index and list the advertisements of traditional job boards. These sites tend to aim for providing a "one-stop shop" for job-seekers. However, there are many other job search engines which index pages solely from employers' websites, choosing to bypass traditional job boards entirely.

These vertical search engines allow job-seekers to find new positions that may not be advertised on traditional job boards, and online recruitment websites.

5. Training and Development

In the field of human resource management, *training and development* is the field concerned with organizational activity aimed at bettering the performance of individuals and groups in organizational settings. It has been known by several names, including **employee development**, **human resource development**, and **learning and development.**

Harrison observes that the name was endlessly debated by the Chartered Institute of Personnel and Development during its review of professional standards in 1999/2000. "Employee Development" was seen as too evocative of the master-slave relationship between employer and employee for those who refer to their employees as "partners" or "associates" to be comfortable with. "Human Resource Development" was rejected by academics, who objected to the idea that people were "resources" — an idea that they felt to be demeaning to the individual. Eventually, the CIPD settled upon "Learning and Development", although that was itself not free from problems, "learning" being an overgeneral and ambiguous name. Moreover, the field is still widely known by the other names

Training and development encompasses three main activities: training, education, and development. Garavan, Costine, and Heraty, of the Irish Institute of Training and Development, note that these ideas are often considered to be synonymous. However, to practitioners, they encompass three separate, although interrelated, activities

Training; this activity is both focused upon, and evaluated against, the job that an individual currently hold

Education; this activity focuses upon the jobs that an individual may potentially hold in the future, and is evaluated against those jobs. Development; this activity focuses upon the activities that the organization employing the individual, or that the individual is part of, may partake in the future, and is almost impossible to evaluate

The "stakeholders" in training and development are categorized into several classes. The *sponsors* of training and development are senior managers. The *clients* of training and development are business planners. Line managers are responsible for coaching, resources, and performance. The *participants* are those who actually undergo the processes. The *facilitators* are Human Resource Management staff. And the *providers* are specialists in the field. Each of these groups has its own agenda and motivations, which sometimes conflict with the agendas and motivations of the others

The conflicts are the best part of career consequences are those that take place between employees and their bosses. The number one reason people leave their jobs is conflict with their bosses. And yet, as author, workplace relationship authority, and executive coach, Dr. John Hoover points out, "Tempting as it is, nobody ever enhanced his or her career by making the boss look stupid." Training an employee to get along well with authority and with people who entertain diverse points of view is one of the best guarantees of long-term success. Talent, knowledge, and skill alone won't compensate for a sour relationship with a superior, peer, or customer.

Planning the business process for is t Strategic Workforce ensuring that an organization has suitable access to talent to ensure future business success. Access to talent includes considering all potential access sources (employment, contracting out, partnerships, changing business activities to modify the types of talent required, etc. By talent is meant the skills, management

6. SKILLS MANAGEMENT

Skills Management is the practice of understanding, developing and deploying people and their skills. Well-implemented skills management should identify the skills that job roles require, the skills of individual employees, and any gap between the two.

The skills involved can be defined by the organization concerned, or by third party institutions. They are usually defined in terms of a skills framework, also known as a competency framework or skills matrix. This consists of a list of skills, and a grading system, with a definition of what it means to be at particular level for a given skill. (For an example of a mature skills framework, see the Skills Framework for the Information Age, a technical IT skills framework owned by a British not-for-profit organization.)

To be most useful, skills management needs to be conducted as an ongoing process, with individuals assessing and updating their recorded skill sets regularly. These updates should occur at least as frequently as employees' regular line manager reviews, and certainly when their skill sets have changed.

Skills management *systems* record the results of this process in a database, and allow analysis of the data.

In order to perform the functions of management and to assume multiple roles, managers must be skilled. Robert Katz identified three managerial skills that are essential to successful management: technical, human, and conceptual*. Technical skill involves process or technique knowledge and proficiency. Managers use the processes, techniques and tools of a specific area. Human skill involves the ability to interact effectively with people. Managers interact and cooperate with employees. Conceptual skill involves the formulation of ideas. Managers understand abstract relationships, develop ideas, and solve problems creatively. Thus, technical skill deals with things, human skill concerns people, and conceptual skill has to do with ideas. A manager's level in the organization determines the relative importance of possessing technical, human, and conceptual skills. Top level managers need conceptual skills in order to view the organization as a whole. Conceptual skills are used in planning and dealing with ideas and abstractions. Supervisors need technical skills to manage their area of specialty. All levels of management need human skills in order to interact and communicate with other people successfully.

