Glossary

**Adaptive Learning:** Also known as single-loop learning, it focuses on solving problems in the present without examining the appropriateness of current learning behaviors.

**Agrarian Age:** Wealth was generated through agriculture so land was the key to wealth.

**Application of Knowledge:** The transformation of knowledge from a purely intellectual facet of life into a highly productive tool that is essential for the conduct of not only business, but practically any other meaningful human activity, providing its outcome is expected to produce tangible results.

**Artificial Intelligence (AI):** Using technology to simulate human intelligence such as reasoning and thinking.

**Aspects of Knowledge:** The four key aspects of knowledge that tend to transcend the boundaries of tacit, explicit, implicit, procedural, and declarative include Know-how, Know-why, Know-when (and -where), and Know-about.

**Benefits of KM:** Fosters innovation by encouraging the free flow of ideas, improves customer service by streamlining response time, and boosts revenues by getting products and services to market faster. Enhances employee retention rates
by recognizing the value of employees’ knowledge and rewarding them for it helps streamline operations and reduces costs by eliminating redundant or unnecessary processes.

**Boyd’s “Destruction and Creation”**: Creation of new knowledge can be attained only by the “destruction” of domain barriers and imaginative selection of suitable constituents belonging to the previously well-defined domains, followed by the reassembly of these constituents into an entirely new entity--the process of creation.

**Business Process Re-engineering (BPR)**: Involves the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical, contemporary measures of performance, such as cost, quality, service, and speed.

**Case-Based Reasoning (CBR)**: An AI technique that uses historical solutions to solve similar current problems.

**Challenges of KM**: Include getting employees on board, not allowing technology to dictate KM, having a specific business goal, having a dynamic not static approach to KM, identifying the correct information to turn into knowledge, identifying who should lead KM efforts, and identifying what technologies can/should support KM.

**Change Management**: Requires considering many aspects at both the macro level--taking an overall view of the organization, and the micro level--taking a view that considers individuals within a department or group.

**Cluster Analysis**: A data mining technique which uses in-group of undirected tools, with the purpose of finding the structure as a whole (i.e., there are no target variables which are to be predicted but the clusters are formed and grouped together and then decision is made using decision tree or neural network).

**Competitive Advantage and Value Creation**: In trying to obtain a competitive advantage and thereby create value, three areas must be considered; namely, customer value, supplier value, and the value of the firm.

**Competitive Forces**: Porter’s Competitive Forces model outlines the rules of competition and attractiveness of the industry in terms of five key forces: threat of
new entrants, threat of substitutes, bargaining power of buyers, bargaining power
of suppliers, and rivalry of existing competition.

**Constructivism:** Philosophy whose main proponents belonged to the Erlangen
School and whose belief was that knowledge is constructed in our minds and thus
is not objective.

**Critical Rationalism:** Philosophy whose main proponent was Popper and which
stated that all knowledge must be open to empirical falsification before it can be
accepted.

**Critical Theory:** Philosophy promoted by Habermas and Horkheimer, which used
knowledge to integrate the tension between the reality of society and the real societal
function of science.

**Cross-Disciplinary Nature of KM:** Knowledge management draws from: Cogni-
tive Science, Expert Systems, Artificial Intelligence and Knowledge Base Manage-
ment Systems (KBMS), Computer-Supported Collaborative Work (CSCW) and
Groupware, Library and Information, Technical Writing, Document Management,
Decision Support Systems, Semantic Networks, Relational and Object Databases,
Simulation and Organizational Science.

**Customer Relationship Management (CRM):** A business strategy that integrates
people, process, and technology to enhance relationships with customers, partners,
distributors, suppliers, and employees to maximize revenue growth and market
share.

**Customer Value:** Customers’ willingness to pay for the firm’s product or service,
minus the asking price of the firm’s product or service.

**Data:** Represents raw facts. In transforming data to information, the important
5Cs are: (1) contextualized, (2) categorized, (3) calculated, (4) corrected, and (5)
condensed.

**Data Mining (DM):** A technology-driven framework for knowledge creation, con-
sisting of various data operations such as sampling, partitioning, charting, graphing,
associating, clustering, transforming, filtering, and imputing, with the ultimate goals
of describing the existing data and predicting future variables.
**Data Warehouse**: Information technology infrastructure that supports access to knowledge by storing snapshots of operational data such as sales, inventory, and customer information.

**Database**: Information technology infrastructure that stores structured information and assists in the storing and sharing of knowledge.

**Declarative Knowledge**: Knowledge that is descriptive.

**Deetz’s Consensus/Disensus Perspectives**: A framework designed to highlight the dual nature of knowledge: a consensus orientation toward knowledge seeks order and equilibrium as the natural state, while a dissensus orientation recognizes conflict and fragmented, divergent views and meanings.

