LECTURE NOTES

ON

KNOWLEDGE MANAGEMENT

MBA II YEAR III SEMESTER
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(14E00318) KNOWLEDGE MANAGEMENT
(Elective IV)
The objective of the course is to provide the basics of the emerging area of Knowledge Management to students. This course through light on few important concepts as Knowledge management and Information Technology, Knowledge process, etc.

1. The Knowledge Economy: Definition, scope and significance of Knowledge Management, Techniques of Knowledge Management Difficulties in Knowledge Management, Principles of Knowledge Management, Leveraging Knowledge, Data-Information-knowledge-Wisdom relationship, Organizational knowledge, characteristics and components of organizational knowledge –Building knowledge societies- Measures for meeting the challenges of implementing KM programmes.

2. Essentials of Knowledge Management: Basic types of Knowledge, Organisational Knowledge Management-Organisational knowledge types-Organisational knowledge capital- Organisational knowledge classification - Knowledge Life cycle- Organisational knowledge sources- process, Knowledge Conversion - Organisational knowledge progression - Organisational knowledge management – Technology Enablers - Organisational Human Capital – Organisational, Meta Knowledge


4. Knowledge Management and Information Technology: Role Information Technology in Knowledge Management Systems, Knowledge Management tools, Creative effective Knowledge Management Systems through Information Technology, E-commerce and Knowledge Management, Total Quality management and knowledge management, Bench marking and Knowledge Management

5. Future of Knowledge Management and Industry perspective: Companies on the road to knowledge management, Knowledge Management in Manufacturing and service industry, challenges and future of Knowledge Management.

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UNIT-1
Knowledge management (KM)

Definition:

Knowledge management (KM) is the process of capturing, developing, sharing, and effectively using organizational knowledge. It refers to a multi-disciplinary approach to achieving organizational objectives by making the best use of knowledge.

- **KM Strategy**: Knowledge management strategy must be dependent on corporate strategy. The objective is to manage, share, and create relevant knowledge assets that will help meet tactical and strategic requirements.

- **Organizational Culture**: The organizational culture influences the way people interact, the context within which knowledge is created, the resistance they will have towards certain changes, and ultimately the way they share (or the way they do not share) knowledge.

- **Organizational Processes**: The right processes, environments, and systems that enable KM to be implemented in the organization.

- **Management & Leadership**: KM requires competent and experienced leadership at all levels. There are a wide variety of KM-related roles that an organization may or may not need to implement, including a CKO, knowledge managers, knowledge brokers and so on.

- **Technology**: The systems, tools, and technologies that fit the organization's requirements - properly designed and implemented.
Politics: The long-term support to implement and sustain initiatives that involve virtually all organizational functions, which may be costly to implement (both from the perspective of time and money), and which often do not have a directly visible return on investment.

**Scope of knowledge management**

Companies are making their choices regarding the scope of programs and problematic within knowledge management. Decisions are made that lead companies to navigate in some parts of the knowledge management domain while neglecting others (Despres 1999).

There are 3 contexts of knowledge: individual, group and organizational and 5 different activities involved in KM:

1. Scan /Map;
2. Capture/Create;
3. Package/Store;
4. Share/Apply;
5. Transform/Innovate.

Literature in the field presents some known regions of practice within knowledge management including,

- Business Intelligence
- Benchmarking
- Competencies
- Employee development
- Data Warehouse
- Virtual teaming
- Innovation /Creativity,

a) **People and their behavior inside the organization:**

   Several studies showed that the missing ingredient in many KM systems is not the technology, but people. What most companies overlook is not hardware or software, but the so-
called “wetware” (Davenport 1999). Even if typical wetware architecture for successful data-to-knowledge transformation cannot be determined.

b) the knowledge management process:

Knowledge management is the management of corporate knowledge that can improve a range of organizational characteristics by enabling an enterprise to be more “intelligent acting” (Wig 1993). It helps the organization to find, collect, select, organize, disseminate and transfer information and expertise. The importance of knowledge management for a company highly depends on how knowledge intensive is the area - the consulting companies being the best example of knowledge-intensive activity.

c) the management practices:

Knowledge management requires commitment from senior management. They must understand who has knowledge – in order to support systems for its creation and application, where knowledge resides, which knowledge needs to be shared, with whom, how and why. Without their support, no knowledge management system could meet its requirements. It must be clearly understood that successful knowledge management does not depend on new software tools, but on a new perspective to link the pieces of information that promotes understanding and accelerates action.

d) the culture of the organization:

The corporate mindset- the company comes first, and people are fortunate to have a job - prevents people from sharing and disseminating their know-how, trying to hold onto their individual powerbase and viability. On the contrary, in an open organization, incentives are built around integrating individual skills and experiences into organizational knowledge. The company is seen as being made up of individuals – each of whom is important for the company, because of his different capabilities and potentials.

e) technology employed:

There is a large range of IT utilized to support knowledge management systems, including desktop video-conferencing, document management systems, intranet-based webs, relational database management systems together with ODBC and SQL, object oriented database management systems, artificial intelligence tools, information retrieval engines, help-desk
applications, data warehousing and data mining tools, groupware and workflow systems, authoring systems, push technologies and agents, brainstorming applications.

**Significance of knowledge management:**

Intellectual component of products and services gains in significance, so knowledge management development in organizations also starts to become a priority. Possibility of managing the knowledge is becoming more and more important in modern economy. Knowledge creation and expansion in modern organizations become a key factor in achieving and sustaining competitive advantage. In fact, the level of firm’s knowledge how effectively firm uses that knowledge and how fast firm gain the knowledge, create sustainable competitive advantage. (Davenport, Prusak, 2000, p. 15) Modern organization, in the era of knowledge, is the one, which learns, memorizes and acts on the basis of the available information and knowledge on the best possible way.

1. **Production ability:**

   Many companies know only one thing to do - to produce products and provide services. Now, they have to do it with proper use of knowledge in appropriate structures and processes. So it means that companies, with effective use of knowledge, have to provide constant control of complex business processes, harmonization of suppliers network and the most effective and cheapest way for product to reach the final customers.

2. **Ability to make fast response:**

   Large number of companies, which successfully keep their places in the top of competitive environment, believe that the key of their success lies in fast response to the changes and requirements of the market. One way to be able to respond properly is connection with customers’ needs and creation of business units, where every unit will cover specific segment of the market. These business units provide decentralization of authority, so every unit can faster bring decisions about how to react on changes on the market.

3. **Ability of prediction:**

   If company wants to be truly successful it has to be capable to perceive business environment as whole picture and not only to respond to the trends, but also to predict them.
4. Ability of creation:

Companies constantly have to search for the new ways to maintain their competitive advantage. It depends on their ability to create knowledge and to create it on different ways by producing new products or technologies, using existing knowledge on the new manner or acquiring fresh knowledge about the clients.

5. Ability of learning:

The book “The fifth discipline” by Peter Senge popularizes concept of learning organization. Learning organization is the organization that encourages continuous learning and knowledge generation on all levels and which developed ability for constant learning, adjustments and necessary changes. In that kind of organization, employees manage the knowledge by the constant adoption and exchange of knowledge with each other. In learning organization employees are ready to implement knowledge in making the decisions or doing business.

6. Ability to last:

Knowledge workers will have crucial role in knowledge economy. Companies will have to adjust to the employees’ possibilities to require better work conditions and bigger autonomy. Firms will have to develop ways to revitalize and they will achieve that by constant update and regeneration of employees’ knowledge.

**Techniques of knowledge management**

For any teaching and dissemination there is a need to recognize the applicability of different levels of teaching required. In this case, knowledge management at the strategic level requires the organization to analyze and plan its business in terms of the knowledge it currently has and the knowledge it needs for future business processes. At the tactical level the organization is concerned with identifying and formalizing existing knowledge, acquiring new knowledge for future use, archiving it in organizational memories and creating systems that enable effective and efficient application of the knowledge within the organization. At the operational level knowledge is used in everyday practice by professional personnel who need access to the right knowledge, at the right time, in the right location.
1. Knowledge Development Managers:

   It needs a strategic perspective on all knowledge assets. They need to understand the current state of the assets and to form a vision of how these knowledge assets could be improved or utilized to move the organization forward.

2. Knowledge Developers:

   It needs a comprehensive understanding of individual knowledge assets. They need to understand all the processes, roles, rights, and constraints associated with each knowledge asset, so that they can represent everything that may be relevant when describing or applying that knowledge asset.

3. Professional Personnel:

   It need to know about the existence of relevant knowledge assets and must understand how to apply them at the operational level. This paper focuses on the techniques we employ for managing knowledge within the organization.

   - the techniques that have been used previously from business management, for example, SWOT (Strengths Weaknesses Opportunities Threats) analysis; balanced scorecards (Kaplan and Norton (1996)); process modeling languages such as the IDEF Process Flow and Object State Description Capture Method (Mayer, Cull inane, de Witte, Knappernberger, Perakath and Wells (1992)); and agent/communication modeling techniques such as RADs (Role Activity Diagrams, Ould (1993));

   - Knowledge modeling techniques that have been used previously for the disciplined development of knowledge-based applications such as Common ADS (Benus (1993) and Schreiber, Ackerman’s, Anjewierden, De Hogg, Van De Velde, and Wielinga (1998)).

   It must be recognized that the ultimate success of any knowledge management programme for a particular organization will also depend critically on the attitude and culture adjustments of its key workers.

Difficulties in knowledge management

   In reality, working with people is never like a control loop that entails simply scrutinizing problem areas and then re-adjusting these for change.
As mentioned, this paper should primarily be seen as a southern African case study; the examples mentioned below have a higher likelihood to be relevant in southern Africa, but could also help to avoid surprising revelations elsewhere.

The structure of this chapter is based on the categories technology, content, routines, organization and personnel. As personnel are found to be crucial for knowledge management, this sub-chapter will be more detailed. Some barriers identified will fit into several categories.

1. Collection / Overview of Knowledge Inventory:

The knowledge inventory should list and connect all necessary information about the above mentioned: people, routines and procedures, content and technology. Thus, the knowledge inventory is a meta-information centre. Collecting and summarizing this knowledge inventory already is a critical first step where barriers will be encountered.

2. Expert’s Analysis:

The expert knowledge manager can be used to identify the first signs/avenues for enhancements – just from analyzing what is given in knowledge inventory. Considering that the successful implementation of KM can only be achieved when all players are properly involved in the process, the expert’s external analysis is only an initial step in defining KM activities.

3. Participatory Analysis:

Having the personnel aboard and giving them the space to reflect on their own situation, their own input and their own needs provides very valuable hints. In most cases, participation will strengthen the process and the chances for a change. Participatory processes also help external advisors to understand how the organization ‘functions’ from within.

4. Proposal of Interventions:

As a next step, personnel involved should work on creating ways to improve knowledge management in the future. Summarizing ideas that have been developed in a participatory manner, and proposing alternatives to resolve bottlenecks and realize enhancements, is one of the main tasks for a knowledge manager. These alternatives may consist of various approaches, like implementing new routines, collecting new information, using new technology, etc.
5. Conducting Selected Interventions:

After – in best case: participatory – prioritization and decision on activities on how to enhance the management of knowledge, these activities should be implemented – thus creating a change in the inventory.

6. Knowledge Management System:

The formalized process of updating technologies, routines, organizational structures and personal skills would then be called ‘Knowledge Management System’.

