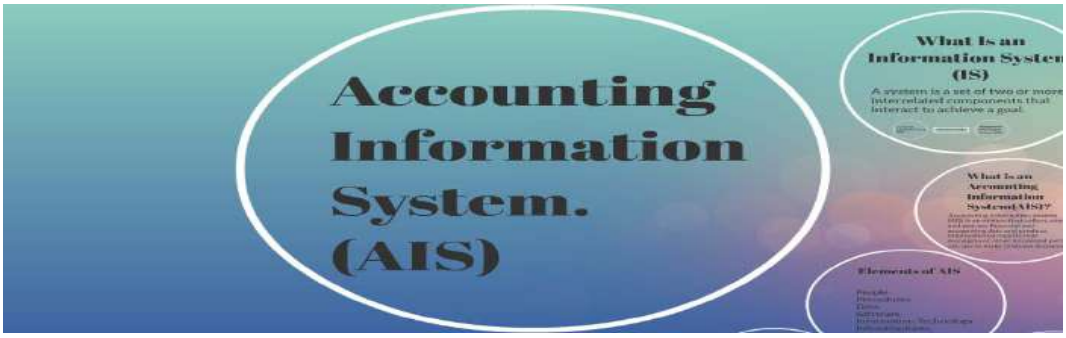


ACCOUNTING INFORMATION SYSTEM

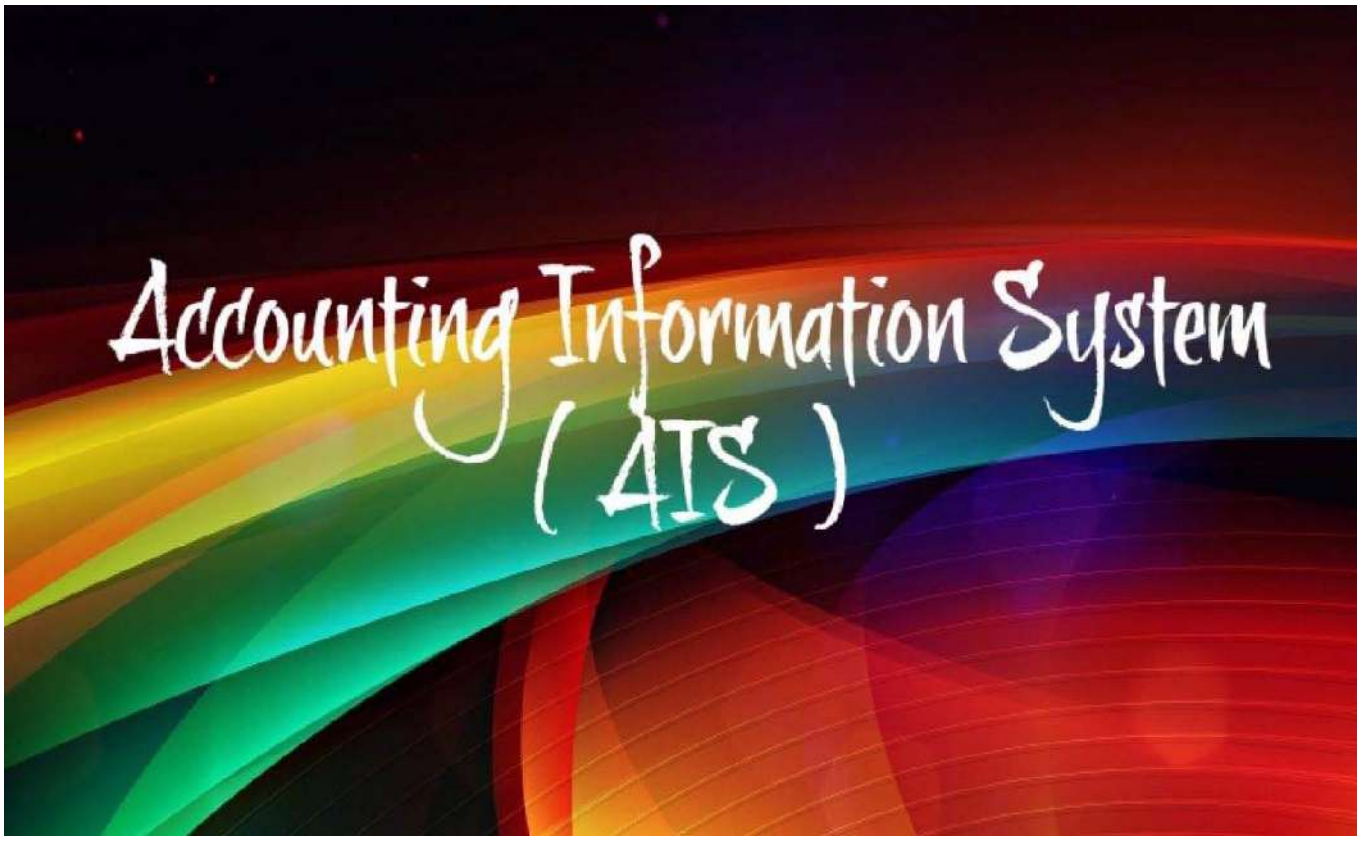
المرحلة الرابعة فرع نظم المعلومات

استاذ المادة

د.سهير محمد زكي عبد الصمد فهمي أغا

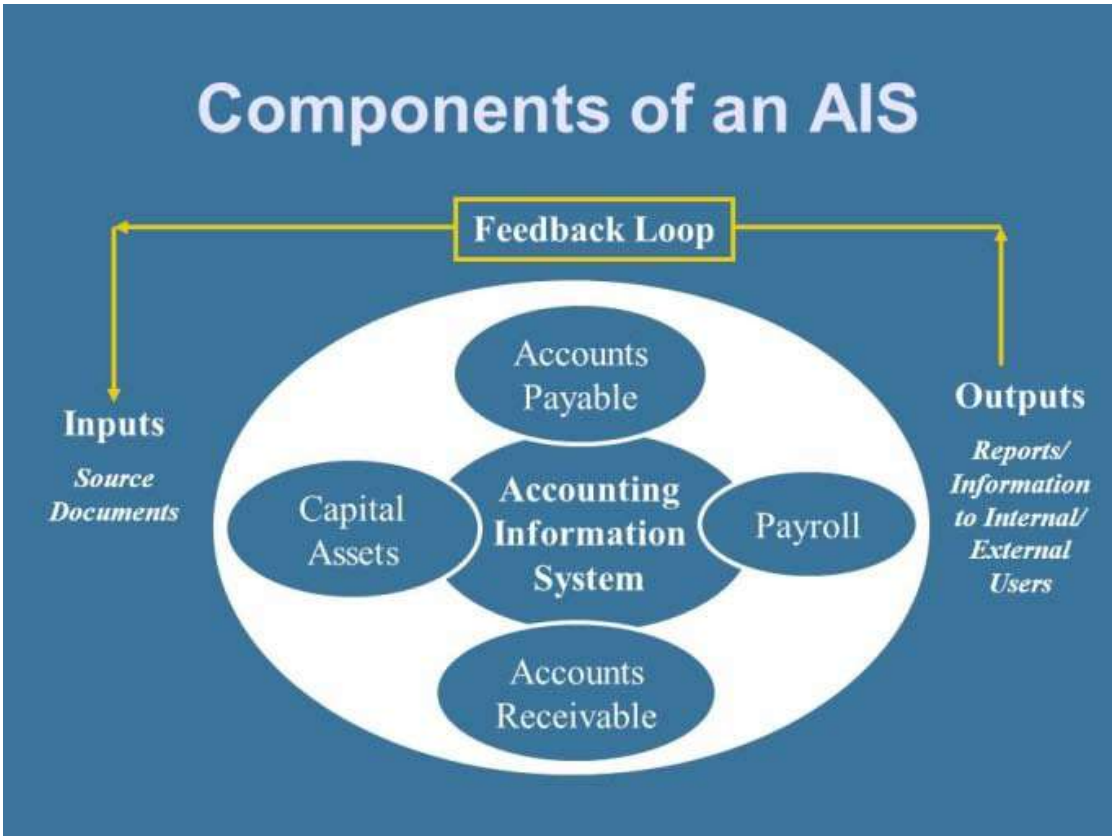
قسم علوم الحاسوب

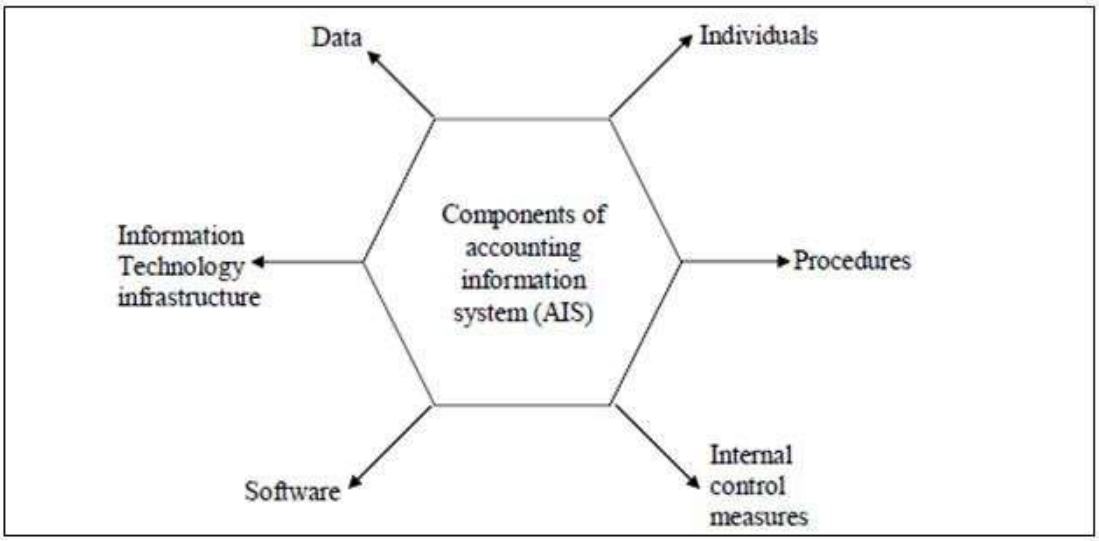
الجامعة التكنولوجية



What is an Accounting Information System (AIS)?

An accounting information system (AIS) involves the collection, storage, and processing of financial and accounting data used by internal users to report information to investors, creditors, and tax authorities. It is generally a computer-based method for tracking accounting activity in conjunction with information technology resources. An AIS combines traditional accounting practices, such as the use of Generally Accepted Accounting Principles (GAAP), with modern information technology resources.





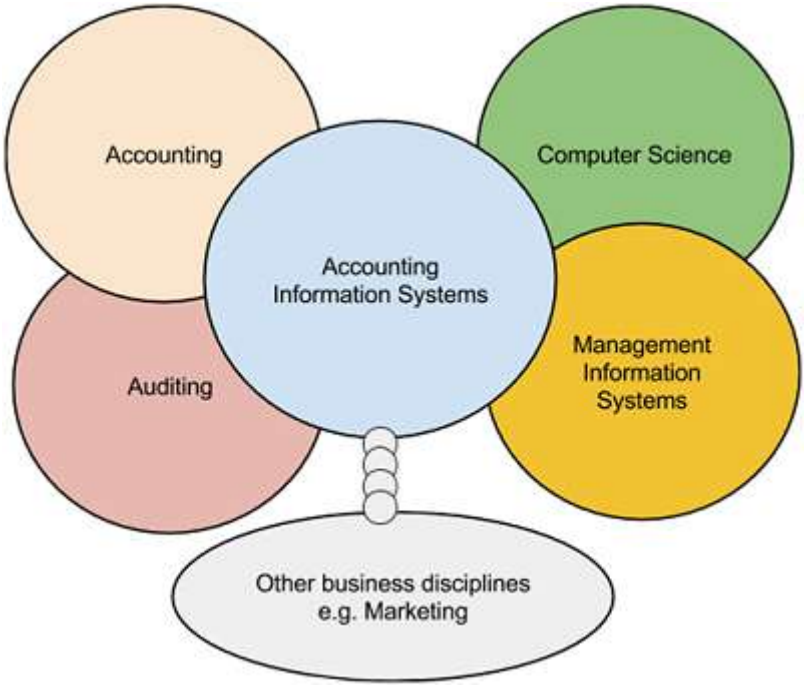
How an Accounting Information Systems (AIS) is used

An accounting information system contains various elements important in the accounting cycle. Although the information contained in a system varies among industries and business sizes, a typical AIS includes data relating to revenue, expenses, customer information, employee information, and tax information. Specific data includes sales orders and analysis reports, purchase requisitions, invoices, check registers, inventory, payroll, ledger, trial balance, and financial statement information.

An accounting information system must have a database structure to store information. This database structure is typically programmed with query language that allows for table and data manipulation. An AIS has numerous fields to input data as well as to edit previously stored data. In addition, accounting information systems are often highly secured platforms with preventative measures taken against viruses, hackers, and other external sources attempting to collect information. Cybersecurity is increasingly important as more and more companies store their data electronically.

The various outputs of an accounting information system exemplify the versatility of its data manipulation capabilities. An AIS produces reports including accounts receivable aging reports based on customer information, depreciation schedules for fixed assets, and trial balances for financial reporting. Customer lists, taxation calculations, and inventory levels may also be reproduced. However, correspondences, memos, or presentations are not included in the AIS

because these items are not directly related to a company's financial reporting or bookkeeping.



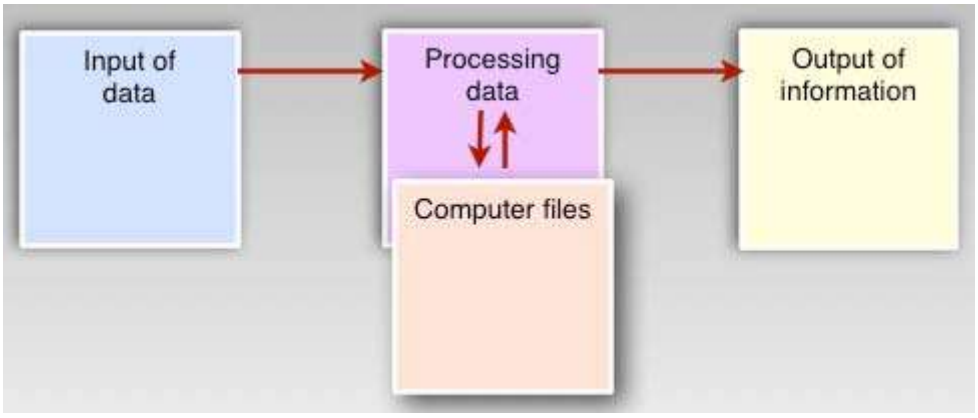
Benefits of Accounting Information Systems

Interdepartmental Interfacing

An accounting information system strives to interface across multiple departments. Within the system, the sales department can upload the sales budget. This information is used by the inventory management team to conduct inventory counts and purchase materials. Upon the purchase of inventory, the system can notify the accounts payable department of the new invoice. An AIS can also share information about a new order so that the manufacturing, shipping, and customer service departments are aware of the sale.