As the pace of change accelerates and diverse technologies converge, new global industries are being created (for example, telecommunications). Technological change alters the fundamental structure of firms and calls for new organizational approaches and management skills.

Employees who benefit

Skills management provides a structured approach to developing individual and collective skills, and gives a common vocabulary for discussing skills. As well as this general benefit, three groups of employees receive specific benefits from skills management.

Individual Employees

As a result of skills management, employees should be aware of the skills their job requires, and any skills gaps that they have. Depending on their employer, it may also result in a personal development plan (PDP) of training to bridge some or all of those skills gaps over a given period.

Line manager

Skills management enables managers to know the skill strengths and weaknesses of employees reporting to them. It can also enable them to search for employees with particular skill sets (e.g. to fill a role on a particular job.

Organization Executives

A rolled-up view of skills and skills gaps across an organization can enable its executives to see areas of skill strength and weakness. This enables them to plan for the future against the current and future abilities of staff, as well as to prioritize areas for skills development.

6. WAGES

A **wage** is compensation, usually financial, received by a worker in exchange for their labor.

Compensation in terms of wages is given to worker and compensation in terms of salary is given to employees. Compensation is a monetary benefits given to employees in returns of the services provided by them.

Determinants of wage rates

Depending on the structure and traditions of different economies around the world, wage rates are either the product of market forces (Supply and Demand), as is common in the United States, or wage rates may be influenced by other factors such as tradition, social structure and seniority, as in Japan.

Several countries have enacted a statutory minimum wage rate that sets a price floor for certain kinds of labor.

Wages in the United States

In the United States, wages for most workers are set by market forces, or else by collective bargaining, where a labor union negotiates on the workers' behalf. Although states and cities can and sometimes do set a minimum wage, the Fair Labor Standards Act requires a minimum wage at the federal level. For certain federal or state government contacts, employers must pay the so-called prevailing wage as determined according to the Davis-Bacon Act or its state equivalent. Activists have undertaken to promote the idea of a living wage rate which would be higher than current minimum wage laws require.

6 SALARIES

salary is a form of periodic payment from an employer to an employee, which may be specified in an employment contract. It is contrasted with piece wages, where each job, hour or other unit is paid separately, rather than on a periodic basis.

From the point of a view of running a business, salary can also be viewed as the cost of acquiring human resources for running operations, and is then termed personnel expense or salary expense. In accounting, salaries are recorded in payroll accounts.

Salaried employment in the 20th century

In the 20th century, the rise of the service economy made salaried employment even more common in developed countries, where the relative share of industrial production jobs declined, and the share of executive, administrative, computer, marketing, and creative jobs--all of which tended to be salaried--increased.

Salary and other forms of payment today

Today, the idea of a salary continues to evolve as part of a system of all the combined rewards that employers offer to employees. Salary (also now known as fixed pay) is coming to be seen as part of a "total rewards" system which includes variable pay (such as bonuses, incentive pay, and commissions), benefits and perquisites (or perks), and various other tools which help employers link rewards to an employee's measured performance.

Salaries in the U.S.

In the United States, the distinction between periodic salaries (which are normally paid regardless of hours worked) and hourly wages (meeting a minimum wage test and providing for overtime) was first codified by the Fair Labor Standards Act of 1938. At that time, five categories were identified as being "exempt" from minimum wage and overtime protections, and therefore salariable. In 1991, some computer workers were added as a sixth category. The tests for all six categories were revised effective August 23, 2004.

The six categories of salaried workers exempt from overtime provisions are:

1. Executive Employees, who hire, fire and direct others
2. Administrative Employees, exercising discretion as part of office work
3. Learned Professional Employees, such as medical practitioners, lawyers, engineers, dentists, veterinarians, and accountants
4. *Creative Professional Employees* in an artistic field
5. Computer Employees, who must meet certain threshold tests
6. Outside Sales Employees, who must work away from an employer's place of business. Some of the 2004 exemption tests depend on being paid a weekly salary of greater than $455, even though no *hourly* minimum wage is required or maximum number of hours worked is established.

General rule for comparing periodic salaries to hourly wages is based on a standard 40 hour work week with 50 weeks per year (minus two weeks for vacation)

7. Time management

3.6.5 The Eisenhower Method

Refers to a range of skills, tools, and techniques used to manage time when accomplishing specific tasks, projects and goals. This set encompass a wide scope of activities, and these include planning, allocating, setting goals, delegation, analysis of time spent, monitoring, organizing, scheduling, and prioritizing. Initially time management referred to just business or work activities, but eventually the term broadened to include personal activities also. A time management system is a designed combination of processes, tools and techniques.