**Principles of Knowledge Management**

More than ever, companies are realizing that their real advantage lies in what they know. But how do you manage knowledge?

- Knowledge management is expensive
- Effective management of knowledge requires hybrid solutions involving both people and technology.
- Knowledge management is highly political.
- Knowledge management requires knowledge managers.
- Knowledge management benefits more from maps than models, more from markets than hierarchies.
- Sharing and using knowledge are often unnatural acts.
- Knowledge management means improving knowledge work processes.
- Access to knowledge is only the beginning.
- Knowledge management never ends.
- Knowledge management requires a knowledge contract.

If knowledge is really becoming a more valued resource in organizations, we can expect to see more attention to the legalities of knowledge management. Perhaps the greatest problem with increased knowledge management is the increased population of lawyers it will engender. Intellectual property law is already the fastest-growing legal field, and it will only grow faster.
The 5 basic principles of knowledge management is:

1) KM must align with the business.
2) KM must include
3) KM must address
4) KM must address Roles, Processes, Technologies and Governance
5) KM must be embedded into the business

Using the 5 principles
Use these 5 principles to design your Knowledge Management Framework. You will still need to decide

- What the critical business knowledge is, that you need to align to
- How to connect people and set up conversations
- How to collect knowledge and manage content
- How to create a demand for knowledge
- How to create a supply of knowledge
- Which roles to put in place
- Which processes to adopt
- Which technology to use
- What governance to apply, and
- How and where to embed the roles, processes, technology and governance.

However the principles will ensure that the framework you create works well, is stable, has no gaps, covers all relevant types of knowledge, and will not "tip back" to the previous pre-KM state.

**Leveraging knowledge**

At face value, the latest trend in knowledge management can yield a vastly improved customer service experience, allowing you to build a relationship with your customers and enable ongoing learning on both sides of the call.

- Technology
- Leveraging a Community
• Workflow Process
• Bottom Line Benefits

Knowledge processing activities includes:

• **Knowledge Gathering**: Knowledge can be gathered externally, e.g. from research institutes or by hiring experts, and it can be created and developed internally, for example in research and development or by gaining experience from the operation of a process. Since knowledge can become obsolete very quickly, it always needs to be improved and updated.

• **Knowledge Presentation**: To be helpful for end users, knowledge needs to be documented, structured and related to other knowledge and information. It is also essential to document the knowledge meta-structure, i.e. what kind of knowledge is available, how it is structured, and who can be contacted for advice on a certain subject.

• **Knowledge Transport**: Before it can be applied, knowledge needs to be moved to the people who need it. Documented knowledge can be transmitted by e-mail, file transfer, or the distribution of paper documents. Another option is the provision of knowledge in a way that the users of this knowledge can actively access it, e.g. in a library or in an Intranet. In this situation, the knowledge movement is accomplished when the end user searches and accesses the required knowledge. For accessing tacit knowledge which is not documented, the respective knowledge owners need to be found and contacted.

• **Knowledge Employment**: This is the purpose of knowledge processing - to use the knowledge for carrying out, supporting and improving value-adding business and support activities.

• **Knowledge Archive**: Knowledge which is outdated or has become irrelevant needs to be identified, removed from the active corporate memory, and archived.

These knowledge processing activities are usually not discrete, but most of them are - or should be - integral parts of the existing corporate process framework.
KM’s goal is to improve and support knowledge processing in the company. It is therefore concerned with developing, supporting, controlling and improving of strategies, processes, organization, and technologies for knowledge processing.

The design created on level one defines the processes, structures and tasks for the following levels:

- **Knowledge Process Management:** The tasks of managing the implemented knowledge processes can be found on this level. These tasks include the operation of the specific knowledge processes defined on level one, as well as controlling and monitoring of knowledge processing. The variables to be monitored are defined during the design of the knowledge processes (level one). For example, it could be useful to record the number of unsuccessful information searches and to analyse the reasons for not finding the desired pieces of information. When such problems are identified, an improvement cycle is triggered, in which the knowledge process design on level one is changed.

- **Knowledge Process Control:** this level comprises those activities that are not related to the actual knowledge contents, but rather to meta-information about the knowledge, such as topics, keywords, or areas of expertise. This meta-information is required for distributing, exchanging, searching, and accessing knowledge.

- **Knowledge Process Application:** The activities on this level are concerned with the actual knowledge contents. They include the creation of new knowledge, the documentation of knowledge, its application etc.

### Data Information-Knowledge-Wisdom relationship

According to Russell Ackoff, a systems theorist and professor of organizational change, the content of the human mind can be classified into five categories:

1. **Data:** symbols

2. **Information:** data that are processed to be useful; provides answers to "who", "what", "where", and "when" questions
3. **Knowledge**: application of data and information; answers "how" questions

4. **Understanding**: appreciation of "why"

5. **Wisdom**: evaluated understanding.

Ackoff indicates that the first four categories relate to the past; they deal with what has been or what is known. Only the fifth category, wisdom, deals with the future because it incorporates vision and design. With wisdom, people can create the future rather than just grasp the present and past. But achieving wisdom isn't easy; people must move successively through the other categories.

A further elaboration of Ackoff's definitions follows:

**Data**... data is raw. It simply exists and has no significance beyond its existence (in and of itself). It can exist in any form, usable or not. It does not have meaning of itself. In computer parlance, a spreadsheet generally starts out by holding data.

**Information**... information is data that has been given meaning by way of relational connection. This "meaning" can be useful, but does not have to be. In computer parlance, a relational database makes information from the data stored within it.

**Knowledge**... knowledge is the appropriate collection of information, such that its intent is to be useful. Knowledge is a deterministic process. When someone "memorizes" information (as less-aspiring test-bound students often do), then they have amassed knowledge. This knowledge has useful meaning to them, but it does not provide for, in and of itself, an integration such as would infer further knowledge.

**Understanding**... understanding is an interpolative and probabilistic process. It is cognitive and analytical. It is the process by which I can take knowledge and synthesize new knowledge from the previously held knowledge. The difference between understanding and knowledge is the difference between "learning" and "memorizing". People who have understanding can undertake useful actions because they can synthesize new knowledge, or in some cases, at least new information, from what is previously known (and understood).
**Wisdom**... wisdom is an extrapolative and non-deterministic, non-probabilistic process. It calls upon all the previous levels of consciousness, and specifically upon special types of human programming (moral, ethical codes, etc.). It beckons to give us understanding about which there has previously been no understanding, and in doing so, goes far beyond understanding itself.

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**Organizational Knowledge**

**Definition:**

Individual knowledge paired with that of other individuals in an organization. Organizational knowledge is the type of company asset to which no value can be named. When individuals pool their knowledge within an organization, that knowledge can give the organization advantages over others in the same field.
Organizational Knowledge Resources:

Business knowledge can exist on several different levels:

**Individual:** Personal, often tacit knowledge/know-how of some sort. It can also be explicit, but it must be individual in nature, e.g. a private notebook.

**Groups/community:** Knowledge held in groups but not shared with the rest of the organization. Companies usually consist of communities (most often informally created) which are linked together by common practice. These communities of practice (Lave & Wenger 1991) may share common values, language, procedures, know-how, etc. They are a source of learning and a repository for tacit, explicit, and embedded knowledge.

**Structural:** Embedded knowledge found in processes, culture, etc. This may be understood by many or very few members of the organization. E.g. the knowledge embedded in the routines used by the army may not be known by the soldiers who follow these routines. At times, structural knowledge may be the remnant of past, otherwise long forgotten lessons, where the knowledge of this lesson exists exclusively in the process itself.

**Organizational knowledge lifecycle**
Organizational Knowledge Characteristics

Organizational characteristics are features originating from the management model adopted by the organization, through its structure or strategy, and from the company culture embodies in the nature of its membership and relationships. It follows that these aforementioned organizational characteristics could also be broadly referred as organizational influences. The acquisition of knowledge in the organization will greatly depend on its structure, knowledge storage on its membership attribute, knowledge diffusion on its relationship pattern, and knowledge implementation on its strategy.

1. Culture:

The concept of organizational culture was adapted from anthropology for organization management research. Almost every scholar has his/her special attitude of mind for culture, and different scholars have different definitions of organization culture. Douglas (1985) pointed out that organization culture was the emergent result of the continuing negotiations about values, meanings and proprieties between the members of that organization.

2. Top Management Support:

Top management support is considered as one of the important potential influences on organizational knowledge. Numerous studies have found top management support essential to creating a supportive climate and providing sufficient resources emphasized the importance of the visible top management’s support to organizational knowledge sharing climate. Moreover, the perception of top management encouragement of knowledge sharing intentions is necessary for creating and maintaining a positive knowledge sharing culture in an organization.

3. Reward & Incentive:

It encourages knowledge management activities amongst employees play an important role as an enabler. Incentives are things that have the ability to incite determination or action by employees in an organization. Rewards, on the other hand, can be broadly categorized as being either extrinsic or intrinsic. Extrinsic rewards are positively valued work outcomes that
are given to the employee in the work setting whilst intrinsic rewards are positively valued work outcomes that are received by the employee directly as a result of task performance

4. Organization Structure:

Size is an important variable that affects various organizational aspects as well as overall organizational performance. Whereas the impact of size on group dynamics has been well explored in the social sciences literature, the discussion of organizational size has received less attention in management. For example, prior research has examined the impact of organizational size on information technology innovation adoption but the results appeared to be mixed and inconsistent because of the influence of other unaccounted variables.

Components of organizational knowledge

Knowledge Management is more about processes then products. But products and technology enable these processes and provides required tools for an effective KM program. We talked about Knowledge Management lifecycle in previous posts. Knowledge Management provides order to unstructured enterprise data and information into knowledge that is actionable and provides business value. Those who are responsible for knowledge management directly or indirectly should know the building blocks and their interaction with the processes.

What are the building blocks of Knowledge Management from technology standpoint?

Knowledge Management consists of following components:

- Collaboration
- Content Management
- Search
- Taxonomy management
- Business Process Management
- Business Intelligence
- Portal
All the components are required for knowledge management practice within the organization. There are vendors that provide all the required components in their product suite to enable organizations to implement effective Knowledge Management program.

**Key components:**

![Diagram](Image)

**Building Knowledge Society**

The emergence of the knowledge society, building on the pervasive influence of modern information and communication technologies, is bringing about a fundamental reshaping of the global economy. Its significance goes well beyond the hyping of the Internet. What is underway is a transformation of our economy and society.

Knowledge has always been a factor of production, and a driver of economic and social development. Earlier economies depended, for example, on knowledge about how to farm, how to build and how to manufacture. However, the capacity to manipulate, store and transmit large quantities of information cheaply has increased at a staggering rate over recent years.

The Youth Building Knowledge Societies e-conference was structured around three themes: **Access:**

Participants highlighted a number of barriers blocking widespread participation in the global information society. They also illustrated a number of examples of how they are overcoming
these obstacles through new and creative ways of adapting locally available technologies to meet community information and communication needs. Some of the access issues discussed included those surrounding:

• Receiving information;

• Creating and disseminating information, and;

• Participating in the decision making processes that shape the context for ICTs.

**Education:**

Participants gave a number of examples of how they are trying to use ICTs to help make education more equitable, more affordable and more humanitarian. Participants examined the overlapping issues of ICTs in formal and informal education.