Benefits of AIS

- Businesses use accounting information systems to make their accounting activities easier, quicker, and more accurate
- Allows to safe time of employees and avoid mistakes
- Implementation of such system requires investment and time to be spent on the implementation, however future benefits are much higher that the expenses incurred.
- Helps the company forecast sales, profits, loss
- Make it easier to compile financial data for use in taxes, payroll, and other bookkeeping requirements




Payroll
Cost Accounting
Accounts Payable
Accounting
Order Entry
Fixed Assets
Accounts Receivable
Inventory Control
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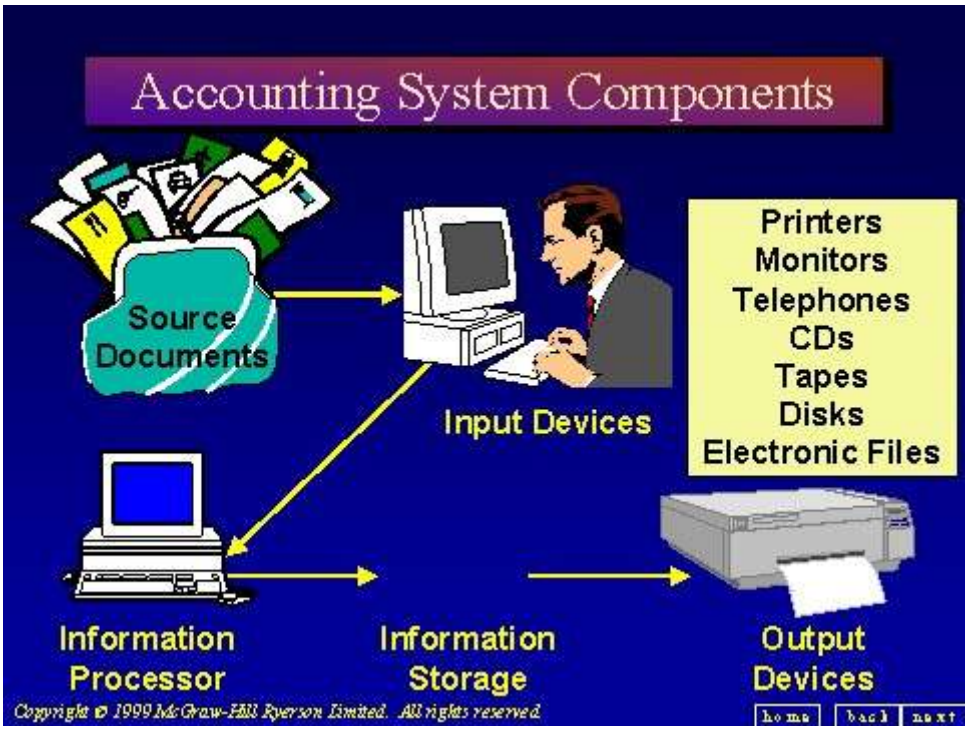
Accounting System Components
Source Documents
Input Devices
Printers
Monitors
Telephones
CDs
Tapes
Disks
Electronic Files
Information Processor
Information Storage
Output Devices
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Usage Accounting for the Internet

Usage accounting is urgently needed to support network management and cost recovery for the Internet of the future. The Internet has become a worldwide commercial enterprise serving millions. The new user base demands consistently high-quality service and reliability, and their applications impose strenuous service requirements. The very service architecture itself is changing, introducing new levels. These developments create substantial requirements for Internet traffic accounting. This paper summarizes the driving forces for Internet accounting, assesses progress to date, and recommends future research and development.

The Internet has undergone several other fundamental changes in recent years. The most readily apparent is its exponential growth: in the number of users, the number of hosts/servers (end systems), the number of networks/autonomous systems, the number of service providers, and the volume of traffic.

New service paradigms have emerged. Historically, most Internet traffic was due to electronic mail, file transfer, and remote login (Telnet). Throughput and delay requirements were modest. By contrast, the most popular applications of today's Internet--Web surfing, real-time multimedia (audio/video/image), multicast, and electronic commerce--impose far more demanding requirements.

Additionally, the integrated services architecture will introduce new classes of service into the Internet. Today's Internet is engineered to provide best-effort delivery of packets; the ISA will add two premium service classes: guaranteed (bandwidth and delay) service and controlled load service. In order to provide these services, the Internet of the future will have to allocate resources for distinguished traffic flows. A resource reservation for premium service must be agreed on by each node in the flow's path and will be governed by local policy.

Drivers for usage accounting

Internet usage accounting is often connected with recovering the aggregate cost of providing service through usage-based end-user charges and inter-ISP settlements. But there are other equally important motivations for traffic measurement. It is indispensable for managing and allocating network

resources, especially in connection with the implementation of service discrimination (the ISA). Traffic analysis, both for operational and capacity planning purposes, requires usage accounting at various levels of detail. These drivers are discussed in the following paragraphs.

Cost recovery and pricing

As the Internet is no longer a subsidized research experiment, but rather an interlocking combination of business ventures that must support themselves, it is necessary for each ISP to recover its costs by levying a schedule of charges on its users.

Prices that are out of line with costs do not long endure in free markets. Demand for overpriced service will dry up and demand for underpriced service will increase until it is impossible to meet the demand at the artificially low price (witness the recent AOL debacle in the U.S.) Markets in the real world are seldom perfect (or even nearly so), so price correction does not occur instantaneously. Furthermore, external constraints (e.g., government regulation) can support pricing anomalies, but sooner or later either the direct users abuse the underpriced service or middlemen (arbitrageurs), highly motivated by financial reward, find a way to skirt constraints and make money by buying cheap and selling .

In today's Internet pricing is based on access. But access pricing has very little correlation with the actual cost of providing the service. That is because the Internet architecture is designed to take advantage of the statistical probability that at any given time only a very small fraction of the total access capacity will be used. Telephone network design takes advantage of such statistical sharing, too. These networks are not engineered to handle the (extremely unlikely) eventuality of every network user wanting to place a call simultaneously, but only to support the highest reasonably expected peak call volumes. Internet technology takes this a step further. Whereas telephone networks take advantage of traffic statistics at the very coarse level of each individual phone call, the technology of the Internet applies statistical multiplexing at the level of the individual packet and is thus able to realize far greater economies.

However, any engineering design based on statistical improbability carries with it a certain likelihood that the worst-case expectation will be exceeded. With a network that has thousands of routers and a complex topology, temporary localized overloads resulting from a random accumulation of higher-than-expected traffic are frequent. (Of course nonrandom causes such as imperfect network design, backhoe fade, or social phenomena may play a part, as well.) A great deal of Internet technology has been invented to deal

with traffic control. For example, routing algorithms conspire to route traffic around jams and TCP implementations throttle back their offered load when the network begins to lose packets. But overloads still occur. These overloads are termed "congestion."

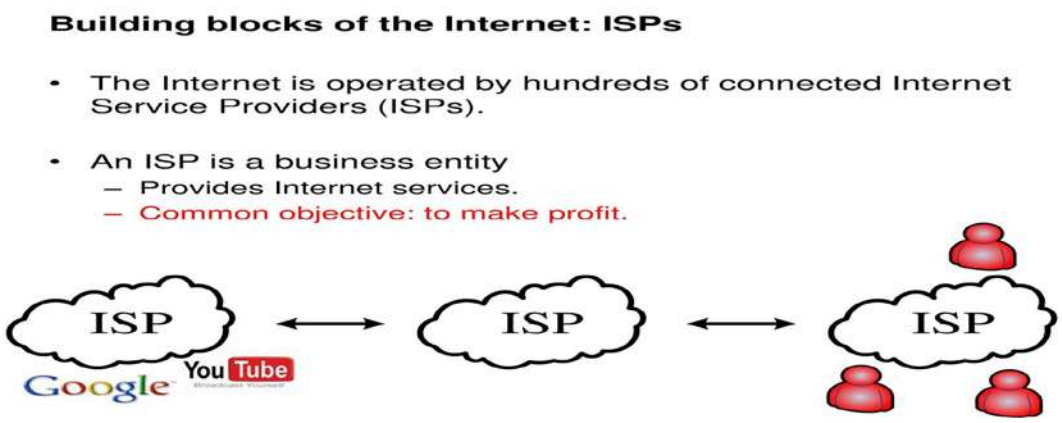
Although Internet performance (throughput, delay, packet loss, etc.) degrades gracefully with increasing congestion, it suffers nonetheless. Moreover, in certain cases, the dynamics of Internet protocols and applications can cause untreated congestion to escalate. Finally, it is not easy to fix congestion in real time by adding capacity. Therefore, it is desirable to prevent needless congestion and control and remedy it when it occurs. This is done by pushing back on the senders. One way to do that is through negative performance (as when one's phone call busies out and one hangs up and tries again a few minutes later.) A fairer and more socially beneficial form of back pressure is usage pricing.

Taken to their logical limit, usage prices would become spot prices for particular transport services, for example, this millisecond's price for transmitting a kilobyte of traffic from A to B, as determined by supply and demand (i.e., free-market auction.) This model (with simplifying assumptions!) has been investigated [10] and shown to maximize the overall social benefit to the user community. However, it would be extremely impractical to calculate and apply such spot prices in real time. Further research [11] broadens the concept of pricing pushback to usage-constraining fees. Instead of using precisely tuned prices to optimize aggregate Internet performance, the idea is to use appropriate usage pricing to encourage responsible, efficient use of the Internet.

Because of the proliferation of service providers on the Internet today, each with its own particular cost-recovery requirements and marketing strategy, uniform pricing architecture is unlikely to emerge. Therefore, an accounting architecture that is flexible enough to admit a wide range of cost-recovery schemes is called for.

Inter-ISP settlements

Even if the existing bilateral agreements persist, ISPs will likely want to measure traffic between one another to check whether the expected volumes are in line with the assumptions on which their agreements are based. Ultimately, though, when integrated services appear, inter-ISP settlements will become inevitable because differential service pricing will be necessary between ISPs (as for end users). Thus, it will be necessary to measure and distinguish traffic volumes according to service classes.



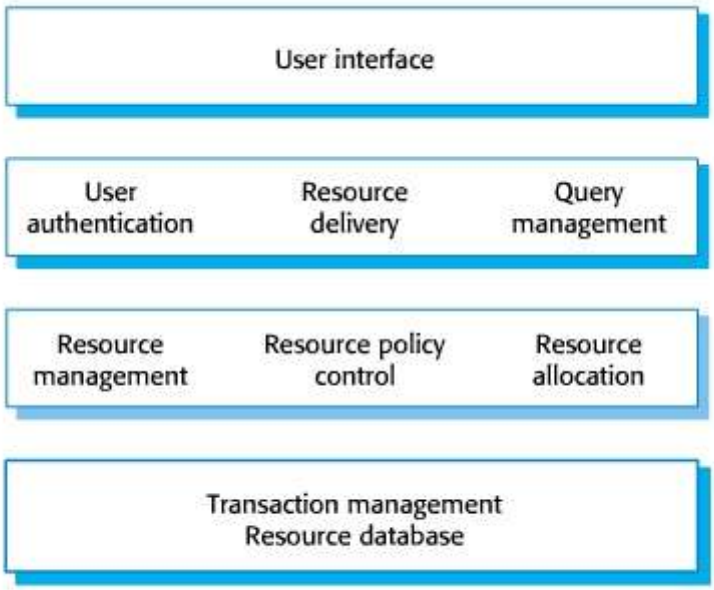
Resource allocation

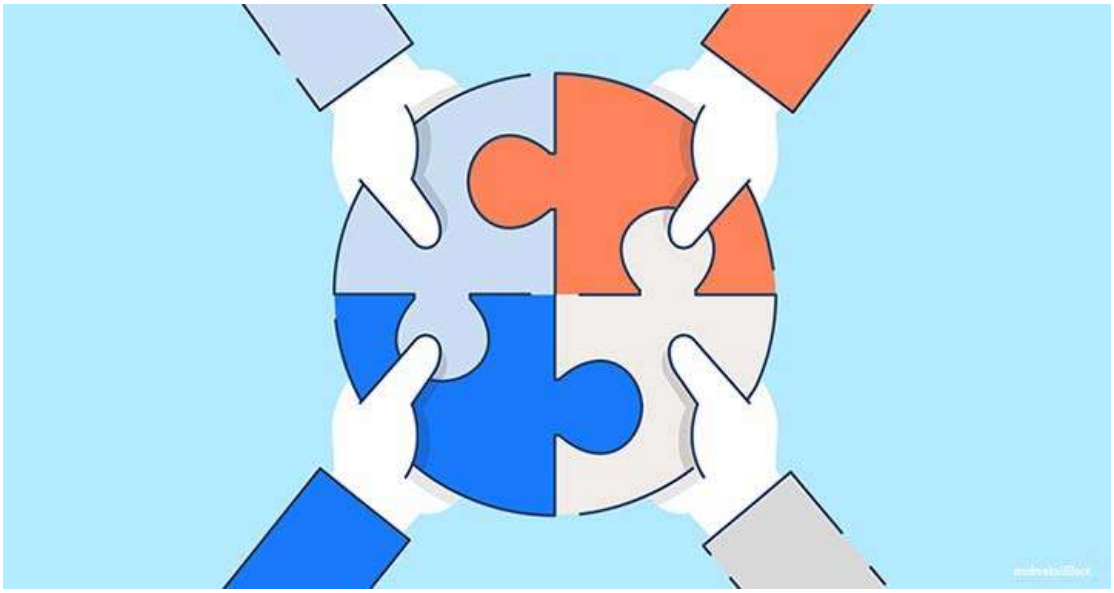
The primary resource offered on the Internet is data transfer. This resource is neither cheap nor limitless. The usage-constraining fees discussed above effectively allocate resources so that the Internet will operate efficiently. But there may be objectives beyond efficiency of operation, such as temporal load balancing (encouraging a shift of traffic from peak periods to off-peak periods) and discouraging antisocial behavior (e.g., greedy TCP implementations or spamming). Usage accounting can be used with pricing differentials (discounts and surcharges) to promote these goals. It has also been proposed that direct, immediate feedback (in place of or in addition to end-of-the-month usage charges) of resource consumption to end systems, so that users and their applications can adjust their behavior as appropriate, would be even more effective in promoting efficient use the network.

The advent of ISA presents additional resource requirements. In the original, egalitarian, one-service-class-fits-all Internet, resources were allocated uniformly among all users. Service discrimination requires queuing disciplines within network nodes to ensure that flows with reservations for premium services receive the promised service. Included in the ISA is the specification of an offered-traffic profile (the "Tspec") as part of the resource reservation. Preferred service is given only to those packets that conform to the Tspec. Enforcement requires measurement of the rate and volume of the flow.

It has been shown that service discrimination will not work properly without corresponding pricing discrimination. This is hardly surprising, since if all services cost exactly the same, more users will request the best service than the system can accommodate. Thus, the implementation of ISA will require a differential pricing scheme (and corresponding accounting) where flows that receive better service will pay more.

Local policy (implemented in the local policy module [LPM] of a network node) determines which reservation requests for premium services are honored. Besides the question of capacity availability, this decision may be based on the identity of the requester and the status of his account with his service provider. If the ISP allocates premium services by selling monthly allotments (e.g., 100 kilopackets of controlled load service) the LPM will have to keep track of how much of that allotment has been used up. If the ISP simply prices premium services by total usage (e.g., $ 0.05 per kilopacket of controlled service without limit), the LPM has to count premium service packets for each user to bill him or her at the end of the month.