Some authors (such as Stephen R. Covey) offered a categorization scheme for the hundreds of time management approaches that they reviewed

- First generation: reminders based on clocks and watches, but with computer implementation possible; can be used to alert a person when a task is to be done.
- Second generation: planning and preparation based on calendar and appointment books; includes setting goals.
- Third generation: planning, prioritizing, controlling (using a personal organizer, other paper-based objects, or computer or PDA-based systems) activities on a daily basis. This approach implies spending some time in clarifying values and priorities.
- Fourth generation: being efficient and proactive using any of the above tools; places goals and roles as the controlling element of the system and favors importance over urgency.

Some of the recent general arguments related to "time" and "management" point out that the term "time management" is misleading and that the concept should actually imply that it is "the management of our own activities, to make sure that they are accomplished within the available or allocated time, which is an unmanageable continuous resource".

Time management literature paraphrased: "Get Organized" - paperwork and task triage "Protect Your Time" - insulate, isolate, delegate "set gravitational goals" - that attract actions automatically "Achieve through Goal management Goal Focus" - motivational emphasis

- "Work in Priority Order" - set goals and prioritize
- "Use Magical Tools to Get More Out of Your Time" - depends on when written
- "Master the Skills of Time Management"
- "Go with the Flow" - natural rhythms, Eastern philosophy
- "Recover from Bad Time Habits" - recovery from underlying psychological problems, e.g. procrastination

Time management and related concepts

Time management has been considered as subsets of different concepts such as:

- Project management. Time Management, can be considered as a project management subset, and is more commonly known as project planning and project scheduling. Time Management is also been identified as one of the core functions identified in project management .
- Attention management: Attention management relates to the management of cognitive resources, and in particular the time that humans allocate their mind (and organizations the minds of their employees) to conduct some activities.
- Personal knowledge management: see below (Personal time management).

Personal Time Management

Time management strategies are often associated with the recommendation to set goals. These goals are recorded and may be broken down into a project, an action plan, or a simple task list. For individual tasks or for goals, an importance rating may be established, deadlines may be set, and priorities assigned. This process results in a plan with a task list or a schedule or calendar of activities. Authors may recommend a daily, weekly, monthly or other planning periods, usually fixed, but sometimes variable. Different planning periods may be associated with different scope of planning or review. Authors may or may not emphasize reviews of performance against plan. Routine and recurring tasks may or may not be integrated into the time management plan and, if integrated, the integration can be accomplished in various ways.

How We Use Time

When we spend time, there is no improvement in efficiency, productivity, or effectiveness. The time is gone without a return. We save time when we perform tasks in less time or with less effort than previously. We use shortcuts and processes that streamline activities. We invest time when we take time now to save time later.

We spend time when we go to a movie; however, if we are a screenwriter, the time spent in the movie is an investment since it will help hone our writing skills. If we invest time to learn screenwriting software, we will save time in the future when we compose our scripts. However, this is still relative to the point that we are able to turn better writing skills and faster script development into profit - if we are able to sell it. In capitalism our investment, might very well be someone else's profit.

Delegation is a valuable investment of our time. When we delegate, we teach someone to perform tasks we usually perform. While the training process takes time now, the investment pays off later since we free our time to perform higher-payoff activities.

The goal is to look for ways a person can save and invest time.

Task list

A **task list** (also *to-do list*) is a list of tasks to be completed, such as chores or steps toward completing a project. It is an inventory tool which serves as an alternative or supplement to memory.

Task lists are used in self-management, grocery lists, business management, project management, and software development. It may involve more than one list.

When you accomplish one of the items on a task list, you *check* it off or *cross* it off. The traditional method is to write these on a piece of paper with a pen or pencil, usually on a note pad or clip-board. Numerous digital equivalents are now available, including PIM (Personal information management) applications and most PDAs. There are also several web-based task list applications, many of which are free.

Task lists are often tiered. The simplest tiered system includes a general to-do list (or task-holding file) to record all the tasks the person needs to accomplish, and a daily to-do list which is created each day by transferring tasks from the general to-do list.

Task lists are often prioritized:

- An early advocate of "ABC" prioritization was Alan Lakein (See Books below.). In his system "A" items were the most important ("A-1" the most important within that group), "B" next most important, "C" least important.

- A particular method of applying the *ABC method*[2] assigns "A" to tasks to be done within a day, "B" a week, and "C" a month.