**Livelihoods:**

Participants stressed that sustainable livelihoods encompass more than simply employment. They noted that the concept includes other characteristics such as: meaningful work, meeting basic needs, health, security, and living within an equitable and just society. Participants highlighted a number of cases where ICTs are being used as tools for creating sustainable livelihoods. Some of the ICT related sustainable livelihood issues raised by participants included:

• employment and entrepreneurship,

• developing skills and sharing knowledge through internships and;

• sharing experiences through global networking projects. In addition to these themes, the issue of how ICTs could enable greater youth participation in governance was raised.
Examples:

- In South Africa, the government requires telecommunication operators (as part of their license obligations) to provide services in rural areas through the South Africa Universal Service Agency.
- In Sub-Saharan Africa, the IDRC’s Acacia initiative is providing multi-purpose community telecenters to test ICT development solutions such as telemedicine, distance education and ecommerce.
- In the Philippines, Deutsche Telekom-supported local telecommunication provider Islacom is distributing affordable cellular phones in community units/barangays. Remote villagers buy prepaid cellular telephone cards at subsidized prices.
- In Bangladesh, the Grameen Bank is financing cell-phones for village women who in turn provide pay telephone services to their community. In doing so they create livelihoods for women while providing communications to rural villages without land-based phone services.
- In the Philippines, University student cooperatives have expanded their services to include fax and phone services, Internet cafes and computer rentals.
- In Colombia, women run Neighborhood Information Units are setting up local information systems and offering Internet services, especially to young people that do not have access to education.
- In South Africa, A Compaq-sponsored notebook computer helped a 16-year old YBKS participant in South Africa to participate and socialize more effectively with classmates after she made the decision to attend a mainstream school.
- In Canada and Jamaica, the Community Access Program is creating community owned and operated public Internet access sites. These are usually run by young volunteers or employees - providing them with employment opportunities or experience to gain such employment elsewhere.
- In Zimbabwe, the Education with Enterprise Trust is helping to develop learning enterprises — businesses (including cybercafés) where young people are able to gain hands-on experience.
Measures for meeting the challenges of implementing KM Programmes

A successful knowledge management program will consider more than just technology. An organization should also consider:

- **People.** They represent how you increase the ability of individuals within the organization to influence others with their knowledge.

- **Processes.** They involve how you establish best practices and governance for the efficient and accurate identification, management, and dissemination of knowledge.

- **Technology.** It addresses how you choose, configure, and utilize tools and automation to enable knowledge management.

- **Structure.** It directs how you transform organizational structures to facilitate and encourage cross-discipline awareness and expertise.

- **Culture.** It embodies how you establish and cultivate a knowledge-sharing, knowledge-driven culture.

8 Steps to Implementation

Implementing a knowledge management program is no easy feat. You will encounter many challenges along the way including many of the following:

- Inability to recognize or articulate knowledge; turning tacit knowledge into explicit knowledge.
- Geographical distance and/or language barriers in an international company.
- Limitations of information and communication technologies.
- Loosely defined areas of expertise.
- Internal conflicts (e.g. professional territoriality).
- Lack of incentives or performance management goals.
- Poor training or mentoring programs.
- Cultural barriers (e.g. “this is how we've always done it” mentality).
The following eight-step approach will enable you to identify these challenges so you can plan for them, thus minimizing the risks and maximizing the rewards. This approach was developed based on logical, tried-and-true activities for implementing any new organizational program.

**Step 1: Establish Knowledge Management Program Objectives**

Before selecting a tool, defining a process, and developing workflows, you should envision and articulate the end state. In order to establish the appropriate program objectives, identify and document the business problems that need resolution and the business drivers that will provide momentum and justification for the endeavor.

**Step 2: Prepare for Change**

Knowledge management is more than just an application of technology. It involves cultural changes in the way employees perceive and share knowledge they develop or possess. One common cultural hurdle to increasing the sharing of knowledge is that companies primarily reward individual performance. This practice promotes a "knowledge is power" behavior that contradicts the desired knowledge-sharing, knowledge-driven culture end state you are after.

**Step 3: Define High-Level Process**

To facilitate the effective management of your organization's knowledge assets, you should begin by laying out a high-level knowledge management process. The process can be progressively developed with detailed procedures and work instructions throughout steps four, five, and six. However, it should be finalized and approved prior to step seven (implementation).

**Step 4: Determine and Prioritize Technology Needs**

Depending on the program objectives established in step one and the process controls and criteria defined in step three, you can begin to determine and prioritize your knowledge management technology needs. With such a variety of knowledge management solutions, it is imperative to understand the cost and benefit of each type of technology and the primary technology providers in the marketplace. Don't be too quick to purchase a new technology without first determining if your existing technologies can meet your needs.
Step 5: Assess Current State

Now that you've established your program objectives to solve your business problem, prepared for change to address cultural issues, defined a high-level process to enable the effective management of your knowledge assets, and determined and prioritized your technology needs that will enhance and automate knowledge management related activities, you are in a position to assess the current state of knowledge management within your organization.

The recommendations will become the foundation for the roadmap in step six.

Step 6: Build a Knowledge Management Implementation Roadmap

With the current-state assessment in hand, it is time to build the implementation roadmap for your knowledge management program. But before going too far, you should re-confirm senior leadership's support and commitment, as well as the funding to implement and maintain the knowledge management program. Without these prerequisites, your efforts will be futile. Having solid evidence of your organization’s shortcomings, via the assessment, should drive the urgency rate up.

Step 7: Implementation

Implementing a knowledge management program and maturing the overall effectiveness of your organization will require significant personnel resources and funding. Be prepared for the long haul, but at the same time, ensure that incremental advances are made and publicized. As long as there are recognized value and benefits, especially in light of ongoing successes, there should be little resistance to continued knowledge management investments.

Step 8: Measure and Improve the Knowledge Management Program

How will you know your knowledge management investments are working? You will need a way of measuring your actual effectiveness and comparing that to anticipated results. If possible, establish some baseline measurements in order to capture the before shot of the organization’s performance prior to implementing the knowledge management program. Then, after...
implementation, trend and compare the new results to the old results to see how performance has improved.

**The Power of Knowledge Management**

Implementing a complete knowledge management takes time and money, however, the results can be impressive and risks can be minimized by taking a phased approach that gives beneficial returns at each step. Organizations that have made this kind of investment in knowledge management realize tangible results quickly. They add to their top and bottom lines through faster cycle times, enhanced efficiency, better decision making and greater use of tested solutions across the enterprise.
UNIT-2
Essentials of Knowledge Management

Knowledge Management (KM) has emerged as a tool for a continuous and sustainable development. KM is not a single discipline; rather an integration of numerous endeavors and fields of study. It is about using right knowledge at right time.

Aspects of Knowledge Management:

- Culture
- Technology

1. Culture:

   It is a way to facilitate collaborative processes, learning dynamics and problem solving.
   
   - Nature of knowledge
   - Types of knowledge
   - Implementation

2. Technology:

   It focuses on databases or other storage devices, mechanisms for sharing knowledge products such as documents, and terms such as knowledge transfer.
   
   - Database
   - Input
   - Output
Understanding the different forms that knowledge can exist in, and thereby being able to distinguish between various types of knowledge, is an essential step for knowledge management (KM). For example, it should be fairly evident that the knowledge captured in a document would need to be managed (i.e. stored, retrieved, shared, changed, etc.) in a totally different way than that gathered over the years by an expert craftsman.

Within business and KM, two types of knowledge are usually defined, namely explicit and tacit knowledge. The former refers to codified knowledge, such as that found in documents, while the latter refers to non codified and often personal/experience-based knowledge.

1. **Explicit Knowledge:**

   This type of knowledge is formalized and codified, and is sometimes referred to as know-what (Brown & Duguid 1998). It is therefore fairly easy to identify, store, and retrieve (Wellman 2009). This is the type of knowledge most easily handled by KMS, which are very effective at facilitating the storage, retrieval, and modification of documents and texts.
From a managerial perspective, the greatest challenge with explicit knowledge is similar to information. It involves ensuring that people have access to what they need; that important knowledge is stored; and that the knowledge is reviewed, updated, or discarded.

2. Tacit Knowledge:

   This type of knowledge was originally defined by Polanyi in 1966. It is sometimes referred to as know-how (Brown & Duguid 1998) and refers to intuitive, hard to define knowledge that is largely experience based. Because of this, tacit knowledge is often context dependent and personal in nature. It is hard to communicate and deeply rooted in action, commitment, and involvement (Nonaka 1994).

   Tacit knowledge is also regarded as being the most valuable source of knowledge, and the most likely to lead to breakthroughs in the organization (Wellman 2009). Gamble & Blackwell (2001) link the lack of focus on tacit knowledge directly to the reduced capability for innovation and sustained competitiveness.

3. Embedded Knowledge:

   Embedded knowledge refers to the knowledge that is locked in processes, products, culture, routines, artifacts, or structures (Horvath 2000, Gamble & Blackwell 2001). Knowledge is embedded either formally, such as through a management initiative to formalize a certain beneficial routine, or informally as the organization uses and applies the other two knowledge types.

   The challenges in managing embedded knowledge vary considerably and will often differ from embodied tacit knowledge. Culture and routines can be both difficult to understand and hard to change. Formalized routines on the other hand may be easier to implement and management can actively try to embed the fruits of lessons learned directly into procedures, routines, and products.
Organizational Knowledge Management

Knowledge:

Knowledge is often defined as a “justified personal belief.” There is much taxonomy that specifies various kinds of knowledge. The most fundamental distinction is between “tacit” and “explicit” knowledge.

Knowledge Management Systems:

Knowledge management systems (KMS) are applications of the organization’s computer-based communications and information systems (CIS) to support the various KM processes. They are typically not technologically distinct from the CIS, but involve databases, such as “lessons learned” repositories, and directories and networks, such as those designed to put organizational participants in contact with recognized experts in a variety of topic areas.

Knowledge Management in Organizations:

KM processes directly improve organizational processes, such as innovation, collaborative decision-making, and individual and collective learning. These improved organizational processes produce intermediate outcomes such as better decisions, organizational behaviors, products, services and relationships. These, in turn, lead to improved organizational performance.

The Knowledge Management Processes Cycle:

It is a process cycle model of KM. Such cycle models provide a useful way to organize one’s thinking about KM processes. There have been numerous KM processes cycle models that describe the relationships of the key processes of KM, ranging from Davenport and Prusak’s (2000) 3-stage model (“Generate, Codify/Coordinate, Transfer”) to Ward and Aurum’s (2004) 7-stage (“Create, Acquire, Identify, Adapt, Organize, Distribute, Apply”). The process cycle model of Fig. 2 is particularly valuable in that it uses the generally accepted terminology of KM and makes use of alternative paths in order to make important distinctions. The various activities
listed as bullet-points under some of the major phases are meant to be illustrative and not necessarily definitional.

**KM Strategies:**

Most organizations focus primarily on one or the other of two broadly defined KM strategies – “codification” or “personalization” (Hansen et al., 1999).

Codification is primarily implemented in the form of electronic document systems that codify and store knowledge and permit its easy dissemination and re-use. This strategy is based on “re-use economics” – invest once in creating or acquiring a knowledge asset and re-use it many times.

Personalization, on the other hand, focuses on developing networks to facilitate people-to-people knowledge transfer and sharing. It is based on “expert economics” – channeling individual expertise to others with less expertise who may employ it to further the organization’s goals.