**Domain Expert**: A person who is both experienced and knowledgeable in a particular domain or field.

**Effectiveness**: Doing something in the most suitable fashion.

**Efficiency**: Doing something as quickly as possible and incurring the lowest cost.

**Empiricism**: Philosophy whose main proponents, Locke and Russel, sustained that knowledge can be created from experiments and thus only mathematics and natural sciences can provide secure knowledge.

**Enterprise Integration**: We are currently observing the development of three distinct architectures for integrating e-commerce with ERP systems: the inside-out approach, the outside-in approach, and the open electronic cart.

**Enterprise Resource Planning (ERP) Systems**: A structured approach to optimizing a company’s internal value chain.

**Enterprise System**: IC²T that spans the whole organizations.

**Enterprise Wide Portals**: Require the integration of many technologies, including web modeling languages, data content, interface tools, content delivery tools, messaging technologies, etc., into one integrated storefront.
**E-Readiness:** Concerned with the physical information and communication technology infrastructure and the skills of the population to utilize this infrastructure.

**Expertise:** Another term for tacit knowledge.

**Explicit Knowledge:** Knowledge as a fact.

**Externalization:** The articulation of knowledge into tangible form through dialogue.

**Generalist’s Role in Knowledge Management, The:** A specialist preoccupied with the contents of his own domain entirely misses the connections between domains, which are noticed by a generalist who, by combining several disciplines, is able to perceive the existence of functional relationships that appeared to be nonexistent by the observer capable of only a narrow view.

**Generative Learning:** Also known as “double-loop learning,” it emphasizes continuous experimentation and feedback in an ongoing examination of the very way organizations go about defining and solving problems.

**Generic Strategies:** First embraced in business policy by the development of the SWOT (strengths, weaknesses, opportunities, threats) framework, its essential goal is to find a “fit” between the organization and its environment that maximizes performance.

**Groupware:** A class of software that helps groups of colleagues (workgroups) attached to a local-area network organize their activities.

**Heuristics:** Common sense knowledge drawn from experience “rule of thumb.”

**Implications of KM:** Knowledge management is a multi-discipline approach that takes a comprehensive, systematic view to the information assets of an organization by identifying, capturing, collecting, organizing, indexing, storing, integrating, retrieving and sharing them. Such assets include (a) the explicit knowledge such as databases, documents, environmental knowledge, policies, procedures, and organizational culture; and (b) the tacit knowledge of its employees, their expertise, and their practical work experience.
Implicit Knowledge: Knowledge that can be either tacit or explicit but has not been articulated.

Incremental Learning: Learning that is characterized by simple, routine problem solving and that requires no fundamental change to your thinking or system.

Industrial Age: Wealth was generated through manufacturing and land was no longer the key to wealth. The Industrial age was about centralization and control.

Information: An understanding of relationships between data elements or the meaning of the data; i.e. what it stands for. When information is transformed into knowledge, the important 4Cs are: (1) comparison, (2) consequences, (3) connections, and (4) conversation.

Information Age: New technology and fast access to information are transforming the business landscape. The information age is about de-centralization and no/less control.

Information Society: A society that utilizes information, information technologies, and tools for day-to-day activities and business.

KM and the Strategic Vision: Knowledge management strategies should aim to set forth the criteria for choosing what knowledge a firm plans to pursue, and how it will go about capturing and sharing that knowledge.

KM Drivers: Include the shrinking cycle time for competency-base renewal, the urge to value intellectual capital, and the pressure for most organizations to cope with a massive flood of unstructured information.

Knowledge: Puts information into a context that enables shared meaning.

Knowledge Acquisition: The starting point of the organizational knowledge life cycle, which involves the capture of existing knowledge through activities such as knowledge transfer, knowledge sharing, observation, interaction, and self-study.

Knowledge Architecture: An integrated set of technical choices used to guide an organization in satisfying its business needs. The knowledge architecture recognizes
the different yet key aspects of knowledge, such as knowledge as an object and a subject, and thus provides the blue prints for the design of an all encompassing knowledge management system (KMS).

**Knowledge Discovery:** The process consisting of the evolution of knowledge from data to information to knowledge, the types of data mining (exploratory and predictive), and their interrelationships.

**Knowledge Discovery in Databases (KDD):** A technology-driven framework for knowledge creation that focuses on how data is transformed into knowledge by identifying valid, novel, potentially useful, and ultimately understandable patterns in data. Primarily used on data sets for creating knowledge through model building, or by finding patterns and relationships in data.

**Knowledge Economy (K-Economy):** The term was coined by the OECD and defined as an economy, which is directly based on the production, distribution, and use of knowledge and information.

**Knowledge Elicitation:** Process to extract knowledge from expert.

**Knowledge Life Cycle, The:** The four key steps in the knowledge life cycle include: create/generate knowledge, represent/store, distribution/use/re-use, and knowledge application.