- To prioritize a daily task list, one either records the tasks in the order of highest priority, or assigns them a number after they are listed ("1" for highest priority, "2" for second highest priority, etc.) which indicates in which order to execute the tasks. The latter method is generally faster, allowing the tasks to be recorded more quickly.

Alternatives to Prioritizing:

A completely different approach which argues against prioritising altogether was put forward by British author Mark Forster in his book "Do It Tomorrow and Other Secrets of Time Management". This is based on the idea of operating "closed" to-do lists, instead of the traditional "open" to-do list. He argues that the traditional never-ending to-do lists virtually guarantees that some of your work will be left undone. This approach advocates getting all your work done, every day, and if you are unable to achieve it helps you diagnose where you are going wrong and what needs to change. Recently, Forster developed the "Autofocus Time Management System", which further systematizes working a to-do list as a series of closed sublists and emphasizes intuitive choices.

Software applications

Modern task list applications may have built-in task hierarchy (tasks are composed of subtasks which again may contain subtasks), may support multiple methods of filtering and ordering the list of tasks, and may allow one to associate arbitrarily long notes for each task.

In contrast to the concept of allowing the person to use multiple filtering methods, at least one new software product additionally contains a mode where the software will attempt to dynamically determine the best tasks for any given moment. Many of the software products for time management support multiple users. It allows the person to give tasks to other users and use the software for communication

Task list applications may be thought of as lightweight personal information manager or project management software.

Resistors

- Fear of change: Change can be daunting and one may be afraid to change what's proven to work in the past.

- Uncertainty: Even with the change being inevitable, one may be hesitant as being not sure where to start. Uncertainty about when or how to begin making a change can be significant.

- Time pressure: To save time, one has to invest time, and this time investment may be a cause of concern. Fearing that changing may involve more work at the start—and thus, in the very short term, make things worse—is a common resistor.

Attention Deficit Disorder

Excessive and chronic inability to manage time effectively may be a result of Attention Deficit Disorder (ADD). Diagnostic criteria includes: A sense of underachievement, difficulty getting organized, trouble getting started, many projects going simultaneously and trouble with follow-through.

- The Prefrontal Cortex: The Prefrontal Cortex is the most evolved part of the brain. It controls the functions of attention span, impulse control, organization, learning from experience and self-monitoring, among others. Daniel Amen, M.D. offers possible solutions in Change Your Brain Change Your Life.[7]

Drivers

- Increased effectiveness: One may feel the need to make more time so as to be more effective in performing the job and carrying out responsibilities.
- Performance improvement: Time management is an issue that often arises during performance appraisals or review meetings.
- Personal development: One may view changing the approach to time management as a personal development issue and reap the benefit of handling time differently at work and at home.
- Increased responsibilities: A change in time-management approach may become necessary as a result of a promotion or additional responsibilities. Since there is more work to do, and still the same amount of time to do it in, the approach must change.

Caveats

Dwelling on the lists

- According to Sandberg task lists "aren't the key to productivity [that] they're cracked up to be". He reports an estimated "30% of listeners spend more time managing their lists than [they do] completing what's on them".
- This could be caused by procrastination by prolonging the planning activity. This is akin to analysis paralysis. As with any activity, there's a point of diminishing returns.

Rigid adherence

- Hendrickson asserts that rigid adherence to task lists can create a "tyranny of the to-do list" that forces one to "waste time on unimportant activities".
- Again, the point of diminishing returns applies here too, but toward the size of the task. Some level of detail must be taken for granted for a task system to work. Rather than put "clean the kitchen", "clean the bedroom", and "clean the bathroom", it is more efficient to put "housekeeping" and save time spent writing and reduce the system's administrative load (each task entered into the system generates a cost in time and effort to manage it, aside from the execution of the task). The risk of consolidating tasks, however, is that "housekeeping" in this example may prove overwhelming or nebulously defined, which will either increase the risk of procrastination, or a mismanaged project.[*citation needed*]

- Listing routine tasks wastes time. If you are in the habit of brushing your teeth every day, then there is no reason to put it down on the task list. The same goes for getting out of bed, fixing meals, etc. If you need to track routine tasks, then a standard list or chart may be useful, to avoid the procedure of manually listing these items over and over.[citation needed]

- To remain flexible, a task system must allow adaptation, in the form of rescheduling in the face of unexpected problems and opportunities, to save time spent on irrelevant or less than optimal tasks.[citation needed]

- To avoid getting stuck in a wasteful pattern, the task system should also include regular (monthly, semi-annual, and annual) planning and system-evaluation sessions, to weed out inefficiencies and ensure the user is headed in the direction he or she truly desires.[citation needed][10]

- If some time is not regularly spent on achieving long-range goals, the individual may get stuck in a perpetual holding pattern on short-term plans, like staying at a particular job much longer than originally planned.[citation needed]

Set goals for oneself and work on achieving these goals. Some people study in different ways so you are to find out how you are able to study and put that into action. Some people are able to understand their work if they can see it. Some need to touch and feel whatever is being spoken about in the book. Some people need to see what they are studying in order to understand what is coming out of the book.