Earl (2001) has described various KM strategies, or “schools of thought” at a more detailed level. He developed this empirically through observation in numerous companies.

They are listed below in groups that emphasize their reliance on either the codification or a personalization approach. Codification Sub-Strategies – Earl’s codification-oriented sub-strategies are:

1. Systems (creating and refining knowledge repositories and on motivating people to provide content)

2. Process (developing and using repeatable processes that are supported with knowledge from previously conducted processes)

3. Commercial (the management of intellectual property such as patents, trademarks, etc.)

4. Strategic (the development of “knowledge capabilities” that can form the foundation of competitive strategy) Personalization Sub-Strategies – Earl’s personalization-oriented sub-strategies are:
5. Cartographic (creating knowledge “maps” or directories and networks to connect people)

6. Organizational (providing groupware and intranets to facilitate communities of practice)

7. Social (spatial) (socialization as a means of knowledge creation and exchange; emphasizes the providing of physical “places” to facilitate discussions) While some organizations focus on only one of these strategies or sub-strategies, many use a combination of strategies that suits their needs.

**Organizational Knowledge Types**

An Overview and Interpretation, Blackler builds on Polanyi’s distinction between tacit and explicit knowledge (in Polyani, 1967) and identifies five types of knowledge to be found in contemporary organisations. His ideas provide useful insights into the process of knowledge management. These conceptual distinctions were first suggested to explain the psychological and behavioural aspects of knowledge. They were later adapted to describe the different ‘images’ of knowledge within the organisation.

1. **Embrained knowledge**

   This is the abstract, conceptual and theoretical knowledge people possess – accountancy knowledge and an understanding of health and safety legislation – which is generally acquired through some type of formal education. This is akin to Polanyi’s explicit knowledge.

2. **Embodied knowledge**

   This the knowledge people possess about their own roles and activities, and those of other people, in specific work situations. It is that knowledge about what you should be doing (which isn’t always the same as what it says in your job description.) This knowledge is acquired slowly and gradually through a process of socialisation and is, I would argue, an aspect of Polanyi’s tacit knowledge.
3. Uncultured knowledge

This is the working knowledge people possess of ‘the ways things work around here’ – or the principal shared beliefs, values and rituals of an organisation’s culture. This cultural knowledge is overwhelmingly tacit.

4. Embedded Knowledge

This is knowledge that is wrapped up somebody’s ability to undertake a specific task or activity. It is the skills, know-how and capabilities that enable that worker to do a task ‘without thinking’ and as ‘second nature.’ It is an aspect of Polanyi’s tacit knowledge.

5. Encoded knowledge

This is documented, codified and formalized knowledge conveyed by texts and in writing. It refers to the minutes, websites, codes of practice, strategy and policy documents and textbooks to be found in all organisations. As such, it is an aspect of Polanyi’s explicit knowledge.

The knowledge Hierarchy

The terms information and knowledge are often used interchangeably. In reality there is a hierarchy as shown below.

- Wisdom
- Knowledge
- Information
- Data
Organizational Knowledge Capital

Definition:

Organizational Capital has been defined as the “knowledge used to combine human skills and physical capital into systems for producing and delivering want-satisfying products.” Organizational capital consists of the processes, systems, and other assets that companies have aside from their financial report.

1. Knowledge Assets and Intellectual Capital:

Knowledge assets may be distinguished from the traditional factors of production: land, labor and capital - in that they are governed by what has been described as the ‘law of increasing returns’. In contrast to the traditional factors of production that were governed by diminishing returns, every additional unit of knowledge used effectively results in a marginal increase in performance.

2. Assessment of Knowledge Capital and Intellectual Assets:

Recent business history has shown that huge investments in human capital and information technology are the key tools of value creation that often do not show up on company balance sheets as positive values themselves.

3. Measuring Knowledge Assets and Intellectual Capital:

Managers of enterprises are trying to find reliable ways for measuring knowledge assets to understand how they relate to future performance. The expectation from finding reliable measures of knowledge assets is that such measures can help managers to better manage the intangible resources that increasingly determine the success of the enterprises.
Organizational Knowledge Classification

Classification Systems:

Libraries attempt to organize and shelve books about the same subject matter together. This may sound simple and rather straightforward; however, if you stop and think for a moment you will realize that most books are about more than one idea or subject.

The two major classification systems used in American libraries to organize books on library shelves are the Dewey Decimal Classification System and the Library of Congress Classification System.

Dewey decimal classification System:

The Dewey Decimal Classification System was designed by Melvil Dewey in 1876. Dewey was a librarian who worked in Boston and New York. He was very interested in creating efficient ways to organize knowledge and make it accessible to the public. Prior to Dewey's time there were few public libraries, and patrons were not allowed to go into the book stacks to look for their own books. Books had to be paged for the patron by a library staff person who knew
where things were located. Most academic libraries at the time were little more than warehouses. Melvil Dewey worked to change this situation.

**Library of Congress Classification System:**

The Library of Congress Classification System was developed by the Library of Congress in Washington, DC in the early 1900's to organize the collections of the Library. The Library of Congress chose to develop its own classification system rather than use the Dewey Decimal Classification System because of the large size of its collection--the Dewey system was not considered flexible enough to meet the needs of the LC collection. Over the years most U.S. research and academic libraries, as well as some public libraries, have adopted the Library of Congress Classification System.

**Knowledge Life Cycle**

There is no doubt that knowledge workers have dominated the North America workforce since the early 1980s. In fact, knowledge workers have been estimated to outnumber all other workers in North America by a factor of more than 4-to-1. Executives have acknowledged this by recognizing that the most important strategic asset in their organizations is the knowledge possessed by their employees. However, many admit that it is not clear how to manage this asset. It see raising the productivity of knowledge workers as the single greatest challenge that managers face, which will ultimately determine the competitive performance of organizations.
The KLC: A Separate Framework:

- I'll show that while the KLC is comprised of OLCs, it is a separate construct and that, in fact, KLC processes originate in OLCs and then feed back into them.
- The alternation between KLCs and OLCs is both basic to knowledge processing and grounded in human psychology, both at the individual and group levels of interaction.
- This alternation is the foundation of knowledge management as a distinct process.

In the analysis of over 100 KM programmes for the book Knowledge Networking, two main approaches were identified:

- **Better sharing of existing knowledge - knowing what you know.** Examples include sharing best practice, avoiding "reinventing the wheel", and the use of intranets as portals into core knowledge that is widely shared.
- **Faster or smarter innovation - creating and commercializing new knowledge.** This involves converting ideas into valuable products, services or processes, either internally or for external sale.

We can represent the evolution of knowledge in these two approaches as two life cycles
The Innovation Cycle:

This shows the evolution of ideas (unstructured knowledge) into more structured and reproducible knowledge, embedded within processes or products. Some of the key processes are:

- **Create**: An idea for a new product, process or strategy is created. These are discussed and formalised to initiate a new cycle of innovation.
- **Codify**: The ideas are codified, such as in a product design or a process description. The original idea is now more structured and transferable.
- **Embed**: At this stage (for a product) the knowledge is encapsulated in a prototype, or for a process made part of organizational procedures.
- **Diffuse**: Products reach the market; processes are widely practiced throughout the organization. Application of the embedded knowledge generates ideas for improvements, and so the cycle repeats.

The Knowledge Sharing Cycle:

These are the processes associated with gathering and disseminating existing knowledge. For most KM programmes, this is the primary focus.

- **Create/Collect**: New knowledge is created or existing knowledge is gathered. A knowledge audit is a good technique for discovering what exists.
- **Organize/Store**: The knowledge is classified and stored, perhaps using a company specific taxonomy. This makes subsequent retrieval easier.
- **Share/Distribute**: Information may be 'pushed' to people as part of routine dissemination or it may be simply 'parked' in information repositories for individuals to access it when needed. For tacit knowledge, this part of the cycle involves knowledge transfer activities such as meetings.
- **Access**: Individuals browse or search their organization's information and document repositories, typically via an intranet. Users 'pull' the information when they need it.
Use/exploit. They use this knowledge to carry out specific tasks. As they use it the knowledge is evaluated, refined and improved. As a result new knowledge is created and the cycle repeats.

**Organizational KnowledgeSources**

From the perspective of an MNC subsidiary, there are two knowledge sources. Knowledge may come from sources that are internal to the MNC and is transferred from other MNC units (i.e., other subsidiaries or the Center) or is developed in the subsidiary itself (e.g., through R&D, processes of routinization, etc.). Alternatively, knowledge sources may come from external partners (customers, suppliers, etc.) or other agents (e.g., high quality research institutions, etc.).

- Knowledge inputs into the process of building knowledge also differ across subsidiaries because subsidiaries confront different knowledge sources.
- Some subsidiaries may rely relatively more on internal knowledge sources, while others may rely more on external ones.
- In turn, this will impact the knowledge that is built and also influence the costs and benefits of transferring such knowledge.
- Knowledge that is based on internal knowledge sources may be transferable at low cost inside the MNC, particularly knowledge which is developed within the core of the MNC knowledge structure.

Research highlights the role of external knowledge sources in the recognition of strategic opportunities but is less forthcoming with respect to the role of such sources during the process of exploiting or realizing opportunities. We build on the knowledge-based view to propose that realizing opportunities often involves significant interactions with external knowledge sources.
Process:

Conceptually, one may distinguish between two external sources of knowledge that may be available to subsidiary firms. The first category may be called “network-based knowledge”, the gaining of knowledge from long-lasting interaction with specific external parties, such as customers or suppliers, and the use of that knowledge in the firm’s activities.

Knowledge Conversion

Definition:

The incorporation of knowledge into the process of solving analytical tasks is a fast emerging area in visualization is Knowledge Conversion.

Knowledge Conversion Processes:

Nonaka and Takeuchi defined four types of conversion processes which they describe as "fundamental to creating value". The four are the combinations of conversion of explicit and tacit knowledge (see diagram).
1. Tacit-to-tacit (socialization) - individuals acquire knowledge from others through dialogue and observation
2. Tacit-to-explicit (externalization) - the articulation of knowledge into tangible form through elicitation and documentation
3. Explicit-to-explicit (combination) - combining different forms of explicit knowledge, such as that in documents or databases
4. Explicit-to-tacit (internalization) - such as learning by doing, where individuals internalize knowledge into their own mental models from documents.

**The Knowledge Spiral:**

In their book, Nonaka and Takeuchi say that "the key to knowledge creation lies in the mobilization and conversion of tacit knowledge". They go on to describe how organizational knowledge is created through processes in the knowledge spiral (see diagram).
Organizational knowledge starts at the individual level with thoughts or understanding (internalization). It then moves upwards through socialization, where individuals dialogue with their team colleagues. The ideas are then articulated (externalization) and become more widespread through diffusion of explicit knowledge (combination). As knowledge moves up the spiral knowledge is more widely spread and the spiral gets wider.

**Organizational Knowledge Progression**

**Definition:**

The term **learning or knowledge progression** refers to the purposeful sequencing of teaching and learning expectations across multiple developmental stages, ages, or grade levels.

**Types:**

What does every single business ever created have in common? The answer is they all started out as an idea; one person’s fantasy as to how their vision can make a difference to the world.

From the minute an organization is born, a company culture is installed within it. For those start ups that cannot afford to hire employees at the inception point, the culture is enshrined within the values and beliefs of the founding members and so culture will play a smaller role limited to these individuals at this stage.
**Taking on Employees:**

Company culture will start taking a much more prominent role within an organization as it starts to grow and employees are hired to help build the business “fantasy.” The founding values and beliefs will start rubbing off on the employees as they work closely on a day-to-day level within the organization and they start learning the knowledge and the company way of doing things.