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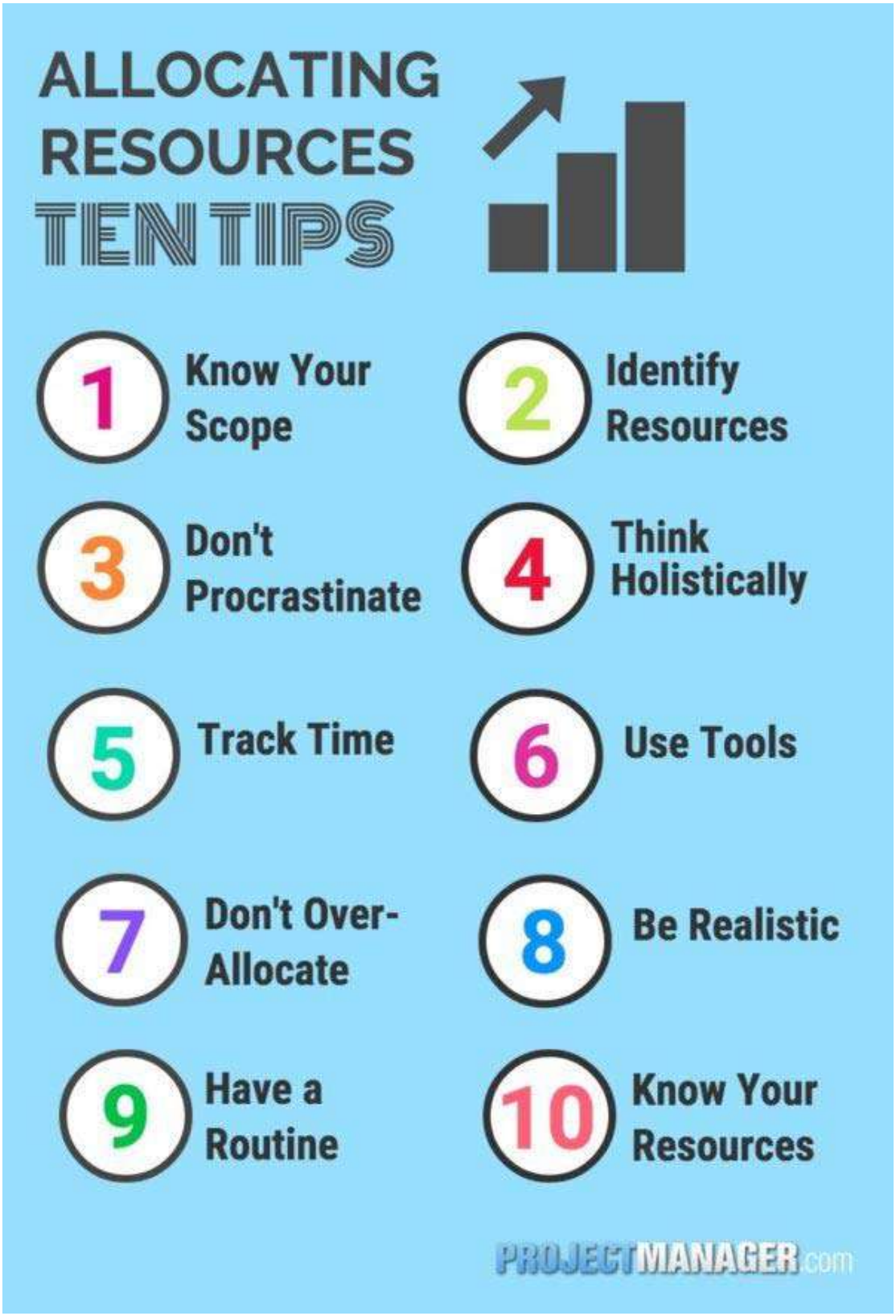
ALLOCATING RESOURCES TEN TIPS
1 Know Your Scope
2 Identify Resources
3 Don't Procrastinate
4 Think Holistically
5 Track Time
6 Use Tools
7 Don't Over-Allocate
8 Be Realistic
9 Have a Routine
10 Know Your Resources
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Network analysis and planning

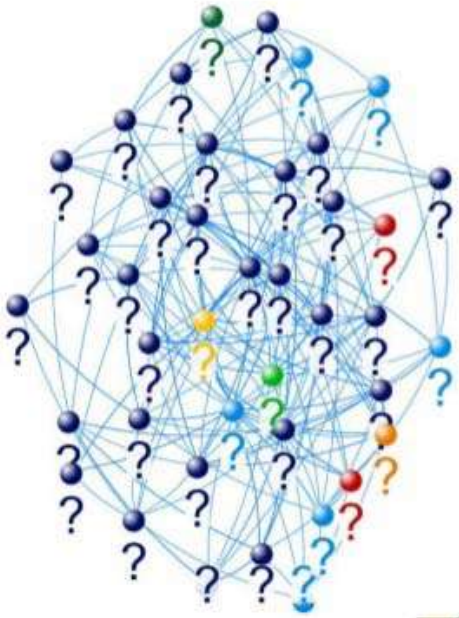
Traditionally, network analysis has focused on the operation of a single organization's network. Thus, it was common simply to watch the utilizations of nodes and links. If certain thresholds were consistently exceeded, capacity was added incrementally. Periodically, the network topology was redesigned to fit the current load. But, as Braun and Claffy have observed [2], in the context of today's enormous and complex Internet such simple measurements and adjustments are inadequate to maintain network performance. ISPs need to cooperate to make mutually beneficial design and operational decisions. The two-level IGP/BGP routing hierarchy is no longer adequate to ensure balanced traffic load over expensive links. Today's "traffic engineering" requires static routing based on careful analysis of traffic flows and resource consumption. To achieve this depth of understanding accurate traffic measurements are needed.

Enterprise networks, too, will want to understand the traffic they interchange with their service providers in more detail than mere link utilization offers in order to make better decisions about controlling traffic within their own networks and about interconnecting to the outside.

Additionally, both end users and neighbor ISPs will want to establish service level agreements with their service providers. All of this will require some traffic accounting. In most cases sampling will be sufficient; in some cases total packet accounting will be necessary.

Reasons for a Network Analysis: Examples

1. Assessment, Planning, & Weaving
2. Measure changes over time
3. Sense-making & story-finding
4. Positioning and working with individuals in the network



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NETWORK ANALYSIS

Network Analysis refers to a number of techniques for the planning and control of complex projects.

The two most frequently used forms of network planning are:

1. Programme Evaluation and Review Technique (PERT)
2. Critical Path Method (CPM)

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Internet accounting system requirements

The requirements for a usage accounting system are varied and conflicting. They may be summarized as follows.

Internet users view usage accounting from the perspective of the usage-based cost recovery system and local policy enforcement it can support. They want these to be accurate and fair. They want usage-based cost recovery to be simple so that their costs are easy to understand, predict and control.

From the viewpoint of the service providers and the Internet as a whole, the accounting system should be robust, scaleable, and relatively simple. It should have low impact on the performance of network service both in terms of added traffic and processing overhead by network elements. It should support usage-based cost recovery and inter-ISP settlements, which means it must be secure and produce accurate and complete accounting. It should support resource allocation in general and ISA in particular. It must support a wide variety of network management activities including performance measurement, fault isolation, resource allocation, local policy implementation, traffic engineering, and network planning. These functions require that the accounting system be able to measure traffic at granularities varying from very coarse (e.g., AS-to-AS traffic matrices) to very fine (e.g., at the level of individuals and applications). It must able to distinguish among traffic carried at different service levels. And the ability to estimate volumes by sampling techniques will be desirable in some cases.

Introduction to Risk Assessments

A **risk assessment** is the practice of reviewing an organization's activities and investments to determine the likelihood of loss. A business gains the following advantages from the risk assessment process:

- It can decide whether to make a new investment or sell off an existing investment.
- It can determine which actions to take in order to mitigate certain risks.
- It can decide whether there are significant upsides related to certain risks that make it worthwhile to retain those risks.

Risk assessments must be completed at regular intervals, so that changes in the financial and operating environment can be used to adjust the assessment. These adjustments may be triggered by changes in economic conditions, the political situation, the environment, and so forth. For example, a decline in general economic conditions could increase the expected rate of default on mortgages issued by a bank. Or, changes in weather conditions could alter the expected quantities of grain that will be shipped by a freight transfer company, which alters its cash flows. As another example, a company has just acquired another business, and conducts a risk assessment related to all aspects of the acquiree, such as the likelihood of customer turnover, employee theft, and product recalls. Or, a risk assessment of a company's computer systems could result in the identification of several security holes that a hacker could exploit.

There are a number of risk mitigation techniques that may be pursued. For example, procedures can be altered to eliminate risky practices. Or, risk can be handed off to a third party, perhaps by outsourcing activities or buying insurance. In some cases, management may deliberately choose to retain risk, especially when the business has a deep knowledge of the risk area and believes that it can effectively manage the risk.

Risk assessments are conducted by the chief risk officer (CRO). If there is no CRO, the task is usually taken over by the chief financial officer.

Hazard	capability of a substance to cause an adverse effect
Risk	probability that the hazard will occur under specific exposure conditions
Risk assessment	the process by which hazard, exposure, and risk are determined
Risk management	the process of weighing policy alternatives and selecting the most appropriate regulatory action based on the results of risk assessment and social, economic, and political concerns

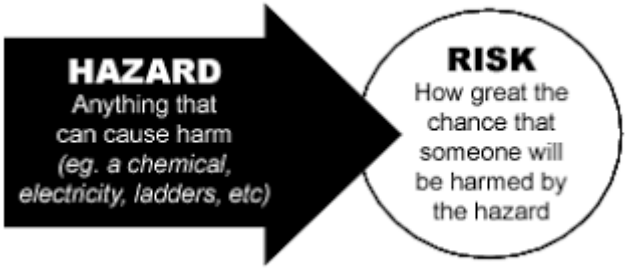
Hazard and risk are often used interchangeably, but there is a significant and meaningful difference between the two terms. When scientists and policymakers carelessly substitute one for the other, the confusion gets compounded.

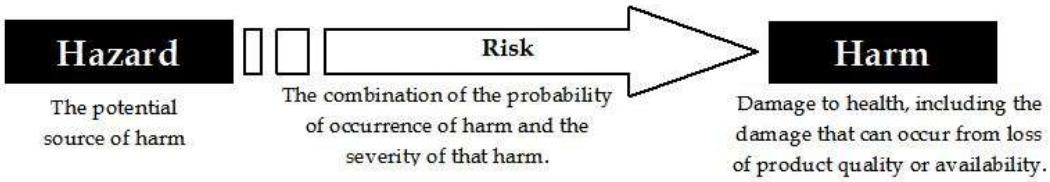
So what's the difference?

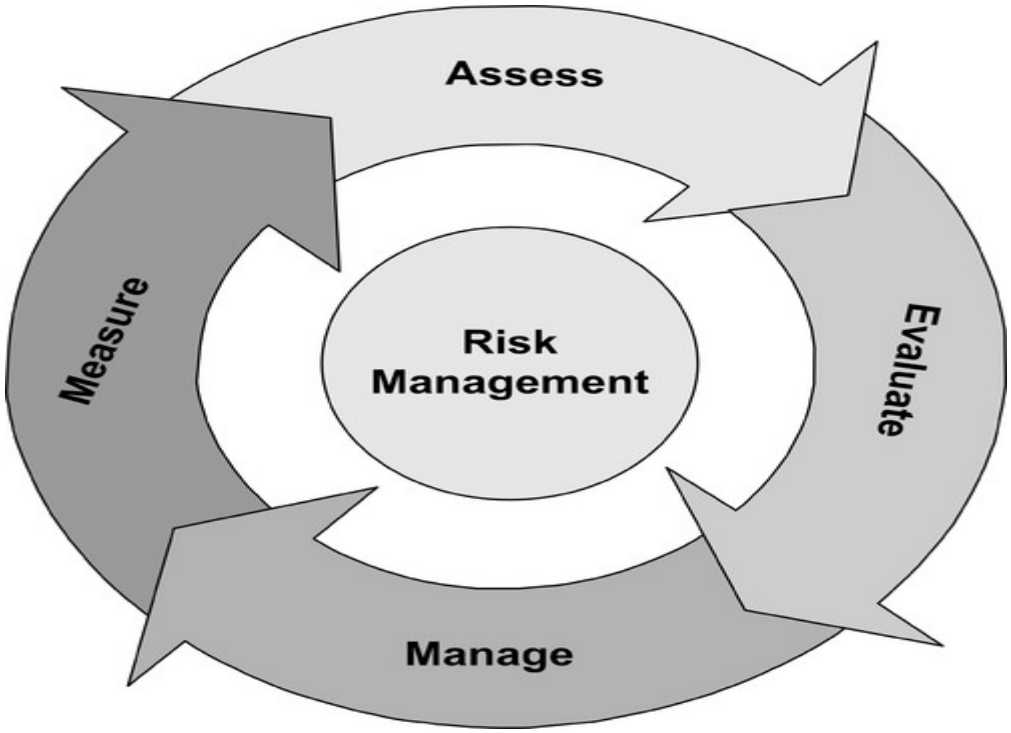
A hazard is anything that has the potential **to cause harm. As such, identifying a hazard is just the first in a series of steps to assess the danger a substance or activity might pose under a particular circumstance. By analogy, any body of water— puddle, bathtub, river, or ocean— poses a hazard because someone could slip on it, fall into it, or drown in it. To make intelligent decisions, we must know more to assess whether or not a substance or behavior is dangerous in real— world scenarios.**

A risk is the likelihood **that a hazard *will* cause harm. Determining risk requires consideration of whether, how, and how much a person is exposed to a substance or activity. Using the same water analogy, there is little risk of drowning when one steps over a puddle of water.**

However, diving into the ocean without being able to swim poses a significant risk.







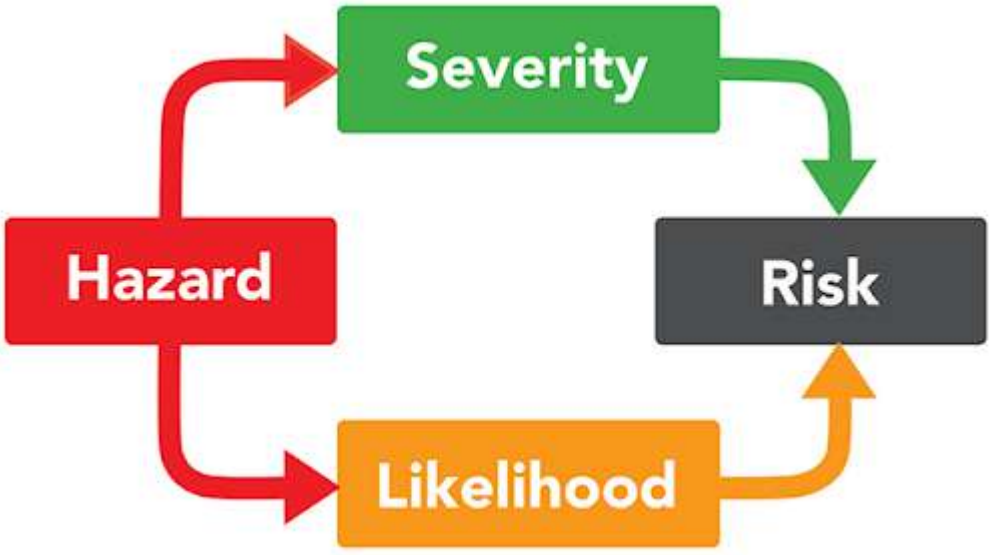
Understanding Hazards & Risks

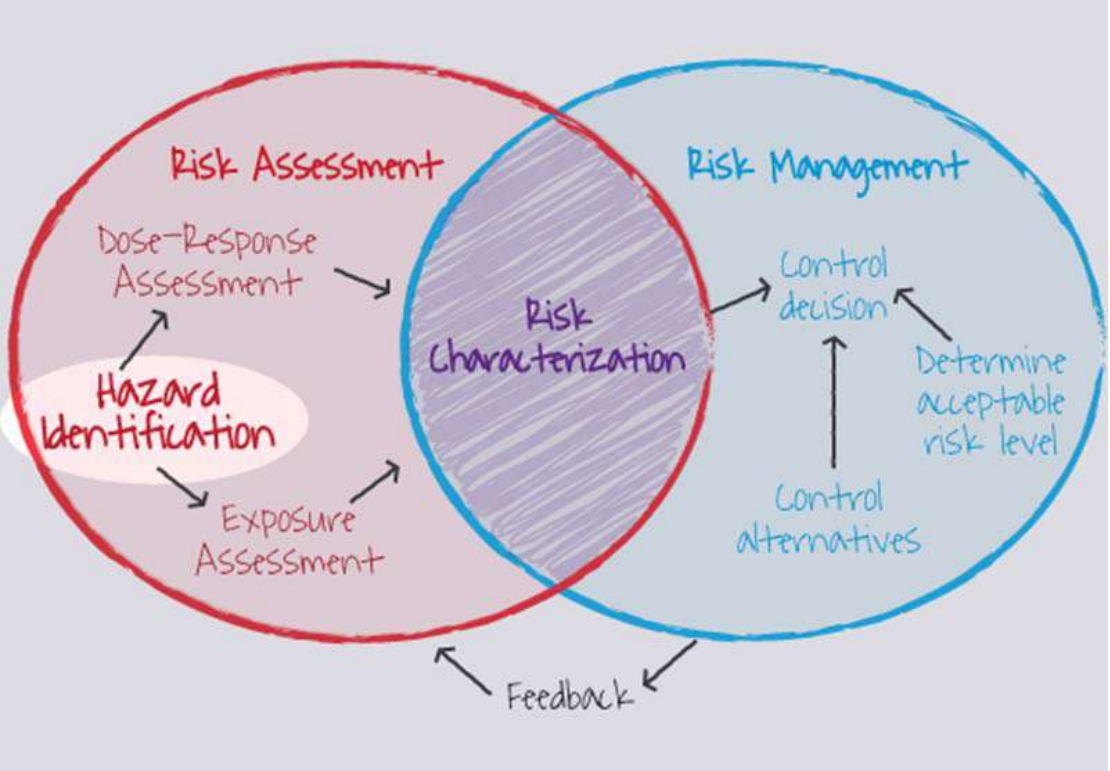
Ref No - HAZSI1421

HAZARD
VERSUS
RISK

HAZARD	RISK
Hazard refers to a source of potential harm or danger	Risk refers to the possibility that harm or injury might occur when exposed to a hazard
Different elements such as chemicals, excessive noise, fumes, electricity, etc. act as hazards in a workplace	Risk is the possibility of getting harmed after being exposed to chemicals, noise, fumes, etc.
May remain the same even if the risk is minimised	It is important to identify the hazard, the potential harm it can cause in order to eliminate risk


Hazard vs. risk
Hazard
is the potential
to cause harm
when crossing a road,
cars are a hazard
Risk
is the likelihood of harm
taking place based on exposure
when crossing a
highway, the risk
of an accident
is high
high exposure
when crossing a
country road the risk
of an accident
is low
low exposure
eufic


Severity
Hazard
Risk
Likelihood



The terms hazard and risk are used interchangeably in discussions about day-to-day activities. These words do not have the same meaning. Below are the common definitions for risk and hazard.