Techniques for setting priorities

ABC analysis

A technique that has been used in business management for a long time is the categorization of large data into groups. These groups are often marked A, B, and C—hence the name. Activities are ranked upon these general criteria:

- **A –** Tasks that are perceived as being urgent and important.
- **B –** Tasks that are important but not urgent.
- **C –** Tasks that are neither urgent nor important.

Each group is then rank-ordered in priority. To further refine priority, some individuals choose to then force-rank all "B" items as either "A" or "C". ABC analysis can incorporate more than three groups. ABC analysis is frequently combined with Pareto analysis.

Pareto analysis

This is the idea that 80% of tasks can be completed in 20% of the disposable time. The remaining 20% of tasks will take up 80% of the time. This principle is used to sort tasks into two parts. According to this form of Pareto analysis it is recommended that tasks that fall into the first category be assigned a higher priority.

The 80-20-rule can also be applied to increase productivity: it is assumed that 80% of the productivity can be achieved by doing 20% of the tasks. If productivity is the aim of time management, then these tasks should be prioritized higher.

Fit

Essentially, fit is the congruence of the requirements of a task (location, financial investment, time, etc.) with the available resources at the time. Often people are constrained by externally controlled schedules, locations, etc., and "fit" allows us to maximize our productivity given those constraints. For example, if one encounters a gap of 15 minutes in their schedule, it is typically more efficient to complete a task that would require 15 minutes, than to complete a task that can be done in 5 minutes, or to start a task that would take 4 weeks. This concept also applies to time of the day: free time at 7am is probably less usefully applied to the goal of learning the drums, and more productively a time to read a book. Lastly, fit can be applied to location: free time at home would be used differently from free time at work, in town, etc.

POSEC method

POSEC is an acronym for ***Prioritize by Organizing, Streamlining, Economizing and Contributing***.

The method dictates a template which emphasizes an average individual's immediate sense of emotional and monetary security. It suggests that by attending to one's personal responsibilities first, an individual is better positioned to shoulder collective responsibilities.

Inherent in the acronym is a hierarchy of self-realization which mirrors Abraham Maslow's "Hierarchy of needs".

1. **P**RIORITIZE-Your time and define your life by goals.
2. **O**RGANIZING-Things you have to accomplish regularly to be successful. (Family and Finances)
3. **S**TREAMLINING-Things you may not like to do, but must do. (Work and Chores)
4. **E**CONOMIZING-Things you should do or may even like to do, but they're not pressingly urgent. (Pastimes and Socializing)
5. **C**ONTRIBUTING-By paying attention to the few remaining things that make a difference. (Social Obligations)

The Eisenhower Method

All tasks are evaluated using the criteria important/unimportant and urgent/not urgent and put in according quadrants. Tasks in unimportant/not urgent are dropped, tasks in important/urgent are done immediately and personally, tasks in unimportant/urgent are delegated and tasks in important/not urgent get an end date and are done personally. This method is said to have been used by US President Dwight D. Eisenhower, and is outlined in a quote attributed to him: *What is important is seldom urgent and what is urgent is seldom important*.

8. PAYROLL

In a company, **payroll** is the sum of all financial records of salaries, wages, bonuses and deductions.

Paycheck

A paycheck, is traditionally a paper document issued by an employer to pay an employee for services rendered. In recent times, the physical paycheck has been increasingly replaced by electronic direct deposit to bank accounts.

In most countries with a developed wire transfer system, using a physical check for paying wages and salaries has been uncommon for the past several decades. However, vocabulary referring to the figurative "paycheck" does exist in some languages, like German (*Gehaltsscheck*), partially due to the influence of US popular media, but this commonly refers to a payslip or stub rather than an actual check. Some company payrolls have eliminated both the paper check and stub, in which case an electronic image of the stub is available on an Internet website.

Payroll taxes

Federal/national, state/provincial, and/or local agencies require employers to perform various payroll functions such as withholding amounts from employees' compensation to cover income tax, Social Security, and Medicare.