**Competition:**

As an organization continues to grow, eventually it will appear on the radar of its competitors. When this happens, a battle of culture will emerge as each company tries to pitch to its customers why their product or service is superior; and culture plays an important role within the heart and foundations of this pitch.

**What should company culture be?**

The truth is that there is no right answer as to what company culture should be because every culture is different for every company which stems down to what the underlying motivation was for the creation of the organization on day one; whether it was to change the world, to do things better than the competition, or to exploit a potential gap in the market.

**Employee action plan:**

Business owners should therefore come up with an employee action plan to maximise their growth within an organization. Assuming that you have found the right candidate to help grow your business and they are fully trained, the next stage is to encourage employee entrepreneurship. By setting up a company, you will display entrepreneurial characteristics in abundance, e.g. being an independent free spirit, creativity, passion, leadership, vision, a driving personality, initiative as well as a ‘can do’ attitude and you should encourage your employees to display these skills as well.
Organizational knowledge Management

Knowledge management comes from the understanding of the critical value of the other factors, less typical than document or data, and the awareness of the need for finding modes to sustain it and get from it strategically benefits. The difference between organizational knowledge and information and data is, aside from effective, intuitive.

Basics of Knowledge Management and Organizational Learning:

To understand KM and OL, one must understand knowledge, KM processes and goals and knowledge management systems (KMS).

1. Knowledge:

Knowledge is often defined as a “justified personal belief.” There is much taxonomy that specifies various kinds of knowledge. The most fundamental distinction is between “tacit” and “explicit” knowledge.
2. Knowledge Management and Organizational Learning:

Explicit knowledge exists in the form of words, sentences, documents, organized data, and computer programs and in other explicit forms. If one accepts the useful “difficult-to-articulate” concept of tacit knowledge, a fundamental problem of KM is to explicate tacit knowledge and then to make it available for use by others. One can also distinguish among “know what,” “know how” and “know why” levels of knowledge.

3. Knowledge Management Processes and Goals:

Knowledge management is the planning, organizing, motivating, and controlling of people, processes and systems in the organization to ensure that its knowledge-related assets are improved and effectively employed.

4. Knowledge Management Systems:

Knowledge management systems (KMS) are applications of the organization’s computer-based communications and information systems (CIS) to support the various KM processes. They are typically not technologically distinct from the CIS, but involve databases, such as “lessons learned” repositories, and directories and networks, such as those designed to put organizational participants in contact with recognized experts in a variety of topic areas.

5. Organizational Learning:

Another way to conceptualize the relationship between the two areas is to view OL as the goal of KM. By motivating the creation, dissemination and application of knowledge, KM initiatives pay off by helping the organization embed knowledge into organizational processes so that it can continuously improve its practices and behaviors and pursue the achievement of its goals.
Knowledge Management process:

- **Collecting**
- **Organizing**
- **Summarizing**
- **Analyzing**
- **Synthesizing**
- **Decision Making**

**Technology Enablers**

**Definition:**

An enabling technology is an invention or innovation that can be applied to drive radical change in the capabilities of a user or culture. Enabling technologies are characterized by rapid development of subsequent derivative technologies, often in diverse fields.

Equipment and/or methodology that, alone or in combination with associated technologies, provides the means to increase performance and capabilities of the user, product or process.

There are certain technological developments that allow meeting the users’ needs significantly better. Here I will list three major innovations – the All-IP, the ongoing standardization of communications and the opportunities of sensors. The future of the networks will be significantly influenced by the fixed-mobile convergence.
Technology is continuously evolving. It is like Abraham Maslow’s theory of Need Hierarchy. We are continuously motivated by our unsatisfied needs. EAI comprises of the following layers

1. Modeling and Workflow
2. Process Automation and Monitoring
3. Broker
4. Connectivity Adapters
5. Transport

Earlier the EAI services continuum covered only Communications Middleware that catered for the transport layer. Business was satisfied with the capabilities of systems being able to talk to each other and data being transferred from one system to another.

This was followed by adapters. Adapters classified as technology adapters and connectivity adapters started evolving.
Now having the ability to communicate, the need for data transformation and routing popped up. Later came in the age of brokers.

With Smart Technology Enablers solving your IT issues, you can:

- **Start using your time wisely** – with the basics of your company all under control, you can focus on more profitable ventures for your company.
- **Save capital for important projects** – with our flat rate IT and managed services, you’ll save cash every month that would have been otherwise used for your technology breakdowns.
- **Enjoy exemplary uptime** – don’t worry about your network being down at awkward times anymore. With Smart Technology Enablers’ 24/7 monitoring, you can trust your network will be running when you need it.

Our custom service packages deliver what you need and want without overstepping the boundaries of your budget. From cloud services to data backup, we’re here team up with you and your company for expert support.

**Organizational Human Capital**

**Human Capital:**

Human capital is the stock of knowledge, habits, social and personality attributes, including creativity, embodied in the ability to perform labor so as to produce economic value.

It is an aggregate economic view of the human being acting within economies, which is an attempt to capture the social, biological, cultural and psychological complexity as they interact in explicit and/or economic transactions.

**Competence & Capital:**

The introduction is explained and justified by the unique characteristics of competence (often used only knowledge). Unlike physical labor (and the other factors of production), competence is:
• Expandable and self-generating with use: as doctors get more experience, their competence base will increase, as will their endowment of human capital. The economics of scarcity is replaced by the economics of self-generation.

• Transportable and shareable: competence, especially knowledge, can be moved and shared. This transfer does not prevent its use by the original holder. However, the transfer of knowledge may reduce its scarcity-value to its original possessor.

**Competence, ability, skills or knowledge?** Often the term "knowledge" is used. "Competence" is broader and includes cognitive ability ("intelligence") and further abilities like motoric and artistic abilities. "Skill" stands for narrow, domain-specific ability. The broader terms "competence" and "ability" are interchangeable.

**Importance:**

1. The concept of Human capital has relatively more importance in labour-surplus countries.

2. These countries are naturally endowed with more of labour due to high birth rate under the given climatic conditions.

3. The surplus labor in these countries is the human resource available in more abundance than the tangible capital resource.

4. This human resource can be transformed into Human capital with effective inputs of education, health and moral values.

5. The transformation of raw human resource into highly productive human resource with these inputs is the process of human capital formation.

6. The problem of scarcity of tangible capital in the labour surplus countries can be resolved by accelerating the rate of human capital formation with both private and public investment in education and health sectors of their National economies.

7. The tangible financial capital is an effective instrument of promoting economic growth of the nation.
Why Human Capital Is Important for Organizations:

Why Human Capital Is Important for Organizations is an innovative book that derives from the casual meeting of people, scholars, and practitioners who live and work in many different parts of the world. The 'fil rouge' among them is their interpretation of how human resource management actually works in the present organizational context. Concretely, this book encompasses eleven chapters dealing with some of the most important issues in the field of human resource management through the exploration of four key themes: drawing the scenario, the pivots of human capital, measuring human capital, and good practices from abroad.

Empirical Findings:

The framework we use for identifying the key drivers of organizational performance (both within and across organizations) rests on a decade of research. A critical finding that has emerged from this research is that with few exceptions, traditional HR metrics (e.g., employee turnover rates, average time to fill open positions, total hours of training provided) are not predictive.

Our major empirical findings in this area are summarized briefly below.

There is a core set of “human capital drivers” that predict organizational performance across a broad array of organizations. HCM can be broken into five major categories, each of which can be measured separately, and each of which helps to drive organizational performance: Leadership Practices

- Employee Engagement
- Knowledge Accessibility
- Workforce Optimization
- Learning Capacity
**Meta Knowledge**

**Definition:**

Meta-knowledge is a fundamental conceptual instrument in such research and scientific domains as, engineering, knowledge, and others dealing with study and operations on knowledge, seen as a unified object/entities, abstracted from local conceptualizations and terminologies.

Although many studies involve meta-knowledge, the term is not always explicitly used. These studies can be found in various domains such as mathematical logic [1], scientific methodology [2], problem resolution and its teaching [3], educational technology [4,5], software and cognitive engineering [6, 7], artificial intelligence [8].

Jacques Pitrat has produced an important synthesis in which he distinguishes several meta-knowledge categories and proposes the following definition: « meta-knowledge is knowledge about knowledge, rather than knowledge from a specific domain such as mathematics, medicine or geology ». According to this definition, meta-knowledge is at the heart of the learning process, which consists in transforming information into knowledge:

- By attributing values to knowledge from other domains: truth, usefulness, importance, knowledge priority, competence of an individual towards a knowledge object, etc.
- By describing « intellectual acts », processes that facilitate knowledge processing in other domains: memorisation, understanding, application, analysis, synthesis, evaluation, etc.
- By representing strategies to acquire, process and use knowledge from other domains: memorisation techniques, heuristic principles for problem solving, project management strategies, etc.

**Representation system:**

A basic MOT model [10], is composed of six types of knowledge objects and six types of links. Knowledge is represented by geometric figures that identify its type, such as abstract knowledge (concepts, procedures, principles), as well as three types of corresponding facts (examples, traces, statements).
- **Concepts** describe a domain’s classes of objects (the « what » dimension), by their attributes and possible values.
- **Procedures** describe sets of operations that may apply to several objects (the « how » dimension).
- **Principles** are general statements intended to describe objects properties, of concepts to establish cause-and-effect links between them (the « why » dimension), or properties of procedures to determine their conditions (the « when ») and the resulting actions.

**Different kinds of meta-knowledge:**

The analysis of the answers regarding the knowledge exchange within the companies indicates the relevance of six aspects of meta-knowledge referring to content (a), characteristics of the participants (b), future-process of usage (c), cooperation (d), self-efficacy (e), and the way of structuring of the content (f).

**A) meta-knowledge referring to the content:**

Content-related meta-knowledge addresses the quality and timeliness of the content in the system. Knowledge about the quality and timeliness of the contributed content was useful for participating in the exchange of knowledge.

**B) meta-knowledge about the characteristics of the participants:**

Furthermore, knowledge about other users and their activities has influence on the characteristics of knowledge exchange. In our cases, knowledge about other participants is mentioned as a precondition for participating in the exchange of knowledge.

**C) meta-knowledge about the future-process of using the entered data:**

The interviewees mentioned that they would like to know what would happen with the uploaded content (future process-related meta-knowledge). The coordinators in company 3 for example would like to know who will read this content and whether it might be interesting for other employees as well. Feedback mechanisms should transmit this meta-knowledge.
D) meta-knowledge about the cooperation:

The knowledge about the cooperation between the actors (cooperation-related meta-knowledge) covers the guidelines and conventions of effective teamwork and the possibilities of communication processes for computer supported knowledge exchange.

E) meta-knowledge about self-efficacy:

The competence to estimate the relevance of one’s own knowledge for the work of others (self-efficacy-related meta-knowledge) is a decisive factor. Self-efficacy consists of expectations and awareness about a person’s own competences and capabilities.