A hazard **is a condition that exists or has the potential to cause harm.**

A risk **is an expression of the likelihood that a condition could cause a consequence.**

Hence, a risk is determined based on information about the hazard.

We use hazard information every day to make decisions about the risks of our activities which vary from what to eat as well as decisions about billion-dollar projects. To learn more about

the relationship between risk and hazard watch the video titled, "What is the relationship between hazard and risk ??

How Is Information Technology Used in Accounting?

Information technology has changed the way that just about every industry functions including accounting. While you might not be able to afford an in-house accountant, technology makes it effective and easy to have a professional working on your business finances. Take a look at how you can use information technology to partner with an off-site accountant and keep your business's financial goals on track.

5 WAYS TECHNOLOGY IS TRANSFORMING ACCOUNTING

The accounting profession is rapidly transforming partially due to productivity optimization available through newer technologies. Today's accountant is no longer burdened with task-oriented projects. Instead, thanks to the shift in dynamic accounting technology, accounting software programs are becoming more automated and the role of the accountant is changing to that of a business advisor. The role shift of the modern accountant to a business advisor requires new skill-sets, including professional skepticism, judgment, and critical thinking skills. These skills will remain a high priority to accounting firms when looking at new hires. While the profession is rapidly changing due to emerging technologies, the need for these types of soft skills remains constant.

So what top technologies are helping the shift into accounting automation and creating new roles for accountants? Here are the top 5 ways we think technology is transforming the accounting industry:

1. **Artificial Intelligence & Robotics** - Artificial intelligence and robotics is automating complex and repetitive tasks and processes, with extreme accuracy, reducing operating costs and increasing efficiency. These are some of the emerging technologies supporting the transitional role of today's accountant into a more critical thinking role. However, the Association of Chartered Certified Accountants

(ACCA) and the Institute of Management Accountants (IMA) states in their report, *Digital Darwinism: thriving in the face of technology*

2. **Cloud Computing** - **Cloud computing** is a type of Internet-based **computing** that provides shared computer processing resources and data to computers and other devices on demand. This allows accountants to perform accounting tasks from any location as well as the ability to deliver financial information and reports through the cloud. This opens up a new way for accountants to work with their clients. Now, there is more time to engage with the client and focus on business strategy instead of getting burdened with detailed processes.

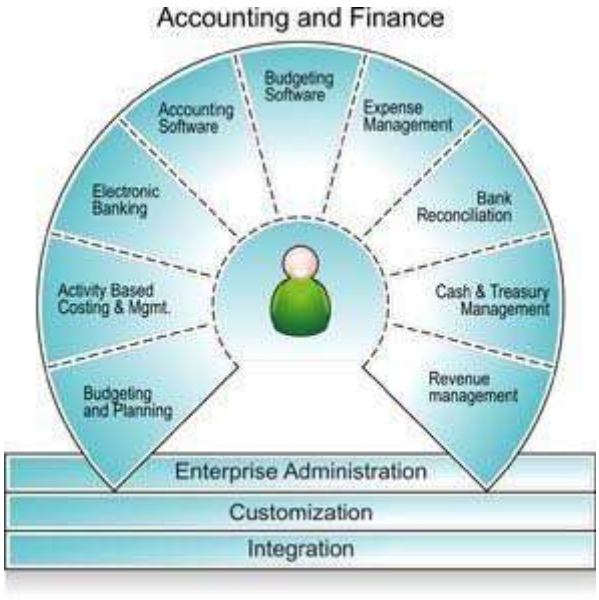
3. **Innovations in Tax Software** - The tax software of today has helped improve accuracy while reducing margins of error - something businesses want to embrace in order to avoid tax penalties and prevent issues with stake holders. Better tax software also helps streamline audits by making them more efficient and effective. Raymond Cheng, Council Member of HKICPA, states that "An understanding of new accounting software and other business and financial models will be necessary if practicing accountants are to effectively conduct audits and discharge their responsibilities. Continuing professional development and education in this area will be necessary for auditors."

4. **Mobile Accounting** - Accountants are increasingly dependent on their mobile devices to accesses data. Mobile connectivity also bridges accountants and their clients. Companies like Xero are helping to launch the mobile age of accounting. Their mobile apps help accounting firms manage their business while on-the-move. Firms can reconcile, send invoices, add receipts and create expense claims from smartphones or tablets. Bill Price writes in Accounting Today that, "Mobile accounting could mean different things to different people and businesses, so the first step in a successful rollout is defining what it means to you and your company. For example, consider who the users will be and what they will be using it for. Think about the different functions you'd want your mobile accounting and financial solution to cover."

5. **Social Media** - Social media has become an essential tool for firms wanting to engage with their current and potential clients while expanding their brand reach. Gary Boomer, CPA/CITP, CEO of Boomer Consulting Inc. and Jim Bourke, CPA/CITP/CFF, partner in charge of internal technology at accounting firm WithumSmith+Brown, see social media as a tool that will continue to

evolve and provide accountants with a valuable sales and marketing platform that can instantly connect firms to current and potential clients. Most accounting firms understand the importance of implementing traditional marketing into their overall business development plans, but many firms may not realize the power of integrating social media marketing into their long-term marketing strategies. Social media should be a part of a firm's overall business development strategy and if done consistently, will help amplify the effectiveness of all other marketing and business development efforts.

Accountants will need to embrace the rapid advances in accounting technology if they want to remain relevant in the accounting industry. This includes staying up-to date with technological trends, optimizing and adapting current accounting software to meet the needs of their firm, and being open to accepting and learning advancing technologies.



An Accounting Information System (AIS) allows a business to keep track of all its business and accounting transactions and also to maintain record **COMBINE ACCOUNTING AND IT SKILLS IN AN ACCOUNTING INFORMATION SYSTEMS DEGREE**

An Accounting Information System (AIS) allows a business to keep track of all its business and accounting transactions and also to maintain record. It assists a business to run smoothly, and in case of a problem, it provides a snapshot of

what went wrong and where. In today's world where businesses are becoming increasingly complex and international, such systems are even more integral to the effective functioning and monitoring of financial flows.

Six Components of AIS

* People who use the system such as CFOs, auditors etc.

* Procedure and instructions

* Data such as payroll information or vendor invoices

Software

* Information Technology (IT) structure which is mainly the hardware
* Internal controls for security and protocols.

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Developing and Implementing an Effective AIS

The Advantages of the Participation of the Accountants in Information System Lifecycle of the E Accounting the importance of the accounting is derived from the importance of the accounting information system, which is considered one of the most important resources, providing the economic and social information required for making the sound decision in this era. In order to meet the needs of decision makers regarding the accounting information, it has to pay attention to the process of developing the accounting information systems in order to keep up with various latest developments continuously occurred in business world, then contribute to meet the needs of the growing demand for such accounting information which various parties and entities require. Therefore, the role of accountant has expanded due to the development of the accounting information of various business sectors, on the one hand, and the increase of the volume and the complexity of the information, on the other hand, The accountant shall play an active and effective role in the processes of designing the systems in order to achieve an effective internal system as well as the needs of accounting information users and provide the data required for making the decisions. Furthermore, the massive technological advance carries various important risks pertaining to the security and integration of the E-accounting system since the development of computers and information technology are not accompanied by a similar development of the controlling practices and

standards. Furthermore, a similar development does not occur in the knowledge, experiences and the awareness of the employees of such facilities. Therefore, the accounting information system used in any facility shall include the methods and standards, controlling the data in order to enable the information system's users to submit reliable information. The accountants play an important role in developing and evaluating the standards of control and security of the accounting system since they work closely with the designers of the system. Such matter allows ensuring that the standards of the control and security are appropriate and sufficient. Using the computers in information system affects the means of the control and security of the data; although the automatic operation of the data has various advantages pertaining to the accuracy and speediness, the problems special to the control may lead to the manipulation of the data and the inaccuracy of the). In addition, the participation of the accountants in developing the accounting information systems affects positively the psychological aspects of those accountants, reflecting undoubtedly the easiness of implementing the system. Such matter also encourages and supports them to succeed the accounting system in order to achieve its goals. Thus, the importance of the participation of the accountants in developing the accounting information system is derived from the fact that the accountants as accounting information system’s users are well qualified for determining how to develop their work and needs. Furthermore, they will greatly oblige to the final system whenever they have opportunity to participate in the process of the development; the accountant interacts with the accounting systems as well as its outputs of each economic unit. In general, such interaction includes the usage, evaluation and the development of the accounting information system. In addition, the role of the accountants is considered a main and primary role; in most cases, they have both the occupational experience and practical reality of the accounting system of the company, on the one hand, and the science and the knowledge of the accounting bases and standards, on the other hands. As a result, it can be confirmed that when the accountants participate in E-accounting information systems' life cycle, various advantages, pertaining to the reduction of risks of information technology and banking services as well as the provision of the information required by the decision –makers in addition

to the sound and correct accounting handling, are achieved. Accordingly, the hypotheses

The Role of the Accountants in the Stage of the Designing of E-Accounting Information Systems

- Designing the procedures and processes required for meeting the requirements of the system;

- Identifying accurately the requirements of the programs and organizing the files and databases;

- Designing the documents of inputs and outputs required for the system
-designing the manual of accounts

- Designing the manual of procedures

- Designing the screens which will be displayed to the users;

- Designing the appropriate types and formats of the reports as well as identifying their contents;

- Identifying the method and the time of submitting the reports;

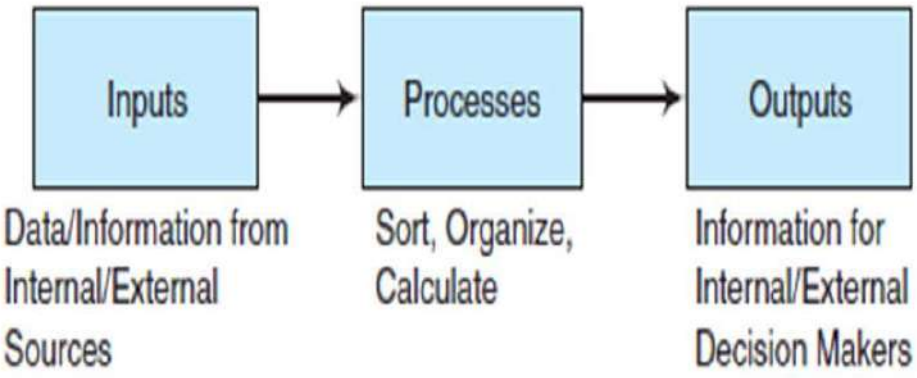
Establishing various relations between the programs and the data;

- Establishing the procedures of the internal control of the system

- Identifying the methods of entering and getting out the financial data; and

- **Identifying the devices of inputs.**

AIS Components



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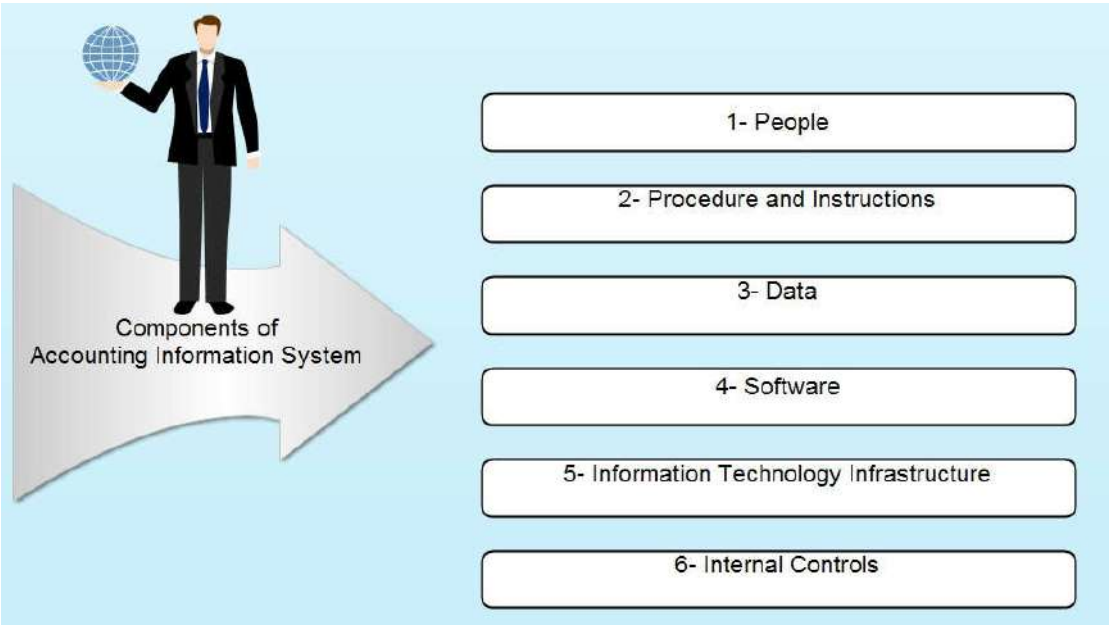
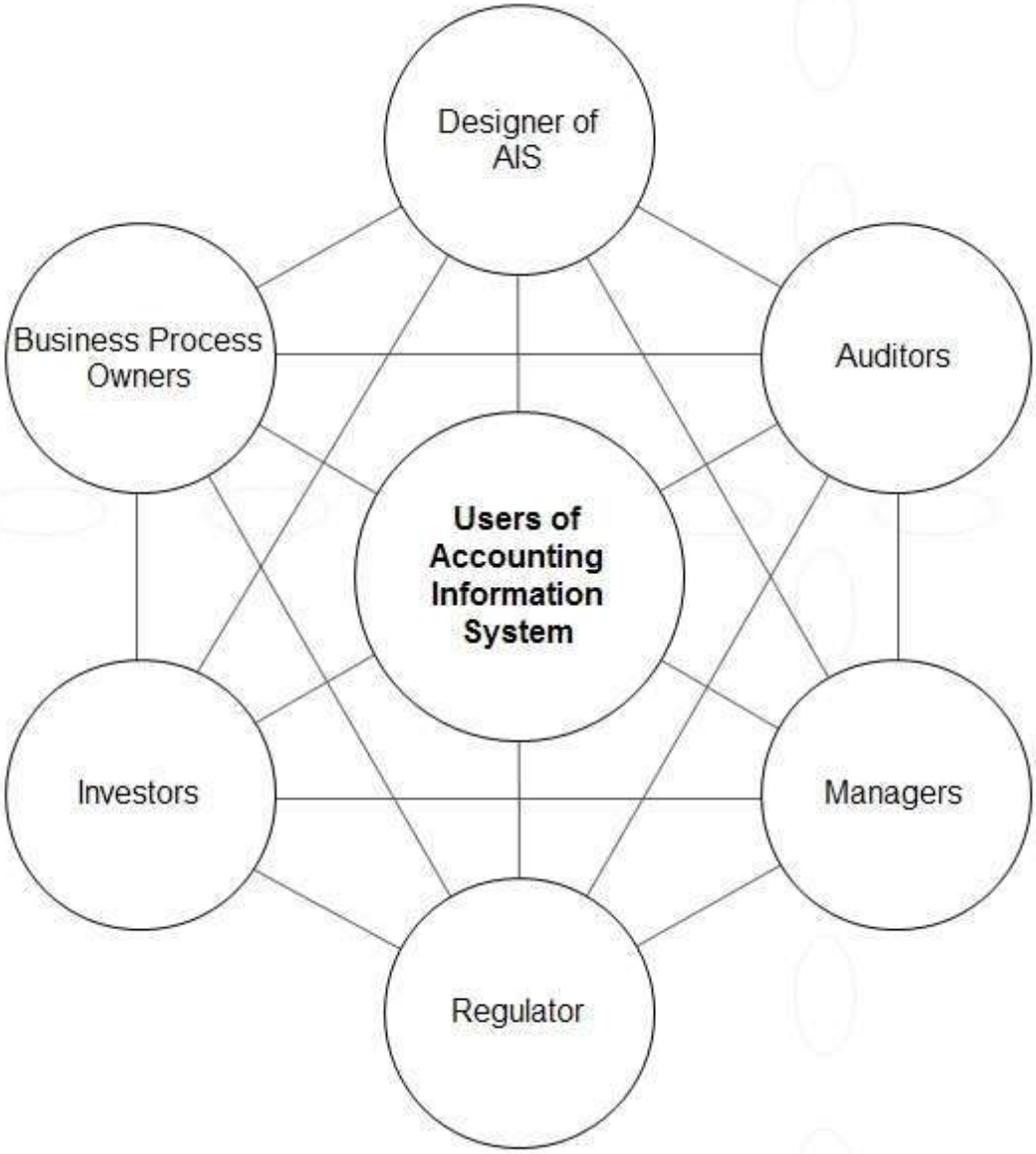