Payroll taxes are levied by government agencies on employees' wages, tips, and other compensation. The amounts withheld by employers from employees' pay for federal income, social security, and Medicare taxes are considered to be trust-fund taxes, because the money is held in a special trust fund for the U.S. government. Amounts withheld for state and local income taxes are held in trust for the state and local governments.

Pay slip

A pay stub, paystub, pay slip, pay advice, or sometimes paycheck stub, is a document an employee receives either as a notice that the direct deposit transaction has gone through, or as part of their paycheck. It will typically detail the gross income and all taxes and any other deductions such as retirement plan contributions, insurances, garnishments, or charitable contributions taken out of the gross amount to arrive at the final net amount of the pay, also including the year to date totals in some circumstances.

Payroll card

For employees that, for one reason or another, do not have access to a bank account (bad check history, not in close proximity to bank, etc), there is a solution, offered by most major Payroll Service Providers. Instead of an employee receiving a check, and paying up to 5-10% to cash the check, the employee can have the direct deposit loaded onto a debit card. In this, a company can save money on printing checks, not buy the expensive check stock, and not having to worry about check fraud, due to a check being lost or stolen. A payroll card is a plastic card allowing an employee to access their pay by using a debit card. A payroll card can be more convenient than using a check casher, because it can be used at participating automatic teller machines to withdraw cash, or in retail environments to make purchases. Some payroll cards are cheaper than payday loans available from retail check cashing stores, but others are not. Most payroll cards will charge a fee if used at an ATM more than once per pay period.

The payroll card account may be held as a single account in the employer's name. In that case, the account holds the payroll funds for all employees using the payroll card system. Some payroll card programs establish a separate account for each employee, but others do not.

Many payroll cards are individually owned dda (demand deposit accounts) that are owned by the employee. These cards are more flexible, allowing the employee to use the card for paying bills, and the accounts are portable. Most payroll card accounts are FDIC-insured, but some are not.

Payroll Frequencies

Companies typically generate their payrolls on regular intervals, for the benefit of regular income to their employees. The regularity of the intervals, though, varies from company to company, and sometimes between job grades within a given company. Common payroll frequencies include: daily, weekly, bi-weekly (once every two weeks), semi-monthly (twice per month), and to somewhat of a lesser extent, monthly. Less common payroll frequencies include: 4-weekly (13 times per year), bi-monthly (once every two months), quarterly (once every 13 weeks), semi-annually (twice per year), and annually.

Warrants

Payroll warrants look like checks and clear through the banking system like checks, but are not drawn against cleared funds in a deposit account. Instead they are drawn against "available funds" that are not in a bank account, so the issuer can collect interest on the float. In the US, warrants are issued by government entities such as the military and state and county governments. Warrants are issued for payroll to individuals and for accounts payable to vendors. Technically a warrant is not payable on demand and may not be negotiable. Deposited warrants are routed to a collecting bank which processes them as collection items like maturing treasury bills and presents the warrants to the government entity's Treasury Department for payment each business day.

Payroll Outsourcing

Businesses may decide to outsource their payroll functions to an outsourcing service like a payroll bureau or a fully managed payroll service. These can normally reduce the costs involved in having payroll trained employees in-house as well as the costs of systems and software needed to process payroll. Within the United States, business payrolls are complicated in that taxes must be filed consistently and accurately to applicable regulatory agencies. Restaurant payrolls which typically include tip calculations, deductions, garnishments and other variables can be extremely difficult to manage especially for new or small business owners.

In the UK, payroll bureaus will deal with all HM Revenue & Customs enquiries and deal with employee's queries. Payroll bureaus also produce reports for the businesses' account department and payslips for the employees and can also make the payments to the employees if required.

Another reason many businesses outsource is because of the ever increasing complexity of payroll legislation. Annual changes in tax codes, PAYE and National Insurance bands as well as more and more statutory payments and deductions having to go through the payroll often mean there is a lot to keep abreast of in order to maintain compliance with the current legislation.

9. EMPLOYEE BENEFITS

Employee benefits are **benefits in kind** (also called **fringe benefits**, they are non-wage compensations provided to employees in addition to their normal wages or salaries. Where an employee exchanges (cash) wages for some other form of benefit, this is generally referred to as a 'salary sacrifice' arrangement. In most countries, most kinds of employee benefits are taxable to at least some degree.