F) meta-knowledge about the structuring of content:

Meta-knowledge about how the representation of knowledge should be structured is predominantly related to the knowledge about the internal structure of the content. The necessity of this meta-knowledge could be observed in some companies: if it is not available, unclear content areas arise and hamper the use of the knowledge management system.
UNIT-3
Discussion on Roadblocks to success

11 Major Roadblocks to Success and How to Avoid Them

1. Lack of a well-defined purpose in life

There is no hope of success when you don’t have a central purpose, or definite goal at which to aim. Ninety-eight percent of people are followers who have no definite idea of their ultimate goal. What to do: As an absolute first step in your personal or professional success, know your passion. What is your higher purpose?

2. Lack of ambition to aim above mediocrity

If you don’t like where you are, you must find a way to change that. What to do: Becoming a fulfilled Home Executive or accomplished Business Leader will occur only when you consistently strive for excellence.

3. Negative environment

As the saying goes, “you are who you know,” so it is of the utmost importance to have only those people in your life who support you and what you believe/desire yourself to be. What to do: Control the amount of doom and gloom you allow into your life, creating an environment that is filled with people and things that are supportive of your higher purpose.

4. Poor health

It is impossible to enjoy outstanding success when you lack physical and emotional health. Obtaining this goal is an ongoing process. What to do: Consume a healthy, well-balanced diet of nutritious food and, also, exercise regularly. This regimen will lead to both physical and emotional well-being.

5. Unfavorable environmental influences during childhood

“As the twig is bent, so shall the tree grow?” This isn’t a curse, its a challenge. Anyone can overcome their childhood difficulties. What to do: Surround yourself with people who emulate who you want to be, study the behaviors you like about them and change the behaviors you don’t like about yourself.

6. Lack of persistence

Most of us are good “starters” but poor “finishers” of what we begin. Moreover, people are prone to give up at the first signs of defeat. There is no substitute for PERSISTENCE. What to do: Watch out for this one! Snuff it out the minute you feel it creep in. You’ll notice it when you procrastinate or feel stagnant in your daily living.
7. **Negative personality**

There is no hope of success for the person who is offensive because of their negative personality. **What to do:** You have power in your presence, so use your winning/positive personality instead of manifesting a negative character.

8. **Lack of ability to make a decision**

Those who succeed reach decisions promptly (no procrastinating!), because they know there are no failures – only tests. **What to do:** Know that everything is happening according to your divine order. Keep this in mind and you will never suffer from indecision.

9. **Inability to take risks**

The person, who takes no chances, generally has to take whatever is left when others are finished choosing. Over-caution is as bad as under-caution. Both are extremes to be guarded against. **What to do:** Take chances. Remember, there are no failures! Live your life in the divine flow and remember that everything is happening according to plans.

10. **Lack of concentration of effort**

The “jack-of-all-trades” seldom is good at any of them. **What to do:** Concentrate all of your efforts on your higher purpose in life, then, with laser focus, continue on that path that brings you passion.

11. **Lack of enthusiasm**

Having no enthusiasm generally means you don’t enjoy your current lot in life. Whatever you are doing, as long as you are moving in the direction of your higher purpose, will make you enthusiastic. **What to do:** Test yourself. Are you not enthusiastic? This is a sign you’re on the wrong path and need to re-evaluate your higher purpose.

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**10-Step KM Road Map of Amrit Tiwana**

This 10-step Knowledge Management road map will guide you through strategizing, designing, developing, and implementing a KM initiative that delivers business impact. Learn how to build an effective road map for developing an idiosyncratic knowledge strategy that is unique to your company.

- Understand the 10-step KM road map and how it applies to your company.
• Understand the four phases constituting these 10 steps: infrastructural evaluation; KM system analysis, design and development; deployment; and evaluation.

• Understand where each step takes you.

• Articulate a clear link between KM and business strategy.

• Learn how to prioritize KM support for processes to maximize business impact.

• Understand the key steps involved in knowledge auditing, knowledge mapping, strategic grounding, deployment methodology, teaming, changing management, and return-on-investment (ROI) metrics formulation.

• Use real-options analysis to guide your KM investments.

To grasp the bigger picture, look at the four phases that the 10 steps of the road map comprise:

1. Infrastructural evaluation

2. KM system analysis, design, and development

3. System deployment

4. ROI and performance evaluation
Process:

1. Analyze the Existing Infrastructure
2. Align Knowledge Management and Business Strategy
3. Design the Knowledge Management Infrastructure
4. Audit Existing Knowledge Assets and Systems
5. Design the Knowledge Management Team
6. Create the Knowledge Management Blueprint
7. Develop the Knowledge Management System
8. Deploy, Using the Results-driven Incremental Methodology
9. Manage Change, Culture and Reward Structures
10. Evaluate Performance, Measure ROI, and Incrementally Refine the KMS
**Business Intelligence and Internet platforms**

**Definition:**

Business intelligence (BI) is often described as "the set of techniques and tools for the transformation of raw data into meaningful and useful information for business purposes.

To distinguish between the concepts of business intelligence and data warehouses, Forrester Research defines business intelligence in one of two ways:

1. Using a broad definition: "Business Intelligence is a set of methodologies, processes, architectures, and technologies that transform raw data into meaningful and useful information used to enable more effective strategic, tactical, and operational insights and decision-making." Under this definition, business intelligence also includes technologies such as data integration, data quality, data warehousing, master-data management, text-and content-analytics, and many others that the market sometimes lumps into the "Information Management" segment. Therefore, Forrester refers to data preparation and data usage as two separate but closely linked segments of the business-intelligence architectural stack.

2. Forrester defines the narrower business-intelligence market as, "...referring to just the top layers of the BI architectural stack such as reporting, analytics and dashboards.

**1. Business Intelligence Software:**

Business intelligence software is designed with the primary goal of extracting important data from an organization's raw data to reveal insights to help a business make faster and more accurate decisions. The software typically integrates data from across the enterprise and provides end-users with self-service reporting and analysis.

**2. Big Data and Business Intelligence:**

Big Data is used most extensively today with business intelligence and analytics applications and a number of BI vendors have moved to launch new tools that support Hadoop. For example, SAP offers connectors to Hadoop for SAP BI and Business Objects.
- Integration connectors that make it easier to move data from Hadoop into their tools.
- Data visualization tools that make it easier to analyze data from Hadoop.

3. Business Intelligence Vendors:

The large BI vendors, including SAP, Oracle, IBM, Microsoft, Information Builders, Micro Strategy and SAS, have been around for years, but there is also a number of BI startups that see their products get absorbed as a feature in a larger player's software.

Comparison of Business Intelligence:

- **Comparison with Competitive Intelligence:**
  Though the term business intelligence is sometimes a synonym for competitive intelligence (because they both support decision), BI uses technologies, processes, and applications to analyze mostly internal, structured data and business processes while competitive intelligence gathers, analyzes and disseminates information with a topical focus on company competitors.

- **Comparison with Business Analytics:**
  Business intelligence and business analytics are sometimes used interchangeably, but there are alternate definitions. One definition contrasts the two, stating that the term business intelligence refers to collecting business data to find information primarily through asking questions, reporting, and online analytical processes. Business analytics, on the other hand, uses statistical and quantitative tools for explanatory and predictive modeling.

- **Business sponsorship:**
  The commitment and sponsorship of senior management is according to Kimball et al., the most important criteria for assessment. This is because having strong management backing helps overcome shortcomings elsewhere in the project. However, as Kimball et al. state: “even the most elegantly designed DW/BI system cannot overcome a lack of business [management] sponsorship”.
- **Business needs:**

  Because of the close relationship with senior management, another critical thing that must be assessed before the project begins is whether or not there is a business need and whether there is a clear business benefit by doing the implementation. The needs and benefits of the implementation are sometimes driven by competition and the need to gain an advantage in the market.

**Internet Platform**

The platform defines a standard around which a system can be developed. Once the platform has been defined, software developers can produce appropriate software and managers can purchase appropriate hardware and applications.

The underlying hardware or software for a system. For example, the platform might be an Intel 80486 processor running DOSVersion 6.0. The platform could also be UNIX machines on an Ethernet network.

**Scope:**
Three Kinds of Platforms

1. **Level 1 is what I call an "Access API".**

   This is the kind of Internet platform that is most common today. This is typically a platform provided in the form of a web services API -- which will typically be accessed using an access protocol such as REST or SOAP.

2. **Level 2 is what I call a "Plug-In API".**

   This is the kind of platform approach that historically has been used in end-user applications to let developers build new functions that can be injected, or "plug in", to the core system and its user interface.

3. **Level 3 is what I call a "Runtime Environment".**

   In a Level 3 platform, the huge difference is that the third-party application code actually runs inside the platform -- developer code is uploaded and runs online, inside the core system. For this reason, in casual conversation I refer to Level 3 platforms as "online platforms".

**Web portals**

A **web portal** is most often one specially designed web page that brings information together from diverse sources in a uniform way. Usually, each information source gets its dedicated area on the page for displaying information (a portlet); often, the user can configure which ones to display.

**Classification:**

Web portals are sometimes classified as horizontal or vertical. A horizontal portal is used as a platform to several companies in the same economic sector or to the same type of manufacturers or distributors. A vertical portal is a specialized entry point to a specific market or industry niche, subject area, or interest. Some vertical portals are known as "vertical information portals" (VIPs). VIPs provide news, editorial content, digital publications, and e-commerce capabilities. In contrast to traditional vertical portals, VIPs also provide dynamic multimedia applications including social networking, video posting, and blogging.
Types of Web portals:

1. Personal portals

A personal portal is a web page at a web site on the World Wide Web or a local HTML home page including JavaScript and perhaps running in a modified web browser. A personal portal typically provides personalized capabilities to its visitors or its local user, providing a pathway to other content.

2. Government web portals

At the end of the dot-com boom in the 1990s, many governments had already committed to creating portal sites for their citizens. These included primary portals to the governments as well as portals developed for specific audiences.

3. Cultural portals

Cultural portal aggregate digitized cultural collections of galleries, libraries, archives and museums. This type of portal provides a point of access to invisible web cultural content that may not be indexed by standard search engines.

4. Corporate web portals

Corporate intranets became common during the 1990s. As intranets grew in size and complexity, webmasters were faced with increasing content and user management challenges. A consolidated view of company information was judged insufficient; users wanted personalization and customization.

5. Stock portals

Also known as stock-share portals, stock market portals or stock exchange portals are Web-based applications that facilitates the process of informing the share-holders with substantial online data such as the latest price, ask/bids, the latest News, reports and announcements.

6. Search portals

Search portals aggregate results from several search engines into one page. You can find search portals specialized in a product, for example property search portals.
7. Tender portals

A tender portal is a gateway for government suppliers to bid on providing goods and services. Tender portals allow users to search, modify, submit, review and archive data in order to provide a complete online tendering process.

**Information Architecture**

**Def:**

Information architecture (IA) is the structural design of shared information environments; the art and science of organizing and labeling websites, intranets, online communities and software to support usability and find ability; and an emerging community of practice focused on bringing principles of design and architecture to the digital landscape.

**Information Architecture Basics:**

Information architecture (IA) focuses on organizing, structuring, and labeling content in an effective and sustainable way. The goal is to help users find information and complete tasks.