**Knowledge Management (KM):** A discipline that promotes an integrated approach to identifying, managing, and sharing all of an enterprise’s information needs.

**Knowledge Management Infrastructure:** Consists of infrastructure for collaboration, organizational memory, human asset infrastructure, knowledge transfer network, and business intelligence infrastructure.

**Knowledge Management Infrastructure Design:** Choosing a knowledge management infrastructure, technological or organizational, should address the organization’s process needs: generation of knowledge, access of knowledge, transfer of knowledge, representation of knowledge, embedding of knowledge, and facilitation of knowledge.
**Knowledge Management Systems (KMS):** The micro-level processes of assimilation and implementation of knowledge management concepts and techniques, systems that aim to facilitate the sharing and integration of knowledge.

**Knowledge Workers:** Own their means of production (i.e., knowledge, and are considered the most valuable human resource).

**K-Readiness:** About the ability of a country to create, access, share, and apply knowledge across a wide range of sectors, whether or not it involves the use of the e-technologies.

**Leader:** There are many roles that a leader must exhibit in any KM initiative and these include the following: being a creator of corporate culture, facilitator, coach, sustainer, change agent, pathfinder, empowering knowledge workers, and aligning key areas so that a consistent KM vision and strategy ensue.

**Learning Organization:** An organization that has an enhanced capacity to learn, adapt and change; a complex interrelationship of systems composed of people, technology, practices, and tools designed so that new information is embraced.

**Learning:** The process of acquiring new knowledge and enhancing existing knowledge.

**Legacy Systems:** Outdated and old computer systems.

**Management of Knowledge Workers:** To capture knowledge from experts, organizations use standard interview techniques including structured, semi-structured, and unstructured questions, posed to the expert in an attempt to extricate all critical knowledge.

**Management Strategy:** Incorporates: (a) external analysis of the market, (b) internal analysis of the market, and (c) what gives the firm its competitive advantage in order to design the firm’s own competitive strategy.

**Manager:** Position in an organization that can entail various responsibilities at different levels of authority: senior managers focus primarily on long-term strategic
decisions, middle managers focus on how to carry out the plans and goals of senior managers, while operational managers are concerned with monitoring the day-to-day activities of the firm.

**McFarlan’s Strategic Grid**: A contingency model that underscores two key dimensions for determining the relative strategic positioning of an organization with respect to its competitors: (1) an assessment of a firm’s business portfolio on the horizontal axis, and (2) the strength of a firm’s IT portfolio on the vertical axis.

**Multifaceted Knowledge Construct**: Knowledge has more than one aspect: subjective and objective, declarative and procedural, implicit and explicit.

**Necessary Factors to Create Knowledge-Based Organizations**: Include widespread access of ICTs, a learning approach, continuous cycle of discovery, dissemination, intellectual capital, innovation and knowledge networks, learning organizations, and innovation systems.

**Objective Aspect of Knowledge**: When knowledge is grounded in the Lockean/Leibnizian philosophy of convergence and compliance and thus can affect efficiencies of scale and scope.

**OODA Loop, The**: The OODA loop is based on a cycle of four critical and interrelated stages: observation, orientation, decision, and action.

**Organizational Culture**: The pattern of formal and informal codes of behavior, norms, rituals, stories about what happens within the organization, tasks and jargon in an organization.

**Organizational Memory**: A comprehensive computer system, which captures a company’s, accumulated know-how and other knowledge assets and makes them available to enhance the efficiency and effectiveness of knowledge-intensive work processes.

**Organizational Structure**: Mintzberg identifies seven major typologies for organizations: (1) entrepreneurial, (2) machine, (3) professional, (4) diversified, (5) innovative, (6) missionary, and (7) political.
People-Oriented Perspectives to Knowledge Creation: Nonaka’s knowledge spiral highlights four key perspectives to knowledge creation: socialization, transformation, externalization, and internalization.

Pertinent Information: Represents structured data, grouped into coherent categories that are easily perceptible and understood.

Pertinent Knowledge: Represents the ability to use pertinent information as the essential tool in interaction and response to the competitor’s moves.

Porter’s Value Chain Model: Identifies five primary functions and four secondary functions within a company. The five primary functions are inbound logistics, operations, outbound logistics, sales & marketing, and service. The four secondary functions are administration & management, human resources, technology, and procurement.

Positivism: Philosophy promoted by Comte, with the main idea that knowledge is gained from the observation of objective reality.

Pragmatism: Philosophy promoted by Dewey, which represented knowledge as a local reality based on our experiences.

Preparedness: The availability (pre-positioning) of all resources, both human and physical, necessary for the management of, or the consequences of, a specific event or event complex.

Procedural Knowledge: Knowledge that outlines activities or steps.