Some of these benefits are: housing (employer-provided or employer-paid), group insurance (health, dental, life etc.), disability income protection, retirement benefits, daycare, tuition reimbursement, sick leave, vacation (paid and non-paid), social security, profit sharing, funding of education, and other specialized benefits.

The purpose of the benefits is to increase the economic security of employees.

The term **perks** is often used colloquially to refer to those benefits of a more discretionary nature. Often, perks are given to employees who are doing notably well and/or have seniority. Common perks are take-home vehicles, hotel stays, free refreshments, leisure activities on work time (golf, etc.), stationery, allowances for lunch, and—when multiple choices exist—first choice of such things as job assignments and vacation scheduling. They may also be given first chance at job promotions when vacancies exist.

United States

Employee benefits in the United States might include relocation assistance; medical, prescription, vision and dental plans; health and dependent care flexible spending accounts; retirement benefit plans (pension, 401(k), 403(b)); group-term life and long term care insurance plans; legal assistance plans; adoption assistance; child care benefits; transportation benefits; and possibly other miscellaneous employee discounts (*e.g.*, movies and theme park tickets, wellness programs, discounted shopping, hotels and resorts, and so on).

Some fringe benefits (for example, accident and health plans, and group-term life insurance coverage up to US$50,000) may be excluded from the employee's gross income and, therefore, are not subject to federal income tax in the United States. Some function as tax shelters (for example, flexible spending accounts, 401(k)'s, 403(b)'s). Fringe benefits are also thought of as the costs of keeping employees other than salary. These benefit rates are typically calculated using fixed percentages that vary depending on the employee’s classification and often change from year to year.

Normally, employer provided benefits are tax-deductible to the employer and non-taxable to the employee. The exception to the general rule includes certain executive benefits (e.g. golden handshake and golden parachute plans).

American corporations may also offer cafeteria plans to their employees. These plans would offer a menu and level of benefits for employees to choose from. In most instances, these plans are funded by both the employees and by the employer(s). The portion paid by the employees are deducted from their gross pay before federal and state taxes are applied.

United Kingdom

In the UK, Employee Benefits are categorised by three terms: Flexible Benefits (Flex) and Flexible Benefits Packages, Voluntary Benefits and Core Benefits.

Flexible Benefits, usually called a "Flex Scheme", is where employees are allowed to choose how a proportion of their remuneration is paid. Currently around a quarter of UK employers operate such a scheme. . This is normally delivered by allowing employees to sacrifice part of their pre-tax pay in exchange for a car, additional holiday, a shorter working week or other similar benefits, or give up benefits for additional cash remuneration. A number of external consultancies exist that enable organizations to manage Flex packages and they centre around the provision of an Intranet or Extranet website where employees can view their current flexible benefit status and make changes to their package. Adoption of flexible benefits has grown considerably over the five years to 2008, with The Chartered Institute of Personnel and Development additionally anticipating a further 12% rise in adoption within 2008/9. This has coincided with increased employee access to the internet and studies suggesting that employee engagement can be boosted by their successful adoption.

Core Benefits is the term given to benefits which all staff enjoy, such as holiday, sick pay and sometimes flexible hours.

In recent years many UK companies have used the tax and national insurance savings gained through the implementation of salary sacrifice benefits to fund the implementation of flexible benefits. In a salary sacrifice arrangement an employee gives up the right to part of the cash remuneration due under their contract of employment. Usually the sacrifice is made in return for the employer's agreement to provide them with some form of non-cash benefit. The most popular types of salary sacrifice benefits include childcare vouchers and pensions.

Advantages of employee benefits

There are a number of advantages to employee benefits for both employer and employee.

Employer advantages

- Helps attract and retain better qualified employees.
- Provides high risk coverage at low costs easing the company's financial burden.
- Improves efficiency and productivity as employees are assured of security for themselves and their families.
- Premiums are tax deductible as corporation expense, which means savings with quality coverage.

Employee advantages

- Peace of mind leading to better productivity as employees are assured of provision for themselves and families in any mishap.
- Employees with personal life insurance enjoy additional protection
- Confidence in company's EB schemes boost staff morale and pride in company
- Employees enjoy cheaper rates negotiated through their employer than they could obtain as an individual

Employee disadvantages

In the UK these benefits are often taxed at the individuals normal tax rate which can prove expensive if there is no financial advantage to the individual from the benefit.

10. PERFORMANCE APPRAISAL

Performance appraisal, also known as **employee appraisal**, is a method by which the job performance of an employee is evaluated (generally in terms of quality, quantity, cost and time). Performance appraisal is a part of career development, also known as **employee appraisal**, is a method by which the job performance of an employee is evaluated (generally in terms of quality, quantity, cost and time). Performance appraisal is a part of career development.