DIFFERENCE BETWEEN USERS OF AIS & USERS OF ACCOUNTING

USERS OF AIS

AIS are an acronym used to represent that aspect of MIS (management information system) that deals With accounting informational flows. AIS stand for accounting information system. The main classes of People that use AIS (users of AIS) are the accountants and auditors that can act in various capacities

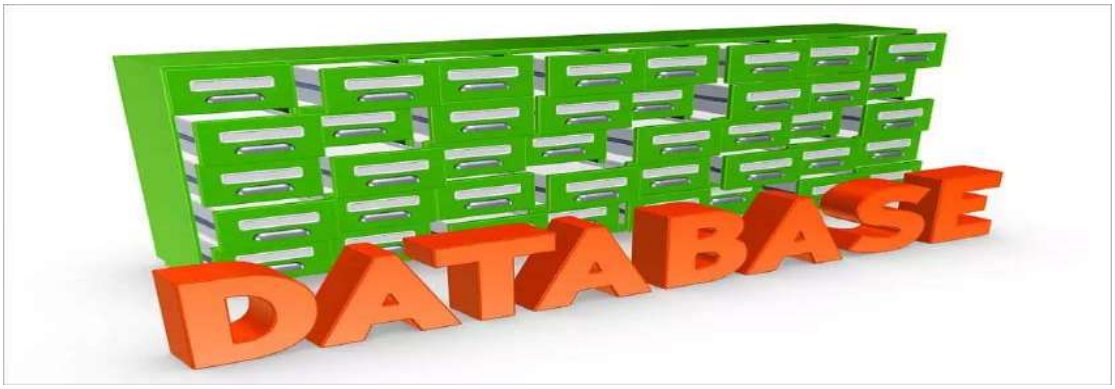


The major users of accounting information system:
Designers of AIS: designers of accounting information system are the main users of accounting

Information system. Some people call these classes of people 'the systems analysts'. Whatever names you?
Call them does not matter what matters is that they are the primary users of AIS in the modern business
Environment.
Auditors: auditors make use of AIS in the bid to carry out their duties effectively. AIS enable the auditor
To gather the information that are necessary to; plan, develop and implement audits as it is suppose to be
Done.
Managers: as business environment become more complex by the day, managers tend to rely more on
The information supplied to him or her on a real-time basis to make informed decisions that have the
Capability of making or marring a business. AIS is a one stop shop for financial information that business
Managers need just like MIS (marketing information system) serve the marketing manager in analyzing
And interpreting marketing situations.
Regulators: government of the modern society are increasingly becoming aware of the importance of
Having a comprehensive database of the required activities of companies that operate within its
Jurisdiction and have placed greater reliance on AIS to supply the bulk of this information as they are
Primarily concerned with financial information.
Investors: investors rely on AIS to produce financial statement that is true and fair. AIS are designed in
Such a way that the chances for financial statement fraud/ error to occur are slim thereby boosting the
Confidence of the investing community.

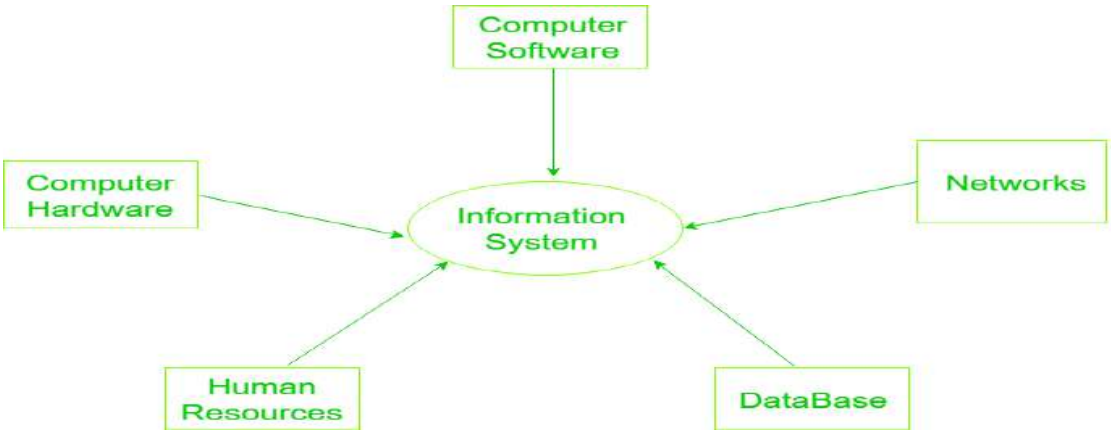
Business process owners: business process owners (BPO) are people that run the operation of
Businesses; they are not the owners of business except where business operations are done by owners. I
Took time to bring out this point as a lot of people have misunderstood this. AIS provide information that
Makes the life of workers a lot much easier. A sales representative will have instant access to a company's
Stock database from a remote point while accepting orders and production managers simultaneously

Have access to information that will signal the need for more goods to be produced
Accounting information system (AIS) has changed the face of accounting as a field; by introducing
Challenging but interesting elements into accountancy. If you have interest in pursuing a career in
Accounting and you are not giving AIS serious thought, you had better look elsewhere as accountancy may
Not be for you.



Why are databases important for accounting information systems, and what function do they serve?

A database is just the container to store the data. A database could be a file, formal data management system, or even a file drawer. The usual definition of a database is a formal software program like SQL/Server, Oracle, I, Access, or others but I tend to think more generally. The important issue is to pick the complexity and cost of the database that you use based on what the functions are that you need. To just file away old records a drawer may be the best approach (or scan them into a virtual drawer). The more searching and reporting you need to do the more formal and perhaps expensive the system needs to be



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Accounting is the discipline of tracking credits and debits, payables and receivables, inventory and capital equipment.

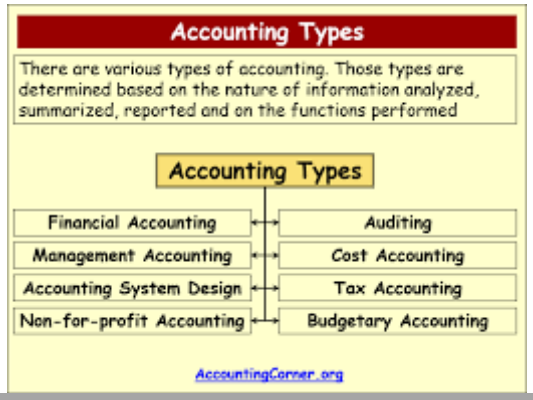
Computer automation allows for many accounting functions to become less prone to error and timelier and easier to audit when financial transactions, payroll, purchasing, sales and inventory are tracked and maintained reliably in a database.

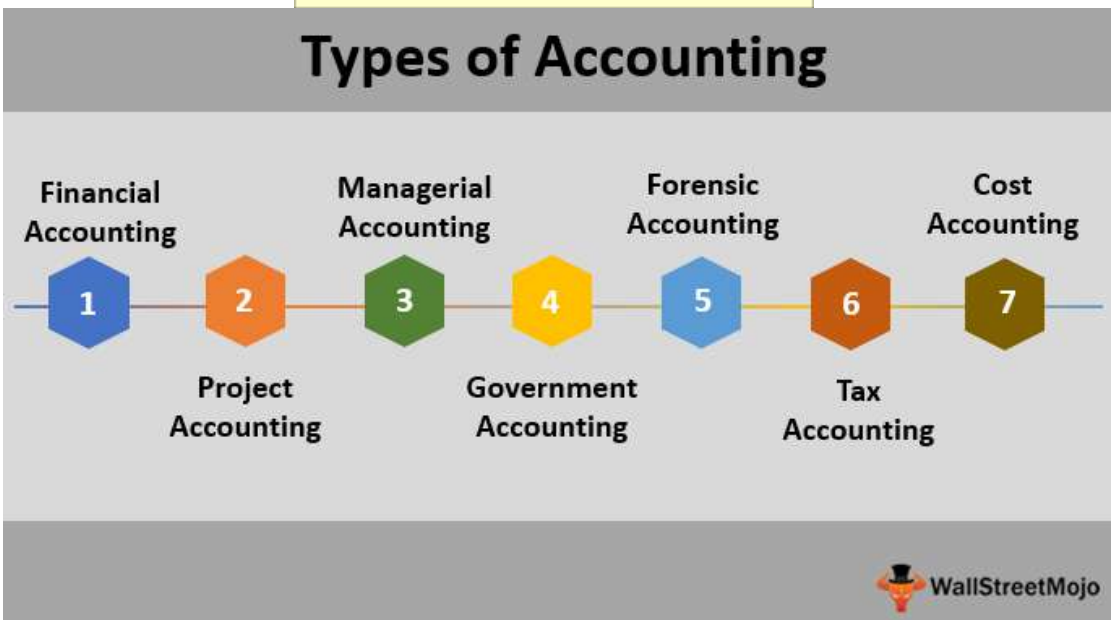
By storing the information in a database, it makes it easier for developing other systems related to accounting which need access to the information.

The database can help manage the information so multiple applications like accounts, HR, procurement or any other application can use the data in a more coordinated fashion.

The types of accounting

- **Financial accounting. This field is concerned with the aggregation of financial information into external reports. ...**
- **Public accounting. ...**
- **Government accounting. ...**
- **Forensic accounting. ...**
- **Management accounting. ...**
- **Tax accounting. ...**
- **Internal auditing.**


Accounting Types
There are various types of accounting. Those types are determined based on the nature of information analyzed, summarized, reported and on the functions performed
Accounting Types
Financial Accounting
Auditing
Management Accounting
Cost Accounting
Accounting System Design
Tax Accounting
Non-for-profit Accounting
Budgetary Accounting
AccountingCorner.org

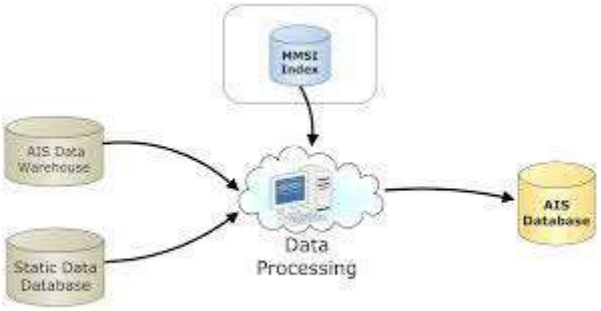

Types of Accounting
Financial Accounting
1
Project Accounting
2
Managerial Accounting
3
Government Accounting
4
Forensic Accounting
5
Tax Accounting
6
Cost Accounting
7
WallStreetMojo


Social Accounting
Financial accounting
Management Accounting
Project Accounting
TYPES OF ACCOUNTING
Cost Accounting
Forensic Accounting
Tax Accounting
Governmental Accounting

AIS Database

Accounting information is acquired, stored, processed, and disseminated in order to meet the unique needs of a variety of organizational stakeholders. These stakeholders include investors, creditors, government agencies, management, and employees. Under the traditional accounting system, financial accounting information refers explicitly either to the audited or unaudited financial statements; that is, the income statement, balance sheet, statement of retained earnings, and statement of cash flows.

Technological and accounting-theory advances are coming together to make an alternative, dynamic database accounting system possible. Under such a dynamic database accounting system, financial accounting information refers to the traditional reports noted above plus other additional reports (financial and/or non-financial) generated by the users using the underlying accounting data in the database.