To be successful, you need a diverse understanding of industry standards for creating, storing, accessing and presenting information. Lou Rosenfeld and Peter Morville in their book, *Information Architecture for the World Wide Web.*

- **Organization Schemes and Structures:** How you categorize and structure information
- **Labeling Systems:** How you represent information
- **Navigation Systems:** How users browse or move through information
- **Search Systems:** How users look for information
In order to create these systems of information, you need to understand the interdependent nature of users, content, and context. Rosenfeld and Morville referred to this as the “information ecology” and visualized it as a venn diagram. Each circle refers to:

- **Context**: business goals, funding, politics, culture, technology, resources, constraints
- **Content**: content objectives, document and data types, volume, existing structure, governance and ownership
- **Users**: audience, tasks, needs, information-seeking behavior, experience

**A Three-way Balancing Act**
1. Efficiency:

In order to improve something, we need to measure it. We need to get a handle on where our costs are going today. This costing information needs to be on a per service basis.

2. Agility:

We need to be able to move things from development in to production faster. We need to be able to provision new services faster. We need to be able to change the configuration and capacity of existing services faster.

Developing the Process:

Also, bear in mind that the competencies development of managers will not be efficient if the organisation doesn't reward or support the new competencies. Imagine sending a manager into a training programme that develops their entrepreneurial behaviors when the manager knows that the organisation (middle managers, resource allocation mechanisms, etc.) don't support the new behaviors! This is what is called learning readiness. In this case, the organisation is not ready.

Successful development requires a simultaneous approach that focuses on individual competency development, organizational development (what barriers exist, etc.) and the
management of the balance between the two (is the organization efficient and effective and what feedback mechanisms help the organization manage the interface).

1. Recruit with care:

When it comes to recruiting a new CIO or CISO, businesses need to take a lot of care. Your CISO candidate may have a peerless CV, but if your CIO isn’t fully on board with your choice, and enthusiastic about working with them, there may well be a smarter hire out there.

2. Check your lines of reporting:

Almost half of all North American CISOs report to the IT function, but one in four report directly to the CEO. While there’s disagreement on which set-up is smarter, there’s no doubt that reporting hierarchy can have a profound effect on the CIO/CISO dynamic. If yours isn’t working, consider shaking things up.

3. Keep CISOs aligned with business goals:

The top priority for a CISO may be keeping your data and reputation safe, but that doesn’t mean they can’t still be plugged in to the wider objectives of your business.

**Mystique of learning Organization**

**Learning Organization:**

Organizational learning as the process of "detection and correction of errors." In his view organizations learn through individuals acting as agents for them: "The individuals' learning activities, in turn, are facilitated or inhibited by an ecological system of factors that may be called an organizational learning system".

**Leadership Mystique:**

Leadership is an individual’s ability to inspire, influence, and enable others to contribute toward greater organizational effectiveness. True leaders create a vision, set direction, inspire, motivate, provide containment, and equip their people with objectives, tools, and incentives. Leaders, however, are not only the people at the top of an organization.
However, the ability to lead is not an innate skill. Leaders have to be developed. In many organizations, the tendency is to promote or hire people who have achieved superior results due to their technical skills. The assumption is that these people will be great leaders and managers. But many technically very competent people are not up to making the transition and acquiring the skills/competencies needed to be an effective leader.

**Role of Information Systems in the Learning Organization:**

- Although, Huber (1991) explicitly specifies the role of IS in the Learning Organization as primarily serving Organizational Memory.
- One instance of use of IS in Knowledge Acquisition is that of Market Research and Competitive Intelligence Systems.
- At the level of planning, scenario planning tools can be used for generating the possible futures.
- Similarly, use of Groupware tools, Intranets, E-mail, and Bulletin Boards can facilitate the processes of Information Distribution and Information Interpretation.
- The archives of these communications can provide the elements of the Organizational Memory.
- Organizational Memory needs to be continuously updated and refreshed.
- The IT basis lies at the basis of organizational rigidity when it becomes "hi-tech hide bound" (Kakola 1995) and is unable to continuously adapt its "theory of the business".
UNIT-4
Knowledge Management and Information Technology

Definition:

Information technology (IT) is the application of computers and telecommunications to store, retrieve, transmit and manipulate data, often in the context of a business or other enterprise.

Role of Information Technology

Effective performance and growth in knowledge-intensive organizations requires integrating and sharing highly distributed knowledge. Although tacit knowledge develops naturally as a by-product of action, it is more easily exchanged, distributed, or combined among communities of practice by being made explicit. However, appropriately explicating tacit knowledge so it can be efficiently and meaningfully shared and reapplied, especially outside the originating community, is one of the least understood aspects of knowledge management.

The management of explicit knowledge utilizes four primary resources:

- Repositories of explicit knowledge;
- Refineries for accumulating, refining, managing, and distributing that knowledge;
- Organization roles to execute and manage the refining process; and
- Information technologies to support those repositories and processes.

1. The Knowledge Repository:

The design of a knowledge repository reflects the two basic components of knowledge as an object: structure and content. Knowledge structures provide the context for interpreting accumulated content. If the repository is conceived as a "knowledge platform", then many different views of the content may be derived from a particular repository structure.

2. The Knowledge Refinery:

- **Acquisition**: Information and knowledge is either created within the organization or can be acquired from many different internal and external sources.
- **Refining**: Captured knowledge, before being added to the repository, is subjected to value-adding processes (refining) such as cleansing, labeling, indexing, sorting, abstracting, standardizing, integrating, and re-categorizing.
- **Storage and Retrieval**: This stage bridges upstream repository creation to downstream knowledge distribution.
- **Distribution**: This stage represents the mechanisms used to make repository content accessible.
- **Presentation**: The value of knowledge is pervasively influenced by the context of its use. Capabilities should be provided for flexibly arranging, selecting, and integrating the knowledge content.

3. Knowledge Management Roles:

A common weakness in knowledge management programs is the overemphasis on information technology at the expense of well-defined knowledge management roles and responsibilities. Traditional organizational roles typically do not address either knowledge management or the cross-functional, cross-organizational process by which knowledge is created, shared and applied.
Roles:

The information technology infrastructure should provide a seamless "pipeline" for the flow of explicit knowledge through the 5 stages of the refining process to enable.

- capturing knowledge,
- defining, storing, categorizing, indexing and linking digital objects corresponding to knowledge units,
- searching for ("pulling") and subscribing to ("pushing") relevant content,
- Presenting content with sufficient flexibility to render it meaningful and applicable across multiple contexts of use.

**Knowledge Management Tools**

Knowledge management efforts typically focus on organizational objectives such as improved performance, competitive advantage, innovation, the sharing of lessons learned, integration and continuous improvement of the organisation. KM efforts overlap with organizational and may be distinguished from that by a greater focus on the management of knowledge as a strategic asset and a focus on encouraging the sharing of knowledge. It is an enabler of organizational learning.
1. Acquisition:

Strategy of buying and selling of various companies to quickly grow a company. The process of acquiring products for national defiance.

2. Sharing:

Sharing is the joint use of a resource or space. In its narrow sense, it refers to joint or alternating use of inherently finite goods, such as a common pasture or a shared residence.

3. Utilization:

Utilization is the primary method by which asset performance is measured and business success determined. In basic terms it is a measure of the actual revenue earned by assets against the potential revenue they could have earned.

Tools

KM Strategy

Knowledge management strategy must be dependent on corporate strategy. The objective is to manage, share, and create relevant knowledge assets that will help meet tactical and strategic requirements.

Organizational Culture:

The organizational culture influences the way people interact, the context within which knowledge is created, the resistance they will have towards certain changes, and ultimately the way they share knowledge.

Organizational Processes:

The right processes, environments, and systems that enable KM to be implemented in the organization.

Management & Leadership:

KM requires competent and experienced leadership at all levels. There are a wide variety of KM-related roles that an organization may or may not need to implement
Technology:

The systems, tools, and technologies that fit the organization's requirements - properly designed and implemented.

Politics:

The long-term support to implement and sustain initiatives that involve virtually all organizational functions, which may be costly to implement and which often do not have a directly visible return on investment.

**Creative Effective Knowledge Management System**

Business enterprises typically are valued at the net tangible assets recorded on their books. When the market value of a firm succeeds its book value, conventional stock market theory regards the premium as the market’s assessment of intangible assets or intellectual capital of the firm.

KMS (knowledge management strategies) conceptual model in industries:

There are two types of knowledge involved in industries settings: academic knowledge and organizational knowledge. Academic knowledge is the primary purpose of universities and colleges. Organizational knowledge refers to knowledge of the overall business of an institution: its strength and weaknesses, the markets it serves, and the factors critical to organizational success.

1. **Academic Knowledge Framework:**

   Huang (1998) suggested four major processes to form a culture of knowledge sharing and collaboration. They are: (1) making knowledge visible, (2) increasing knowledge intensity, (3) building knowledge infrastructure, and (4) developing a knowledge culture.

2. **Organizational Knowledge Framework:**

   The most generally recognized four organizational knowledge management strategies are culture, leadership, technology, and measurement (The American Productivity and Quality Center and Arthur Andersen Consulting, 1997).
Despite the issues is better known at the end of this stage of the process knowledge management course, we review the main factors of knowledge management projects fail. The main reasons are as follows:

1. Hasty planning and command and to desire to extract the knowledge of experts.
2. Sheer care on expository aspect of design and sacrificing accuracy for speed.
3. Lack of primary study and evaluating knowledge requirements.
4. Outsourcing justifies irreversible renal extraction process to consultants outside the organization and Disclaimer.
5. Lack of proficiency and familiarity of advisors.
6. Lack of employer and advisor's care to necessity of make culture and planning in order to making physical and spiritual incentives for experts.
7. Mere reliance on a very inefficient and display software to display in bringing the so-called sciences extracted.
8. Designating a too little time in order to extracting skillful and experienced experts.

Model

Core Team is formed as center for KMS for each community, including Router for initial evaluation of knowledge proposal, Reviewer for verification, Structures for categorizing, Editor for formalizing, Category Owner for maintenance and Communicator for knowledge transfer and sharing.
1. Knowledge of consulting field
2. Experience
3. Professional knowledge of consultant
4. Know-how and Experience
5. Time for research and investigation
6. Knowledge
7. Quality of consulting Service
8. Control of service Quality

**E-commerce and Knowledge Management**

**E-commerce:**

The buying and selling of products and services by businesses and consumers through an electronic medium, without using any paper documents. E-commerce is widely considered the buying and selling of products over the internet, but any transaction that is completed solely through electronic measures can be considered e-commerce.

Electronic commerce, commonly written as e-commerce, is the trading in products or services using computer networks, such as the Internet.

E-commerce businesses may employ some or all of the following:

- Online shopping web sites for retail sales direct to consumers
- Providing or participating in online marketplaces, which process third-party business-to-consumer or consumer-to-consumer sales
- Business-to-business buying and selling
- Gathering and using demographic data through web contacts and social media
- Business-to-business electronic data interchange
- Marketing to prospective and established customers by e-mail or fax (for example, with newsletters)
- Engaging in pretail for launching new products and services

1. **Business Applications:**

Some common applications related to electronic commerce are:

- Document automation in supply chain and logistics
• Domestic and international payment systems
• Enterprise content management
• Group buying
• Automated online assistant
• Newsgroups
• Online shopping and order tracking
• Online banking
• Online office suites
• Shopping cart software
• Teleconferencing
• Electronic tickets
• Social networking

2. Governmental Regulation:

In the United States, some electronic commerce activities are regulated by the Federal Trade Commission (FTC). These activities include the use of commercial e-mails, online advertising and consumer privacy. The CAN-SPAM Act of 2003 establishes national standards for direct marketing over e-mail.