Performance appraisals are regular reviews of employee performance within organizations

Generally, the aims of a performance appraisal are to:

- Give feedback on performance to employees.
- Identify employee training needs.

- Document criteria used to allocate organizational rewards.
- Form a basis for personnel decisions: salary increases, promotions, disciplinary actions, etc.
- Provide the opportunity for organizational diagnosis and development.
- Facilitate communication between employee and administration
- Validate selection techniques and human resource policies to meet federal Equal Employment Opportunity requirements.

A common approach to assessing performance is to use a numerical or scalar rating system whereby managers are asked to score an individual against a number of objectives/attributes. In some companies, employees receive assessments from their manager, peers, subordinates and customers while also performing a self assessment. This is known as 360° appraisal. forms good communication patterns

The most popular methods that are being used as performance appraisal process are:

- Management by objectives
- 360 degree appraisal
- Behavioral Observation Scale
- Behaviorally Anchored Rating Scale

Trait based systems, which rely on factors such as integrity and conscientiousness, are also commonly used by businesses. The scientific literature on the subject provides evidence that assessing employees on factors such as these should be avoided. The reasons for this are two-fold:

1) Because trait based systems are by definition based on personality traits, they make it difficult for a manager to provide feedback that can cause positive change in employee performance. This is caused by the fact that personality dimensions are for the most part static, and while an employee can change a specific behavior they cannot change their personality. For example, a person who lacks integrity may stop lying to a manager because they have been caught, but they still have low integrity and are likely to lie again when the threat of being caught is gone.

2) Trait based systems, because they are vague, are more easily influenced by office politics, causing them to be less reliable as a source of information on an employee's true performance. The vagueness of these instruments allows managers to fill them out based on who they want to/feel should get a raise, rather than basing scores on specific behaviors employees should/should not be engaging in. These systems are also more likely to leave a company open to discrimination claims because a manager can make biased decisions without having to back them up with specific behavioral information.

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AFRICA POPULATION INSTITUTE COURSE WORKS
BUSINESS STATISTICS
PAPER CODES: **APD(BA 201, SW 201, LPS 201, PA 201, IR 203, FA 201)**

1. a) With examples explain what is meant by descriptive statistics in relation to what is influential statistics?
   b) Discuss the relevance of statistic when compiling data?

2. a) Name and discuss the different methods of collecting statistical data?
   b) What is the difference between association statistics and correlation statistic?

3 . a) Mention and discuss the different scales used when collecting statistical data?
   b) Using the examples of your choice, calculate the standard deviation, please show all the working

Managerial Accounting
Paper code: APDBA 202:

QN.1. (a). What is meant by the term Managerial Accounting?.
(b) What is the role of management accounts in business organizations?
QN.2. (a) Illustrate and Explain the term financial analysis?
(b) Discuss the importance of reports by financial analysts
QN 3. Explain the relationship between, Financial accounting, Management accounting, Financial Management and Auditing

COMMUNICATION SKILLS
PAPER CODES: **APD(PM 203, BA 203, LPS 204, PA 203, HR 204, FA 203)**

1. a) How can communication be effective?
   b) Mention and discuss the different type of communication you know?

2. a) Explain the different skills that used in communication process
   b) Discuss the advantages and disadvantages of advertising?

3. a) With examples explain what is meant by the communication design
   b) Show the ways of responding to angry customers.

ORGANISATIONAL MANAGEMENT
PAPER CODES: **APD(PM 204, BA 204, SW 204, LPS 203, PA 205, HR 205)**

1. a) What are some of the factors that affect organisational management?
   b) Name and discuss different types of organisational behaviour

2. a) With a well labelled diagram describe and illustrate maslow's theory of hierarchy of needs.
   b) Why was this theory later criticised?

3. a) What are informal organisation?
   b) Outline the characteristics of this organisational structure
   c) Discuss the functions of informal organisation.

HUMAN RESOURCE MANAGEMENT

PAPER CODES: **APDLPS 205**

1. Human resource management is the function within an organization that focuses on recruitment and providing direction for the people who work within the organization.
    a) Examine the features of the Human resources
    b) Discuss the roles of human resource management

2. a)Elaborate the aims of performance appraisal
    b) What are popular methods used in performance appraisal

3. a) What are the advantages and disadvantages of job rotation in the organisation?
    b) What are some of the factors that determine wage rate of a country?