Radical Learning: Breakthrough learning that directly challenges the prevailing mental model on which the system is built.

Readiness: The instantaneous ability to respond to a suddenly arising major crisis that is based on the instantaneously and locally available/un-pre positioned and un-mobilized countermeasure resources.

Requirements to Overcome the Difficulties of KM: Enterprises need: to have an enterprise-wide vocabulary to ensure that the knowledge is correctly understood;
to be able to identify, model and explicitly represent their knowledge; to share and
re-use their knowledge among differing applications for various types of users; and
to create a culture that encourages knowledge sharing.

**Reverse Value Chain, The:** A method of information system development, which
focuses on the marketplace as the “right” end of a value chain that weaves itself
through the structure of a company and into the core business processes.

**Significance of Knowledge Management Systems:** In essence KM tools and
technologies are the systems that integrate various legacy systems, databases, ERP
systems, and data warehouse to help organizations to answer all questions “What
Do I Want to Happen?”

**Socialization:** The process of creating new tacit knowledge through discussion
within groups, more specifically groups of experts.

**Socio-Algorithmic Approach to Knowledge Creation:** Integrates the algorithmic
approach (in particular data mining) with the psycho-social approach to knowledge
creation (i.e., the people-driven frameworks of knowledge creation, in particular
the knowledge spiral).

**Sociology of Knowledge:** Philosophy whose proponents Mannheim and Scheler
encouraged the view of knowledge as a socially constructed reality.

**Socio-Technical Perspective of KM:** Means we must consider people, processes,
and technology when we examine and analyze KM initiatives.

**Strategic Knowledge:** A term used by some to refer to what might be termed know-
when and/or know-why.

**Subjective Aspect of Knowledge:** When knowledge is the center of discourse and
shared meanings in the Hegelian/Kantian philosophical perspective.

**Supplier Value:** The bid price offered by the firm, minus supplier costs.
Supply Chain Integration: A business model in which customers and suppliers work together and form inter-organizational teams that facilitate improved communication between organizations and increase the rate of learning.

Supply Chain Management (SCM): Supply chain management (SCM) involves the adoption of strategies that enable the effective and efficient operation of the logistic network; i.e., the integration of suppliers, manufacturers, warehouses and customers both within and across industries.

Sustainable Competitive Advantage: From a KM point of view, a situation in which an entity positions itself in a state of information superiority relative to its environment.

Systems Thinking: The goal of systems thinking in business is to explore and analyze processes as wholes and understand the inter-relations and inter-connectedness of various processes and thus how they impact on each other, on the premise that the sum of the parts is indeed less than the whole.

Tacit Knowledge: Knowledge as gained from experience and “doing.”

Technology-Oriented Perspectives to Knowledge Creation: Knowledge discovery in databases (KDD) (and more specifically data mining) approaches knowledge creation from a primarily technology-driven perspective.

Total Quality Management (TQM): Total quality management (TQM) is an evolving system of practices, tools, and training methods for managing companies to provide customer satisfaction by taking work requirements (inputs), putting them through an internal process that measures defect rates and cycle time, and producing an output that is of value to the client.

Training: A process that facilitates the proper use of knowledge as a solution to all forthcoming events based on extrapolation of a careful analysis of all pertinent characteristics of the evolving scenario, defining similarities to the past events, characterizing the differences and isolating entirely novel elements, visualizing all interrelationships among the individual subcomponents, and then making appropriate decisions.
Two Facets of KM: Knowledge management has two facets: (1) planning, capturing, organizing, interconnecting and providing access to organizational intellectual capital through such intellectual technologies as document markup, thesaurus construction or needs analysis and (2) directing or supervising such assets and those that are involved in these processes.

Understanding: The process by which one can synthesize new knowledge from previously held knowledge.

Value Chain: A group of high value-added internal activities of organizations and their core competencies, focused on core business processes, the “right” end of the value chain that weaves itself through the structure of a company and out into the marketplace.

Value Created by the Firm: Creating greater value of the firm is typically accomplished in three ways: (1) operating more efficiently, (2) providing greater benefits to customers by improving products and services, (3) developing innovative transactions that offer new value to the market.

Value-Driven Strategy: A method for choosing the appropriate goals and strategies by evaluating them based on whether or not they increase the firm’s total value.

Value of Knowledge, The: Essentially knowledge assets are the knowledge regarding markets, products, technologies and organizations, that a business owns or needs to own and which enable its business processes to generate profits, add value, etc.

Value of the Firm: The difference between asking price, bid price, and cost of the firm’s assets.

Wisdom: A uniquely human state, is the next step beyond knowledge: the process by which we also discern, or judge, between right and wrong, good and bad.

Yin-Yang Model of KM: Brings together the subjective and objective aspects of knowledge, thereby enabling a more holistic approach to knowledge creation.