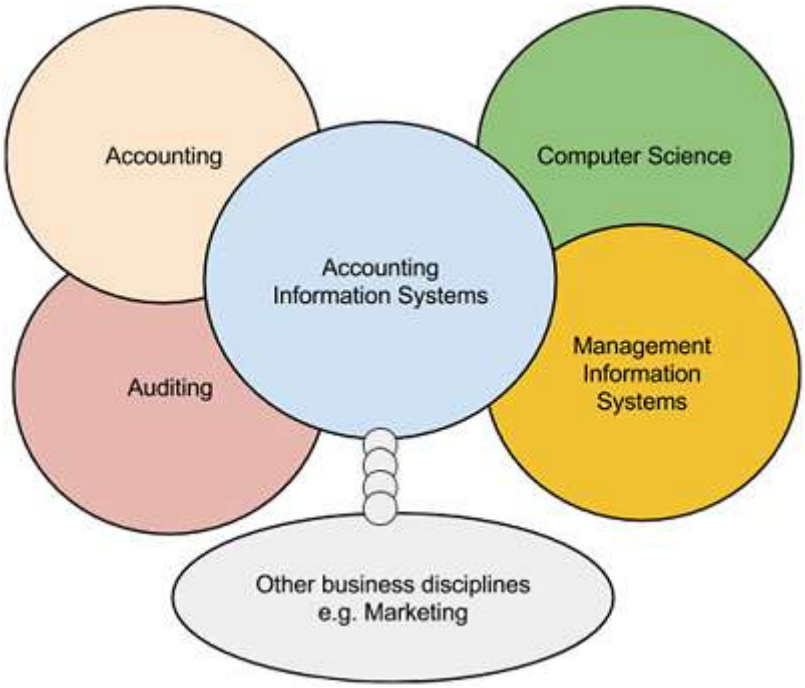
	Dynamic database accounting system	Traditional accounting system
Accounting Theory	Events theory	Double-entry theory
Data Storage	Database	Combination of paper and database
Information Access	Interactive media with Boolean search	Linear
Security	Stringent security protocols	Minimal security protocols
Auditing	Real-time attestation of internal controls	Periodic attestation of financial records
Update Schedule	Continuous	Periodic

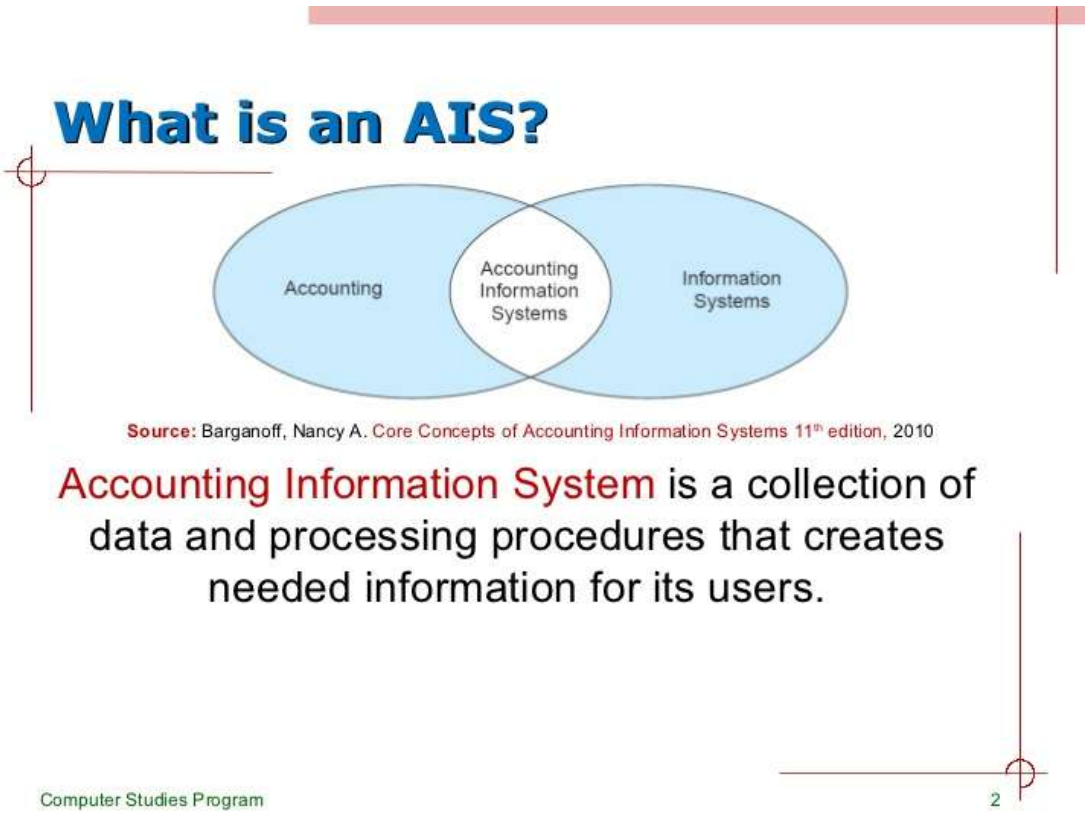
	Accounting Approach	
Technological Approach	*Traditional*	*Database*
Offline	Current approach utilizing a predefined set of paper or electronic reports.	User is provided with electronic version of the database and tools to query data to produce customized reports.
Online Periodic	User may download electronic versions of a set of predefined reports; these reports are based on most recent periodic (e.g., quarterly) data.	User may query database using on-line tools to produce customized reports based on most recent periodic data.
Online Current	User may download electronic versions of a set of predefined reports; these reports are based on current data.	User may query database using on-line tools to produce customized reports based on current data.

The Role of Accounting Information System in Business

Today, enterprises that fail to respond to rapid and comprehensive developments that affect business activities to a great extent may be faced with crises. The change in question leads to the emergence of economic problems, business scandals and financial crises. The establishment of a strong corporate structure in the face of such difficult consequences is possible through the employment of a corporate approach to management. The present study discusses the

subject-matter of managing a company's economic activities for the benefit of all the interest groups surrounding the business without damaging their interests and in accordance with such a management approach that requires an understanding of transferring financial information clearly and honestly to all relevant parties through accounting information systems in businesses. In other words, the understanding of the role of "Social Responsibility of Accounting" and "Corporate Governance" in businesses is examined in the present study. This study provides information on the concepts corporate governance and social responsibility of accounting and their interactions; in light of these concepts, the impact of accounting information system on businesses is discussed. The present study aims to identify the level of contribution provided by accountancy information systems to businesses involved in the automotive supply industry at times of crisis and end devours to determine the effects of the concepts of corporate management and social responsibility of accountancy on accountancy information systems.





Making Your Business Accounting Information System More Effective

The need for developing an effective accounting information system in a business enterprise cannot be over-emphasized. As the use and control of financial resources are linked to accounting information systems, it becomes all the more important to carefully plan, design and implement accounting information system.

What makes an accounting information system effective? The answer to this question can be given in the form of the following critical success factors:

1. Efficiency

2. Simplicity

3. Flexibility

4. Reliability

5. User's acceptance

1. Efficiency:

Accounting information systems fall in between the categories of factory systems and support systems. Generally, the driving force behind the development of these is the likely improvement in the efficiency of the specific tasks and the statutory obligation of generating accurate and timely information for reporting to various external users. Such systems, therefore, need to work with lowest possible budgets and serve the purpose.

The volume of information generated by the accounting information systems has increased substantially. As a result, the cost effectiveness has become a critical success factor for accounting information systems.

2. Flexibility:

Accounting systems are now subject to more frequent changes than ever before. The changes, generally, are necessitated by changes in regulations for business, restructuring of the organization, business process reengineering, etc.

The accounting information system may be changed to take advantage of the change in information technology. Thus, an accounting information system needs to be flexible and

capable of adapting to the changes in the business environment and information technology.

3. Simplicity:

Accounting information systems are used by a variety of users, both internal and external. These users have differing levels of understanding of information systems and technology. It is, therefore, essential to ensure that the system is simple and user friendly.

An accounting information system should be simple to operate, maintain and audit. It should avoid unwanted features, as they only add complexity to the system. However, there is trade-off between simplicity and flexibility and a proper balance between the two must be maintained in the system.

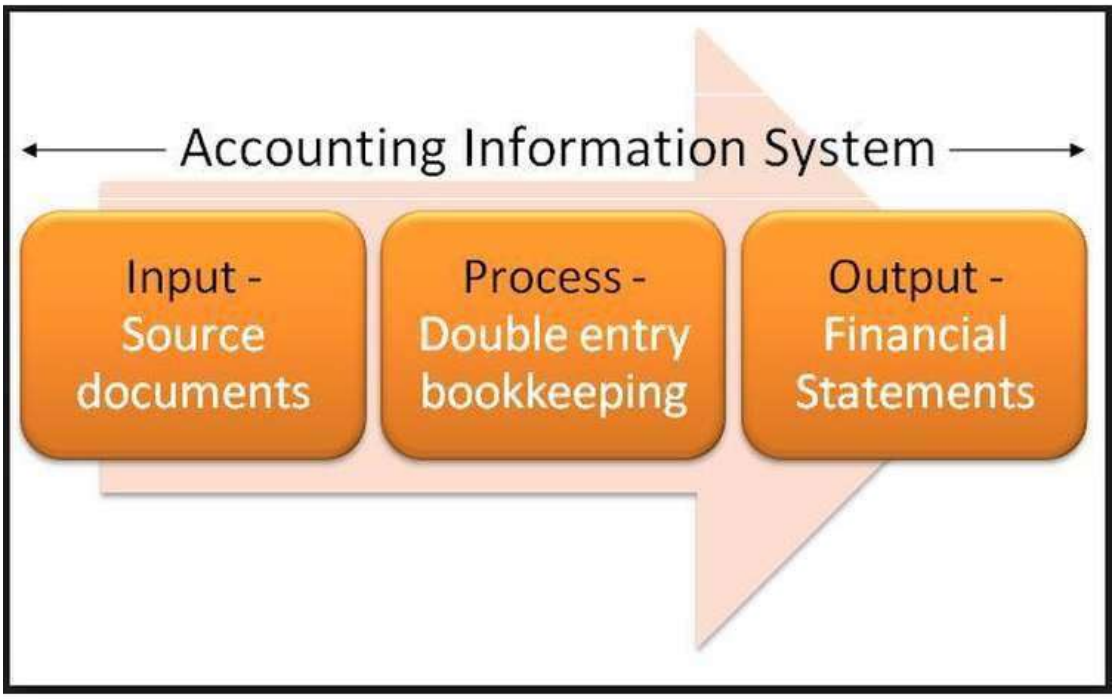
4. Reliability:

As the accounting information systems relate to day-to- day operations of the business, they need to be highly reliable systems. The reliability may be measured in terms of low maintenance, quality of information, and ability to handle exceptions. Accounting information systems must be designed to ensure that they do not accept erroneous data, nor do they give erroneous or incomplete reports.

5. User Acceptance:

The use of accounting information systems is pervasive in the business enterprise, as almost every department uses it. Due to the large number of users, the securing acceptance of users becomes difficult. Without user acceptance, accounting information systems cannot succeed.

How do the AIS provide information for decision making?



Introduction

IS or information system is the organized system to collect, organize, store as well as communicate with the information (. This IS is the significant combination of business procedures, functionalities, software, hardware and data that could be utilized for incrementing the management as well as efficiency of that particular company. It is a completely automated system that even helps in disseminating the data. Since, this system allows easy data distribution; a major emphasis is given on it to have a specific boundary, processors, users, communication networks, inputs and outputs. Decision making is easily done with the implementation of information system (. The following report outlines a brief discussion on the case study of KMC or Kowal Manufacturing Company. This report provides a detailed research on the types of information systems for this organization and the impact of these information systems on the business.

Discussion

1. Identification of Weaknesses in the Current Procedures and Explanation of Probable Threats

Kowal Manufacturing Company or KMC is a small company that has employed about 50 production workers and also has few payroll procedures. The first and the most important procedure is that any new employee can prepare a W-4 form or Employee's Withholding Exemption Certificate and then provides this to his supervisor. This supervisor then advises the department of payroll of all the pay raises. The second payroll procedure of this organization of Kowal Manufacturing Company is the supply of the blank time cards are kept near the factory entrance. The names are filled with these time cards. The workers have to punch these cards during the entry and exit in the organization. This helps in maintaining a proper balance of the attendance of these workers. At the end of the week, all the workers drop their time cards within a box near their organization exit. A specific payroll clerk is responsible for retrieving the time cards from their boxes on Monday morning. The third payroll procedure of this KMC organization is that the payroll check is being signed by their chief accountant and the final procedure is that the payroll bank account is eventually reconciled by their chief accountant.

There are various weaknesses within the current payroll procedures of KMC. The weaknesses of these existing payroll procedures are as follows:

i) *Security Concerns*: The first and the foremost weakness of these payroll procedures in KMC is the security concern (Stair and Reynolds 2013). As the online payroll service majorly relies on the third party for processing as well as storing their payroll information or sensitive information regarding their employees and the hours these employees are working on.

ii) *Compliance Issues*: The second weakness of this payroll procedure within Kowal Manufacturing Company is the compliance issues. The W-4 form or Employee's Withholding Exemption Certificate of this organization can has major issues related to compliance. These compliance issues are eventually found out whenever the reports are being reviewed and the taxes are filed.

iii) *Time Card Issues*: The next significant weakness that is common in this organization of Kowal Manufacturing Company for the

payroll procedure is the issue related to the time cards. The time cards could show wrong data and the employees can face major complexities related to these.Moreover, while dropping the time cards at the exit, there is a major risk of getting the time cards stolen by the unauthenticated users.

iv) *Manual Signature of Chief Accountant*: The fourth weakness in the payroll procedure is manual signature of the chief accountant. The chief accountant manually signs the payroll checks and this could be forged easily.

The threats that they could allow to occur are given below:

i) *Manual Retrieval of Time Cards*: This particular threat could be allowed by KMC organization since the payroll clerk is a trustworthy person. This would not bring out several problems within the organization.

ii) *Verbal Advisory of Payroll Department*: The respective supervisor of the new employees verbally advises the entire department of payroll for proper pay raises.

2. Methods for Improving the Internal Controls of KMC

The internal controls over hiring and payroll processing in KMC organization could be improved by some of the most significant methods. These methods are as follows:

i) *Automating the HR Processes*: The various HR processes like recruitments, performance management, payroll management or resource on boarding and many more. With this type of automation, the manual processing or adjustments are eradicated and hence there is minimal requirement of the human intervention .

ii) *Providing Employee Self Services and Remote Access*: The next important method to improve the respective internal controls over hiring and payroll processing in KMC organization is by providing the employee self services and remote access. The personnel of human resources need to support the employees with the major services like process clarification, certificate or documents generation and various others.

iii) *Managing the Regulations*: The third significant method for improving the internal controls over hiring and payroll processing within KMC organization is by the proper management of the regulations .The creation of the compliance checks are being allowed

by this system and hence KMC could eventually schedule the alerts as needed for ensuring they are eventually following the regulation requirements.

iv) *Elimination of Human Errors*: This particular method will be helpful for them as the human errors would be subsequently eliminated or avoided by them. This is mainly because the tasks are automated and are eventually related to the payroll filing and management .The common errors like the double credits or incorrect salary calculations and the missed deductions are avoided.

v) *Protection against the Frauds*: This method is helpful for improving the internal controls over hiring and payroll processing within KMC organization since it would protect against all types of frauds within the business.

3. Types of Information Systems for Supporting KMC Payroll and HRM

The information systems are responsible for providing all types of data operations easily and without any type of complexity (Mason 2017). This is extremely efficient and effective for all organizations and hence it is being utilized by them to reduce the major problems that are often caused due to confidential data management. Moreover, confidential information is also lost if an information system is not being involved. The payroll systems as well as human resource management of this organization of Kowal Manufacturing Company could be supported by the utilization of few types of information systems. These are as follows:

i) *Transaction Processing System*: The first and the foremost type of information system is the transaction processing system. It is the type of information system for the several transactions of the business, which majorly involve collection, retrieval as well as modification of the transaction data. The various characteristics of this transaction processing system eventually include the total performance, reliability or consistence. The real time transactional data are being processed .Since, the organization of Kowal Manufacturing Company has various payroll procedures and human resource management within their business, a specific transaction processing system would be extremely effective for them.

ii) *Decision Support System*: The second important and significant type of information system for this organization of KMC is the decision support system .It is the typical computer program

application, which could analyze the business data for presenting it to the users with the core purpose of helping the users in taking relevant business decisions more effectively. The decision support system is the informational application that collects the confidential data within any business operation. The payroll services of KMC would be extremely benefitted since the information is based on the projected revenue figure within the new products sale assumption as well as the various alternatives to take the appropriate decision.

iii) *Management Information System*: The third or the final information type that would be effective for the payroll services and the human resource management within this organization of Kowal Manufacturing Company is MIS or management information system .This is the computer based database of the financial information that is organized or programmed in such a manner that it could produce the regular reports on the operations for each and every management level within the organization.

4. Explanation of the Information Systems for helping KMC and Decision Making

These above mentioned three types of information systems would be quite helpful for KMC to manage their business (Worrell, Di Gangi and Bush 2013). The description of each and every information type is provided below:

i) *Transaction Processing System*: The TPS has some of the major advantages, which could help this organization of KMC to manage their business. The first and the foremost advantage of the transaction processing system is that it helps in handling the operations and solves security or hardware problems. The other important advantages include access to the untapped markets and excess consolidation .As KMC is a small organization, they should have a better access to the untapped markets. Moreover, with the help of transaction processing system, the financial transactions would be extremely easier since a database is present within it.

ii) *Decision Support System*: DSS or decision support system is extremely effective and efficient for all business. In KMC, decision support system could eventually provide some of the major advantages such as increasing the overall productivity as well as understanding. This even increments the total speed and even the capability of analyzing the various kind of information that would minimize the complexities and even the ability for reaching to the old

data for better comparison. Since, the management of KMC could take up better decisions; this DSS would be perfect information system for them .

iii) *Management Information System*: The MIS or management information system also comprises of various advantages like integrated system and helping in undertaking better decisions. As it is an integrated system, the specific complexity of the extra hardware is solely eradicated with this particular information system. Moreover, they would also get major protection of their data quality or data security. They could also facilitate the overall planning of the company.