3. Global Trends:

In 2010, the United Kingdom had the biggest e-commerce market in the world when measured by the amount spent per capita. As of 2013, the Czech Republic was the European country where e-commerce delivers the biggest contribution to the enterprises’ total revenue. Almost a quarter (24%) of the country’s total turnover is generated via the online channel.

Social impact of e-commerce:

Along with the e-commerce and its unique charm that has appeared gradually, virtual enterprise, virtual bank, network marketing, online shopping, payment and advertising, such this new vocabulary which is unheard-of and now has become as familiar to people.
1. The e-commerce has changed the relative importance of time, but as the pillars of indicator of the country’s economic state that the importance of time should not be ignored.

2. The e-commerce offers the consumer or enterprise various information they need, making information into total transparency, will force enterprise no longer is able to use the mode of space or advertisement to raise their competitive edge.

The competitiveness of enterprises will be much more obvious than before, consequently, social welfare would be improved by the development of the e-commerce.

4. The new economy led by the e-commerce change humanistic spirit as well, but above all, is the employee loyalty.

**E-commerce in knowledge management:**

Knowledge management refers to acquisition, creation, dissemination, and utilization of knowledge. Knowledge is becoming an important resource for today’s organizations, and enterprises are keen to deploy this resource to improve their products, services, and processes as well as ensure delivery on demand.

This is due to the fact that KM requires satisfactory systems and controls in place to properly manage and deploy the customer and organizational information. There are two aspects to KM:

- To acquire, store, locate and update the information - for the organization itself for the purpose of process and product improvement
- To share and disseminate contextual information and expert insight - for the benefit of the organization’s customers and partners.

E-commerce companies are depending on knowledge management systems for growth, customer acquisition and retention and to manage variable costs.

**Better customer targeting:**

Controlling customer acquisition and retention costs is one of the top concerns for e-commerce companies. Bike Berry, a large online store for bicycles and accessory kits—most notably engines for motorized two-wheelers—saw that returning customers spent about 30 percent more
than new customers, but was unsure how to correctly align its e-mail advertising efforts to effectively market to those customers while also continuing to attract new customers.

**Total Quality Management**

**Definition:**

Total quality management (TQM) consists of organization-wide efforts to install and make permanent a climate in which an organization continuously improves its ability to deliver high-quality products and services to customers.

The key concepts in the TQM effort undertaken by the Navy in the 1980s include:

- "Quality is defined by customers' requirements."
- "Top management has direct responsibility for quality improvement."
- "Increased quality comes from systematic analysis and improvement of work processes."
- "Quality improvement is a continuous effort and conducted throughout the organization."
- Standing cross-functional teams responsible for the improvement of processes over the long term

**Activities of TQM**

There are a number of evolutionary strands, with different sectors creating their own versions from the common ancestor. TQM is the foundation for activities, which include:

- Commitment by senior management and all employees
- Meeting customer requirements
- Reducing development cycle times
- Just in time/demand flow manufacturing
- Improvement teams
- Reducing product and service costs
- Systems to facilitate improvement
- Line management ownership
- Employee involvement and empowerment
- Recognition and celebration
- Challenging quantified goals and benchmarking
- Focus on processes / improvement plans
- Specific incorporation in strategic planning

**Principles of TQM**

The key principles of TQM are as following:

**Management Commitment**
- Plan (drive, direct)
- Do (deploy, support, participate)
- Check (review)
- Act (recognize, communicate, revise)

**Employee Empowerment**
- Training
- Suggestion scheme
- Measurement and recognition
- Excellence teams

**Continuous Improvement**
- Systematic measurement and focus on CONQ
- Excellence teams
- Cross-functional process management
- Attain, maintain, improve standards

**Customer Focus**
- Supplier partnership
- Service relationship with internal customers
- Never compromise quality
- Customer driven standards

**The Concept of Continuous Improvement by TQM**

A central principle of TQM is that mistakes may be made by people, but most of them are caused, or at least permitted, by faulty systems and processes. This means that the root cause of such mistakes can be identified and eliminated, and repetition can be prevented by changing the process.

There are three major mechanisms of prevention:
1. Preventing mistakes (defects) from occurring (mistake-proofing or poka-yoke).
2. Where mistakes can’t be absolutely prevented, detecting them early to prevent them being passed down the value-added chain (inspection at source or by the next operation).
3. Where mistakes recur, stopping production until the process can be corrected, to prevent the production of more defects. (Stop in time).

**Benchmarking**

**Definition:**

Benchmarking is the process of comparing one's business processes and performance metrics to industry bests or best practices from other companies. Dimensions typically measured are quality, time and cost. In the process of best practice benchmarking, management identifies the best firms in their industry, or in another industry where similar processes exist, and compares the results and processes of those studied to one's own results and processes.

**Benefits & use:**

In 2008, a comprehensive survey on benchmarking was commissioned by The Global Benchmarking Network, a network of benchmarking centers representing 22 countries. Over 450 organizations responded from over 40 countries. The results showed that:

1. Mission and Vision Statements and Customer (Client) Surveys are the most used of 20 improvement tools, followed by SWOT analysis (72%), and Informal Benchmarking (68%). Performance Benchmarking was used by 49% and Best Practice Benchmarking by 39%.
2. The tools that are likely to increase in popularity the most over the next three years are Performance Benchmarking, Informal Benchmarking, SWOT, and Best Practice Benchmarking. Over 60% of organizations that are not currently using these tools indicated they are likely to use them in the next three years.

The term benchmarking was first used by cobblers to measure people’s feet for shoes. They would place someone’s foot on a “bench” and mark it out to make the pattern for the shoes.
Procedure:

There is no single benchmarking process that has been universally adopted. The wide appeal and acceptance of benchmarking has led to the emergence of benchmarking methodologies.

The 12 stage methodology consists of:

1. Select subject
2. Define the process
3. Identify potential partners
4. Identify data sources
5. Collect data and select partners
6. Determine the gap
7. Establish process differences
8. Target future performance
9. Communicate
10. Adjust goal
11. Implement
12. Review and recalibrate

Types of Benchmarking:

Within these broader categories, there are three specific types of benchmarking:

1) Process benchmarking,

2) Performance benchmarking and

3) Strategic benchmarking.

These can be further detailed as follows:

1. Process benchmarking:

   The initiating firm focuses its observation and investigation of business processes with a goal of identifying and observing the best practices from one or more benchmark firms. Activity
analysis will be required where the objective is to benchmark cost and efficiency; increasingly applied to back-office processes where outsourcing may be a consideration.

2. **Performance benchmarking:**

   Allows the initiator firm to assess their competitive position by comparing products and services with those of target firms.

3. **Strategic benchmarking:**

   It involves observing how others compete. This type is usually not industry specific, meaning it is best to look at other industries.
Future of Knowledge Management and Industry perspective

Industry:

The manufacturing or technically productive enterprises in a particular field, country, region, or economy viewed collectively, or one of these individually.

Industry perspective:

Industry supporters of the program cite many advantages, ranging from device design experience to understanding regulatory considerations to learning to work in multidisciplinary settings.

1. We believe this program provides a very good understanding of the full life cycle needs for medical device design, manufacturing, regulatory, funding, and marketing.

2. Bridging the gap between basic research and commercialization is an important need, and the MBID program appears well-suited to address this need.

Companies on the road to knowledge management:

Firms do not only compete to sell their product, but also to acquire the best resources/inputs. One of these resources is the acquisition of skilled labor. Labor is a resource that has the capacity to make a difference in any organization.

In my view, the

1. Importance of capturing knowledge has to be decided on before firms embark on the

2. Process of capturing knowledge as it is a costly process.

According to Aarit Tiwana (2002) there are 10 Steps in a Knowledge Management Road Map

1. Analyze Existing Infrastructure: This implies that in knowledge management process you need to know what you presently have in your company. Then identify the gap by evaluating your present resource for KM and then build up on it to close the gap.

2. Align Knowledge Management and Business Strategy: knowledge is not managed for the
sake of managing it. Companies have to take into account and align their KM strategy with their business strategy.

3. **Knowledge Management Architecture and Design**: One must select the infrastructural components that constitute the KM system architecture.

4. **Knowledge Audit and Analysis**: It is a good thing to know the existing knowledge that an organisation owns.

5. **Design the Knowledge Management team**: Organize a team with relevant expertise to design the knowledge management system.

6. **Create the KM Blue Print**: The knowledge Management Team builds a KM blue print that provides a plan for building and incrementally improving KM system.

7. **Develop the Knowledge Management System**: This is about putting together a working system of the KM.

8. **Pilot Testing of the Developed KM System**: The test helps to make sure that if the KM systems meet the need of users.

9. **Leadership and Reward Structure**: After putting the system in place, you need your employees to use it. Your employees are not like troops they rather like volunteers. You must encourage your employees to use the system and come up with new ideas.

10. **Real-option Analysis for Knowledge Management**: This is about computing the return on investment using the best metrics. This helps to see the impact of the KM system and lets you refine KM design through subsequent iterations”.

**Challenges and Future of Knowledge Management**

In its basic form, knowledge management is about converting available raw data into understandable information. The information is then placed in a reusable repository for the benefit of any future need based on similar kinds of experiences. Knowledge management contributes towards streamlining the ideas problems, projects and deployment driving towards productivity.

But, it’s more than just knowing everything your organization knows, it’s creating a synthesis between the people and the information to the point that the whole is more than the sum of the parts.
Today's Knowledge Management Challenges

1. **Security.** Providing the right level of security for knowledge management is key. Sensitive information should be shielded from most users, while allowing easy access to those with the proper credentials.

2. **Getting people motivated.** Overcoming organizational culture challenges and developing a culture that embraces learning, sharing, changing, improving can’t be done with technology. There is no use in launching a tool if there is no drive to share the knowledge.

3. **Keeping up with technology.** Determining how knowledge should be dispensed and transferring it quickly and effectively is a huge challenge. Constantly changing structures mean learning how to be smart, quick, agile and responsive – all things a KM tool must be able to accomplish.

4. **Measuring knowledge.** Knowledge is not something that can be easily quantified, and is far more complex because it is derived out of human relationships and experience. The focus should be on shared purpose rather than results or efforts.

5. **Overcoming shared leadership.** KM tools allow others to emerge as voices of power within an organization. Workers are given a “voice”, which can sometimes cause internal conflict.

6. **Keeping data accurate.** Valuable data generated by a group within an organization may need to be validated before being harvested and distributed. Keeping information current by eliminating wrong or old ideas is a constant battle.

7. **Interpreting data effectively.** Information derived by one group may need to be mapped or standardized in order to be meaningful to someone else in the organization.

8. **Making sure information is relevant.** Data must support and truly answer questions being asked by the user, and requires the appropriate meta-data to be able to find and reference. Data relevancy means avoiding overloading users with unnecessary data.

9. **Determining where in the organization KM should reside.** Does KM fall under HR, IT, communications? This decision will determine what drives your knowledge sharing initiative and who will be responsible for maintaining the community.
10. **Rewarding active users.** Recognizing the users who actively participate and contribute to a knowledge database will not only encourage them to continue contributing, but will also encourage other users to join.

**Overcoming Knowledge Management Challenges**

Knowledge, learning and sharing come from people and their relationships with one another, not necessarily from the tools, databases and technological aids used. However, with the proper technology in place you can facilitate better communication and overcome these challenges to have an up-to-date, secure and organized knowledge base.