The introduction of the information systems would subsequently affect the overall management decision making. The accurate and the time based information from an IS help them to make the correct decisions even in various organizational threats. Moreover, the structured and the unstructured data issues are resolved.

5. Collaboration and Communication between Key Stakeholders and Use of Networks

The stakeholders are responsible for maintaining the economic growth and development of KMC .These stakeholders thus could easily collaborate as well as communicate amongst each other with the help of an information system. The first and the most important information system type is the decision support system. Each and every stakeholder could eventually give their respective ideas within this information system and after proper analysis; the best decision could be undertaken by them (Galliers and Leidner 2014). Moreover, with the implementation of management information systems, the stakeholders could also communicate amongst each other and thus the communication issue would be resolved.

The utilization of intranets and extranets networks and Internet connection is extremely effective for them to serve the needs of stakeholders in KMC. The most significant use is that it helps to reduce the complexity of communication .The stakeholders can easily communicate within each other through video conferences, audio conferences, electronic mails instant messaging and many more.

6. Management Challenges Affecting Organizational Change

The major management challenges that affect the organizational changes for IS implementation is as follows:

i) *Problem in Gathering Data*: The most significant challenge that could affect the decision making process of KMC is the difficulty in gathering the most confidential data (Polites and Karahanna 2013). If this accurate data will not be collected properly, there could be a major issue to take relevant decisions.

ii) *Lack of Standardization*: The next management challenge that could affect the organizational changes in KMC is the lack of standardization .These controls are extremely important to maintain the balance in the company; however, with the information system implementation, this standardization is lost due to the various changes within the company.

7. Security and Ethical Issues with Introduction of Information Systems

The various security issues with IS introduction in KMC are as follows:

i) *Computer Viruses*: It is a malicious program that replicates itself for spreading vulnerabilities in the system and then affecting all other programs within that specific system (Pearlson, Saunders and Galletta 2016).

ii) *Unauthorized Access*: Another issue is the unauthorized access of data within this information system.

iii) *Loss of data*: The data loss is the third security issue within an information system.

iv) *Identity Theft*: The hackers often pretend to be as the authorized user and the identity is stolen by that hacker (Polites and Karahanna 2013).

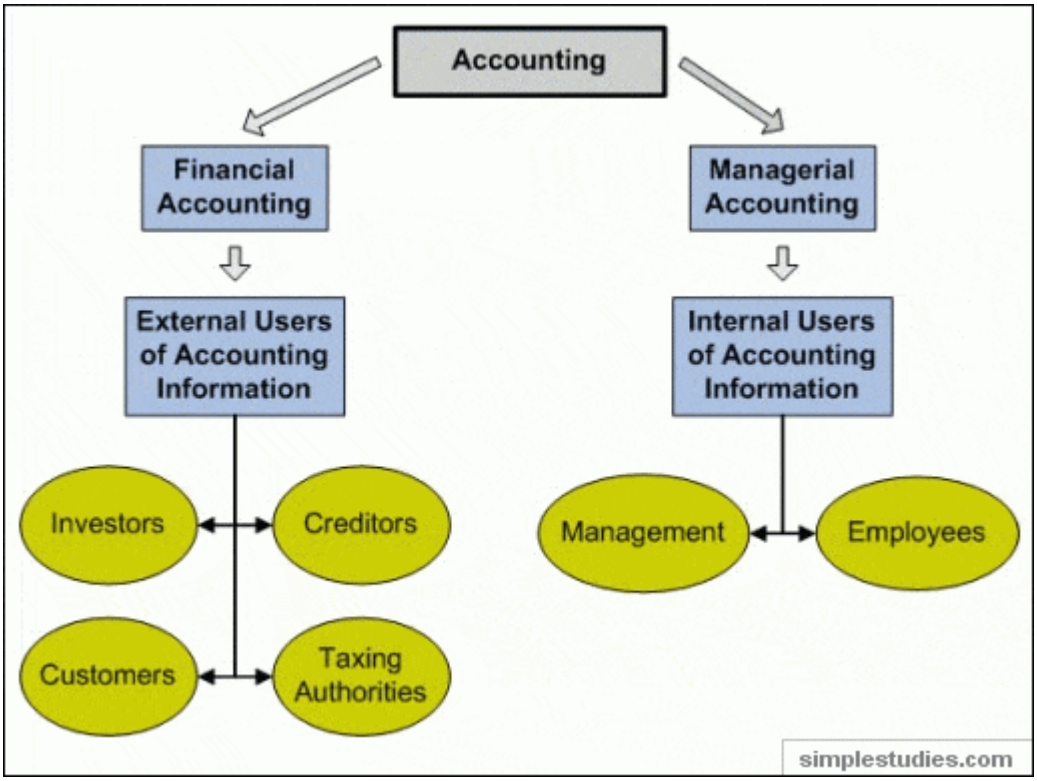
The various ethical issues with IS introduction in KMC are as follows:

i) *Violating Policy of ICT*: The policy of ICT is often violated by the employees of the organization and this is an ethical issue.

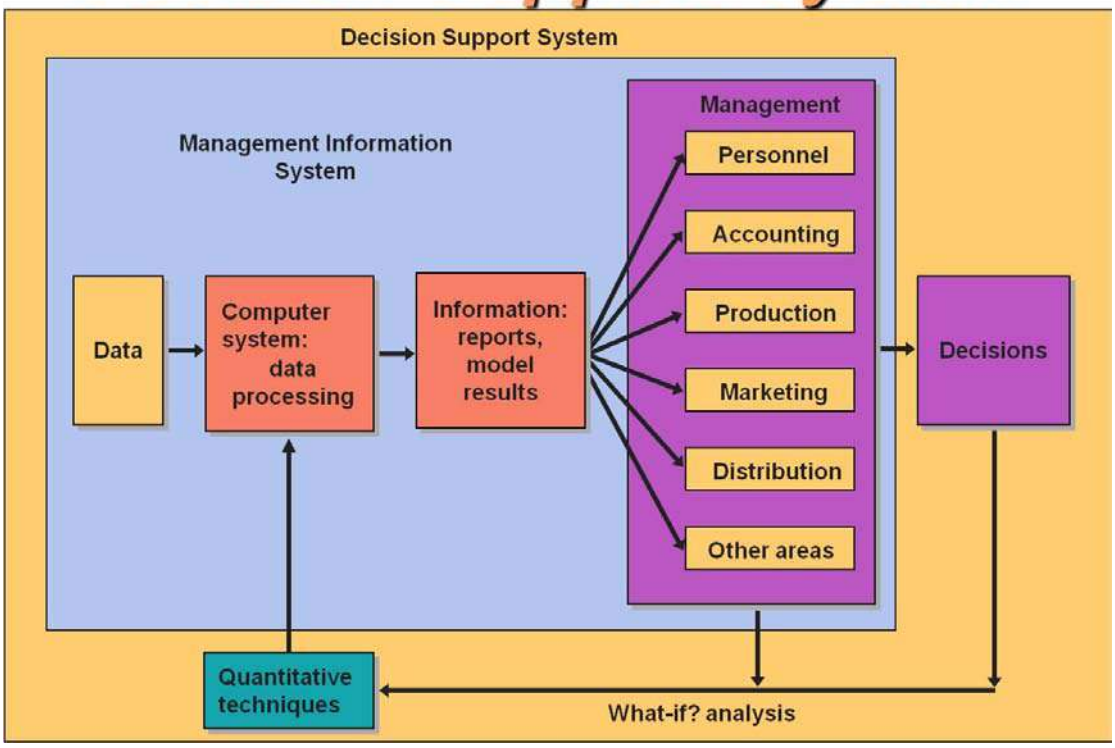
ii) *Wrong Use of Data*: The confidential data in an IS is used with wrong intentions by the organizational personnel and thus is extremely unethical .

Conclusion

Therefore, from the above discussion, it can be concluded that information system is the significant combination of telecommunication networks, hardware and software that is required for the proper collection, filtering, processing, creation as well as distribution of data. Various types of information systems are present for each and every business or organization like accounting information system, transaction processing system, management information system, decision support systems, expert systems and few others. The above report has clearly demonstrated the importance as well as impact of an information system within the organization of Kowal Manufacturing Company or KMC for their payroll procedures. This report has properly described the weaknesses within the current processes and methods for improving the internal controls of KMC. The decision making process is also improvised in this organization with the involvement of an information system. The utilization of computer networks is also explained here. Moreover, several security or ethical issues are also identified in the report for IS involvement.



Decision Support System



Revenue Cycle Management

Revenue cycle management (RCM) is the financial process, utilizing medical billing software that healthcare facilities use to track patient care episodes from registration and appointment scheduling to the final payment of a balance.

RCM unifies the business and clinical sides of healthcare by coupling administrative data, such as a patient's name, insurance provider and other personal information, with the treatment a patient receives and their healthcare data.

Communicating with health insurance companies is a key component of RCM. When a patient schedules an appointment, the physician's office or the hospital staff typically checks the patient's reported insurance coverage before the visit. After an insured patient receives treatment for a given condition and supplies any applicable copayment, a healthcare provider or coder categorizes the nature of the treatment according to ICD-10 codes. The hospital or care facility then sends the care summary with ICD and Current Procedural Technology codes to the patient's insurance company to see what portion of the care will be covered by insurance, with the patient billed for the remainder.

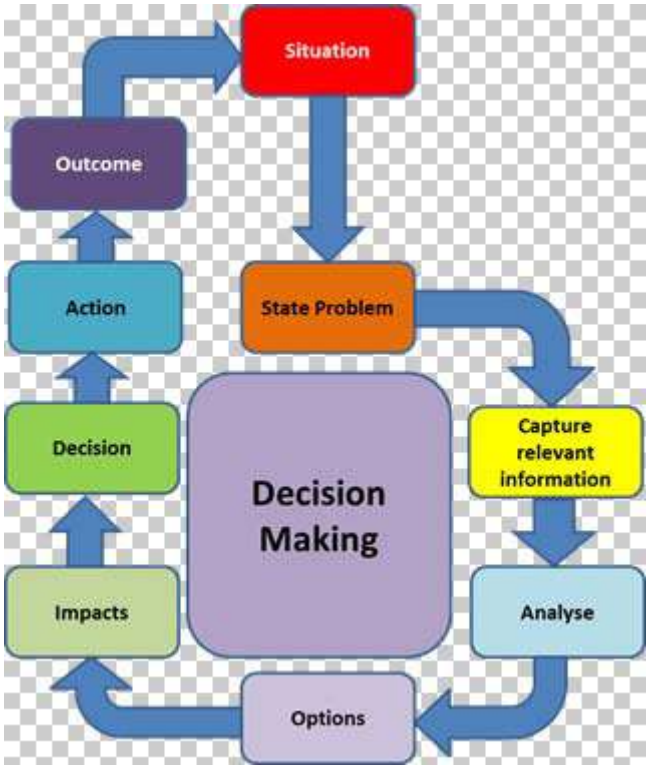
Revenue cycle

The revenue cycle includes all the administrative and clinical functions that contribute to the capture, management and collection of patient service revenue, according to the Healthcare Financial Management Association (HFMA).

Here is what's involved in the revenue cycle:

- Charge capture: Rendering medical services into billable charges.
- Claim submission: Submitting claims of billable fees to insurance companies.
- Coding: Properly coding diagnoses and procedures.
- Patient collections: Determining patient balances and collecting payments.
- Preregistration: Collecting preregistration information, such as insurance coverage, before a patient arrives for inpatient or outpatient procedures.
- Registration: Collecting subsequent patient information during registration to establish a medical record number and meet various regulatory, financial and clinical requirements.
- Remittance processing: Applying or rejecting payments through remittance processing.
- Third-party follow up: Collecting payments from third-party insurers.
- Utilization review: Examining the necessity of medical services.

How Are Relevant Revenues and Costs Used to Make Decisions?



Bob Lee is president of Best Boards, Inc., a manufacturer of wakeboards. In the face of stiff competition, Best Boards' profits have declined steadily over the past few years. Bob is concerned about the decline in profits and has instructed Jim Muller, the vice president of operations, to do whatever it takes to reduce costs. In fact, Bob offered to pay Jim a bonus equal to 25 percent of any production cost savings the company achieves during the coming year.

Decision-Making & Relevant Information

↳ Information and the Decision Process

Managers follow a decision model for choosing different courses of action:

- formal method of making a choice
- involves both qualitative and quantitative analyses
- Relevant data provided by management accountants guides decisions

↳ Decision-Making Process

1. Identify the problem and/or uncertainties
2. Obtain Information
3. Make predictions about the future
4. Make the decision by choosing among alternatives
5. Implement the decision, evaluate performance, learn

Using Differential Analysis to Make Decisions

Differential revenues and costs (also called *relevant revenues and costs* or *incremental revenues and costs*) represent the difference in revenues and costs among alternative courses of action. Analyzing this difference is called differential analysis (or *incremental analysis*). We begin with a relatively simple example to establish the format used to

perform differential analysis and present more complicated examples later in the chapter. As you work through this example, notice that we also use the contribution margin income statement format presented . "How Do Organizations Identify Cost Behavior Patterns?" and Chapter 6 "How Is Cost-Volume-Profit Analysis Used for Decision Making?".

Question: Assume Phillips Accountancy provides bookkeeping, tax, and audit services to its clients. Management believes Phillips Accountancy has several unprofitable customers and would like to perform differential analysis to find out how profits would change if Phillips dropped these customers. Alternative 1 includes the annual revenues, costs, and resulting profit if the company keeps all existing customers. Alternative 2 includes the annual revenues, costs, and resulting profit if the company drops what it believes are unprofitable customers. How should management decide whether to keep all existing customers or drop certain customers?

Presents the format used by management to perform differential analysis. In this case, differential analysis is used to evaluate whether Phillips Accounting should keep all customers or drop unprofitable customers. The information in Figure 7.1 "Differential Analysis for Phillips Accountancy" confirms that Phillips Accountancy would be better off dropping the unprofitable customers (Alternative 2), because company profits would increase by $20,000. The general rule is to select the alternative with the highest differential profit. Take a close look at Figure 7.1 "Differential Analysis for Phillips Accountancy" before reading the description of

	Alternative 1 (Keep All Customers)		Alternative 2 (Drop Unprofitable Customers)		Differential Amount	*Alternative 1 Is*
Sales revenue	$7,000,000	–	$6,000,000	=	$1,000,000	Higher
Variable costs	5,250,000	–	4,500,000	=	750,000	Higher
Contribution margin	$1,750,000	–	$1,500,000	=	$ 250,000	Higher
Fixed costs	450,000	–	180,000	=	270,000	Higher
Profit	$1,300,000	–	$1,320,000	=	$ (20,000)	Lower

The columns labeled *Alternative 1* and *Alternative 2* show revenues, costs, and profit for each alternative. The third column, labeled *Differential Amount*, presents the differential revenues and costs and resulting differential profit. Positive amounts appearing in this

column indicate Alternative 1 is higher than Alternative 2. Negative amounts appearing in the *Differential Amount* column indicate Alternative 1 is lower than Alternative 2. The fourth column shows whether Alternative 1 is higher or lower than Alternative 2 for each line item.

For example, the differential amount of $1,000,000 for revenue indicates Alternative 1 produces $1,000,000 more in revenue than Alternative 2. The differential amount of $750,000 for variable costs indicates variable costs are $750,000 higher for Alternative 1 than for Alternative 2. Move to the bottom of "Differential Analysis for Phillips Accountancy". Notice that the differential amount for profit is negative ($20,000). This indicates that Alternative 1 results in profits that are $20,000 lower than Alternative 2. Thus Alternative 2 (dropping unprofitable customers) is the desirable course of action.

HR Best Practice

HR best practices have been under close examination for many years and continue to be a hot debate topic in business circles.

So what is the definition of HR best practices?

It is the idea that there are universal HR principles that provide companies with optimal business performance, regardless of which organization or industry they are applied to.

However, we can't discount the principle of the best fit either. It's important to align HR goals with the overall goals of your organization, so that the HR, business, and strategy departments are all on the same page. When you're able to combine these two ideas and achieve best practices and best fit, you're practicing what's called strategic human resource management.

To help HR departments focus their efforts on HR best practices, we've compiled a list of some of the best human resource practices. Try these out in your own organization and see how they can help you increase engagement, improve retention, and more.

How Were These Best HR Practices Gathered?

Some HR strategies have been around a long time and are entrenched in HR as "best practices" despite little proof that they contribute to company goals or performance.

We've compiled the best HR practices of companies by using the Bersin study, which analyzed 140 HR best practices to find which ones had the highest impact opportunities for companies. We've also included case studies and examples of HR best practices from companies that have made the top of Fortune magazine's 100 Best Companies to Work For list in 2013-2014 and Glass door's 2014-2015 winners of the Employees' Choice Awards.

The Difference between HR Practices and HR Activities

Before we dive in, it's important to clarify the distinction between HR practices and HR activities, since without a clear understanding it is possible to intermingle the two. Both are needed for an HR department to fully reach its potential, and for an organization to optimize its human capital investment.

HR practices involve the strategic operations of HR. They form the foundation and guidance for managing the company's employees and should coordinate with the executive business plan. Some examples of HR practices include:

- **Setting the mission and goals of the HR department**
- **Planning, organizing, and managing the HR department**
- **Measuring the effects of programs**
- **Creating programs to improve the quality of the work environment**
- **Developing talent and future leadership**
- **Conducting motivational programs**
- **Working with management for ongoing performance evaluations**

- **Overseeing employee advancement opportunities**

In contrast, HR activities are the daily activities to implement the strategies determined by HR practices. They allow the mission and the goals of the HR department to be carried out. HR activities may include:

- **Payroll**
- **Surveys**
- **Recruitment and selection**
- **Training and development**
- **Compensation and benefits**
- **Employee and labor relations**
- **Retention**
- **Safety and health**
- **Employee attendance and time off**
- **Overtime**

In the most basic terms, HR practices look at the questions of what an organization wants to do and why, and HR activities address how.

HR practices should create a natural progression to HR activities so that the activities directly correlate with practices. If one or the other is neglected, it can create a disconnect that will be felt throughout the company. Your company can function this way, but not at its best.

When HR practices and HR activities are aligned and working hand in hand, HR departments have the ability to thrive, and your company benefits. Optimum human resources involve an understanding and integrated approach to HR practices and HR activities.

Introduction to HR Best Practices

We've identified the top HR best practices that can give you the most bang for your buck. In other words, if you focus on improving

these areas, you'll likely see the greatest results. These areas include recruitment and selection, training and development, transparency, employee benefits, employee incentives, compensation and evaluations, compliance, and terminations.

1. Recruitment and Selection

Companies seeking to hire high-performers are turning to innovative processes to streamline hiring.

There are many different ways to assess whether someone will be a good fit for the company, both as a high-performer and as a cultural fit. While not every innovative hiring process will be right for your team, you can learn from companies who have paved the way and provided data for the rest of us. Here are a few strategies to consider.

- **Panel-Based Interviews: When it comes to interviewing panels, Google's study of its interviewing practices showed both the ideal number of panelists and ideal number of interviews to be four or fewer. The study showed that scores from a panel of four interviewers made the same hiring decision 95 percent of the time as panels made up of more than four interviewers, and that any interviews beyond four added little or no value to the process. In fact, more interviews simply wasted time and resources and led to disinterest and frustration for both sides.**
- **Better Advertising for Job Openings: Many organizations are doing a poor job at advertising their open positions and attracting quality candidates. If your company wants to attract top talent and find high-performers, you should not only list what skills you want the employee to have but also give the job searcher a reason to seek out your organization over another.**

When it comes to posting the perfect job ad, you should include some information about your organization—what technology you use what kind of products you create, your mission and vision, and more.

Including this contextual information (instead of only a grocery list of skills you're looking for) can encourage more candidates who believe in your organization's mission to apply. The best candidates can always learn additional skills; what you want are employees who are going to be engaged from day one.

-
    - **Internships: If your company intends to hire the majority of your interns, you should seriously consider paying them. While structuring your intern program, it's good to know that 60 percent of paid interns receive job offers, whereas only 37 percent of unpaid interns get job offers—only one point better than the 36 percent of graduates who receive job offers without an internship. If you intend to move an intern to a full-time position, invest in them early on.**
- **Video Interviewing: Video interviewing can be a great tool for saving time and allowing you to get a feel for the enthusiasm and passion an individual has for your organization before you bring them in for an interview. It can also help you weed out potential candidates who aren't serious about applying because video interviews represent a small investment on the candidate's part.**
- **Be Selective: As an HR department, you want to hire the best people who will contribute to the value of your company and not detract from it. Hiring poor performers can really affect your company, whereas hiring top performers can boost productivity by up to 400 percent, no matter your industry or job type you are looking to fill. One way to streamline your process and be selective is to utilize digital tracking. This allows you to keep track of recruitment metrics such as which hiring sources send solid candidates your way, and offer acceptance rates. Knowing which sources send you solid candidates can help you cut down on ineffective referral sources, and knowing what your acceptance rate is can help you fix inefficiencies in your hiring process or inadequacies in your compensation offers. You can also use other tools like interviews,**

personality assessments, or reference checks to further streamline your process or make it more selective.

2. Training and Development

You've taken the time to find employees you want to hire, but your responsibility to them is only just beginning.

It is an HR best practice to invest in training and development opportunities to improve your current workforce, focus on skill-specific training, and realize the value that young workers place on learning. As industries are advancing at an ever-increasing pace, you can support and encourage your employees to grow as well, keeping them more engaged in their work and your organization.

- **Invest in Training and Development: Some of the best practices for training employees might involve bringing on interns to reduce training costs before hiring them full-time. Once you've found your ideal employees, you'll need to keep them at the top of their field, and as technology develops at an ever-increasing rate, the importance of training employees cannot be overlooked. If you want your pros to stay pros, you need to keep training them.**
- **Focus on Skill-Specific Training: Another crucial element HR departments must implement is to focus on skill-specific forms of training. You might have a great general training program, but if you are focused on teaching skills that don't line up with the work requirements or company objectives, you are wasting time and money.**

- **Younger Employees Value Learning: HR best practices for training should also consider the fact that many young employees value learning more than their predecessors, and your employee turnover rate could increase greatly if you don't offer opportunities for growth and development. This is actually great news for employers because it means you have a workforce full of employees who are ready to**

increase their skills, advance in their careers, and train for new positions.

3. Transparency

A crucial HR practice is to always maintain transparency and be open with employees regarding the success and failures of the business. Organizations that foster an open environment of feedback and communication make employees feel trusted, respected, and valued.

In order to be a high-impact HR department, you should:

- **Promote Collaboration and Idea Sharing: Focus on creating an environment that promotes collaboration of ideas and information sharing. Employees who are informed about business operations are better able to share their ideas, and think it's important to be able to contribute to company decisions that impact their careers.**
- **Maintain Openness and Transparency: When companies are honest and open with their employees, it promotes a culture of trust between both employer and employee.**

As an HR department, you should also avoid focusing on efficiency and cutting costs above all else, as this could actually be less effective in the long run. Instead, promote practices that create transparent environments and encourage information sharing.

4. Employee Benefits

There is a myriad of benefits you can offer employees, but which ones provide the greatest value? The best benefit plans take a strategic approach to accomplishing company goals and retaining great employees as well as ensuring your employees understands their benefits.

- **Choose Benefits that Show You Value Employees: Learning from other human resource practices can give you some great insight into where you can focus the company budget when it comes to employee benefits. It also helps you understand which benefits may actually help you retain the best employees. You can choose to provide medical and dental coverage, health and fitness centers, subsidized tuition, or any other benefits that will show you value your employees.**
- **Use Benefits to Solve Workplace Issues: Google is a great example of using benefits to solve workplace employment issues. Several years ago they noticed that the number of women working for the company was gradually decreasing. Google did some research and found that the decrease was mostly younger women who left to have children. In an effort to retain employees and maintain their bottom line, Google implemented a five-month maternity leave policy with full pay and benefits. This benefit alone led to a 50 percent increase in their retention rate of women.**

5. Employee Incentives

Incentives have their pros and cons. For incentives to be effective, this HR best practice must be implemented in the correct manner, or you risk demotivating your employees instead of motivating them. Here are some HR best practices for providing effective employee incentives.

- **Know what Motivates Employees: Some employers have found it helpful to motivate employees by using commission or productivity as an indicator of a raise, and not to limit raises to an annual review or bonus at the end of the year. Employers who simply raise wages once a year regardless of performance are not incentivizing employees to do their best because employees begin to simply expect the raise no matter what.**
- **Pay Raises vs. Bonuses: As far as the topic of bonuses goes, another study by Google found that employees valued a base-pay raise over a single bonus, because it has long-term effects. So if**

your company is weighing the overall benefits of pay raises versus a handsome bonus, go with the pay raise.

- **Be Creative with Incentives: While HR might hear the word "incentive" and think of monetary rewards, there are other incentives that keep employees motivated, such as a recognition and rewards program or the use of social recognition to acknowledge employees for the work they do.**

Providing the right incentives shows employees that you care about them and the value they add to your company.

6. Compensation

If you want great employees, you need to have great compensation plans in place. Above-average employees deserve above-average compensation, and you want to show your employees that you value them and the work they do.

Some HR best practices for compensation include:

- **Combining Good Benefits with Compensation: A combination of good benefits and compensation (also known as a total rewards package) can help show employees that the company values and appreciates their contribution as workers and their well-being as people.**
- **Vary Compensation Options: Upping your compensation offer doesn't always mean adding more numbers. You could offer other types of compensation such as additional vacation days, gift cards, company discounts, stock options, or profit-sharing.**
- **Compensation Transparency: A winning compensation strategy comes down to two elements: transparency and communication. A study published by Pay Scale found that most employees don't actually know how their pay compares to the rest of the market. Of the employees who believed they were being paid below market rate,**

77 percent were paid at market rate, while an additional 12 percent were paid above market rate. Only 11 percent of people who said that they are underpaid actually were paid less than the median market rate. In short, if your employees don't understand your organization's comp strategy, and if your leadership never communicates that strategy, then employees are much more likely to become dissatisfied on that point.

Whatever the compensation strategy of your company, it should be based on the productivity and contributions of the employees, and the managers in your organization should be prepared to communicate about it.

7. Compliance Issues

The best way to handle compliance issues is to avoid having them in the first place. That being said, it can be very difficult to juggle the complexities of compliance issues with the daily tasks of running other human resources practices in the workplace. Here are some human resource practices to prevent compliance issues.

- **Utilize HR Software: One great way to avoid compliance errors is to use HR software to simplify your HR compliance practices. This will help you find and correct errors quickly and avoid future compliance issues.**
- **Designate a Point Person for Your HR Team: One of the best ways to stay up-to-date with compliance is to designate a point person for your HR team, who has the responsibility to keep up with new regulations and changing labor laws. They also have the responsibility to convey this information to the HR department, which ensures everyone, is on the same page when it comes to legal considerations.**

Hiring, employee classification, and wage requirements all require constant attention to stay in compliance. Utilizing your point person and your HR software can help you stay one step ahead of any upcoming changes to HR.

8. Terminations

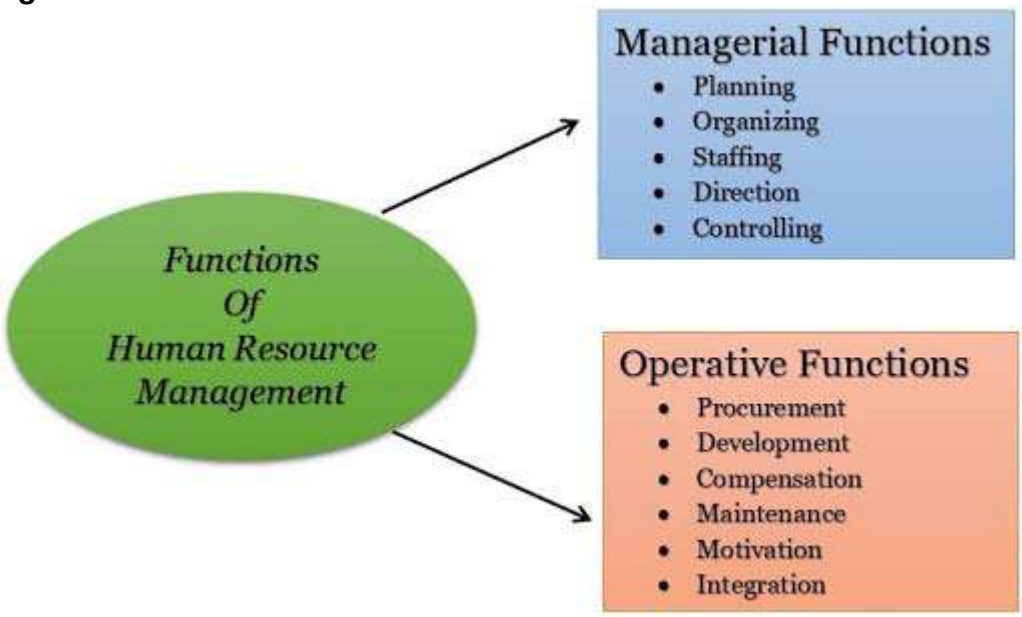
This is probably the toughest place to implement HR best practices because it will always be difficult for those involved. HR best practices include learning from employees who are terminating their employment as well as understanding which topics to be sensitive of for legal reasons. Issues that may warrant termination should always be addressed before they reach a boiling point. However, when it does come to terminating an employee, you shouldn't wait on the decision.

- **Show Empathy, but Not Sympathy: HR professionals Amy Schrameck and Jeanne Knight recommend informing the employee as to why they are being let go; showing empathy, but not sympathy for the employee.**
- **Stand Your Ground: Stand your ground even if the employee gets emotional or says they will do better. You should be confident enough in your decision to not waver in your resolve when terminating an employee.**
- **Conduct an Effective Exit Interview: One of the best practices for HR professionals when going through the termination process (whether voluntary or involuntary) for an employee is to conduct an effective exit interview. A good exit interview can help emphasize things the organization does well and things they could improve upon. Exit interviews should be conducted face-to-face, if possible; otherwise, send a survey and try to follow up on the results in person. You don't want to make the exit interview feel stiff. Rather, you are trying to gain real insight into what the company can do to retain people in the future.**

As you implement these HR practices, you may discover that employees who leave soon after being hired did not have a good indication of what the job entailed when they were hired, and you might consider revamping your hiring process.

Summary of Best Human Resource Practices

Using these types of human resource practices in the workplace can increase employee retention and happiness. This is good news for your company because engaged employees have been found to be up to 20 percent more productive than unhappy ones. If your employees are in sales, happiness can increase their sales by up to 37 percent. Employees feel happy when they receive necessary training, use their skills and abilities to do their best work, and feel appreciated and valued. All of these are good indicators that your HR team is on the right track.



Duties and Responsibilities of Human Resource Managers

Duties	Responsibilities
• To develop a thorough knowledge of corporate culture, plans and policies. • To act as an internal change agent and consultant • To initiate change and act as an expert and facilitator • To actively involved in company's strategy formulation • To keep communication line open between the HRD function and individuals and groups both within and outside the organization • To identify and evolve HRD strategies in consonance with overall business strategy.	

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