

Knowledge Management

Access to an Untapped Resource

A Presentation by:

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Knowledge

1980

At the first American Conference of Artificial Intelligence, Edward Feignebaum coined a phrase. It was:

“KNOWLEDGE IS POWER”

Knowledge is Power

At that time, a new field was being born. It was called Knowledge Engineering. It gave rise to a new career. Knowledge Engineering.

In 1997, a new field is rising out of the realization of the importance of knowledge. This field, called, **Knowledge Management**, comes from the realization of the tremendous value of knowledge to the corporate enterprise.

Basics

- Scenario

In a classic adventure of Star Trek, Dr. McCoy (the ship's Medical Officer) must restore Mr. Spock's brain to his body. McCoy, not having the knowledge to accomplish this task uses an alien learning device to impart the knowledge into his brain.

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 - Claim: KNOWLEDGE is what human beings need to perform necessary and optional tasks throughout their lives.
 - Claim: INFORMATION does not enable performance.
 - Claim: DATA does not enable performance.

It is impossible to
have knowledge
WITHOUT
human beings.

Data, Information, & Knowledge

- What is the relationship between data, information & knowledge?

Data and Information

Information =

Data + Interpretation_{Human}

Information and Knowledge

Knowledge =

Information + Use_{Human}

The Last Two Slides

- Are subject to debate
- Attempt to distinguish between data, information, and knowledge

Consider

- What are the following?

45.7

42.1

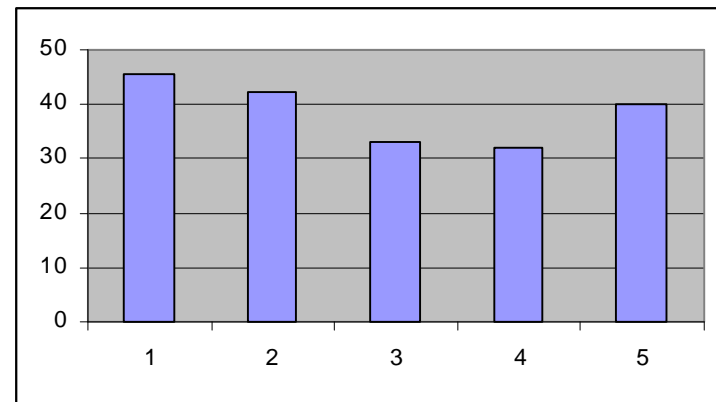
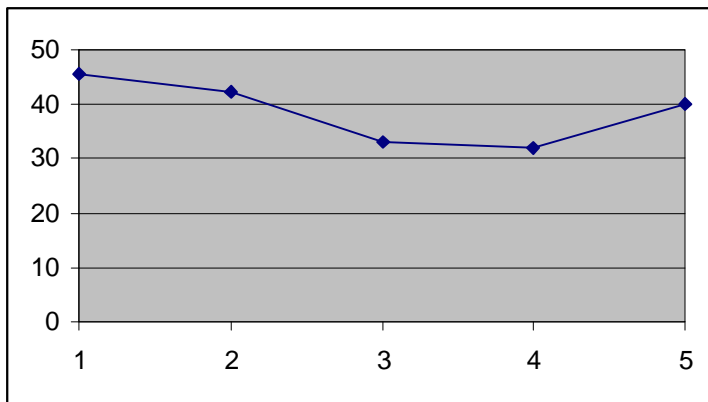
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Consider Again

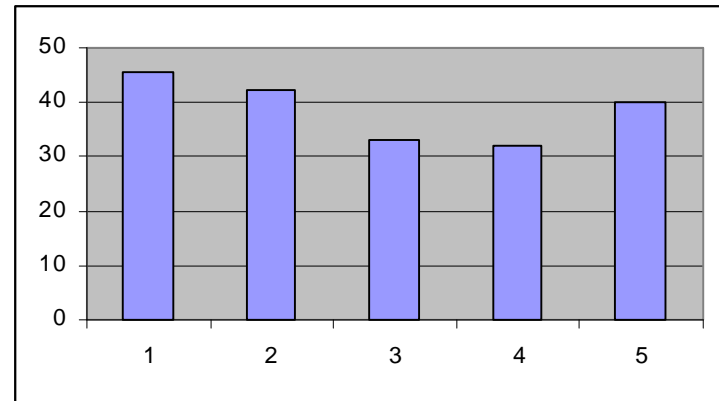
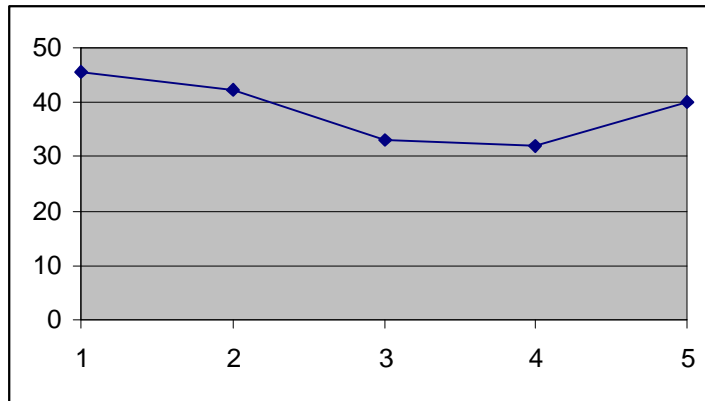
- What are these?



Meaningless-ness

- Artifacts are meaningless
- Meaningful-ness requires interpretation
- Each artifact is a representation of data

45.7
42.1
33.2
32
40.1



Data and Data Representations

- Alone, data is meaningless
- The notion of meaningless-ness is a distinguishing characteristic of data
- We do not make a distinction between data and when data becomes information

Meaningless into Meaningful

- Consider the following:

45.7

42.1

33.2

32

40.1

Daily temperatures for
11/3 through 11/7

The Knowledge Loss Hypotheses

- Claim: Over time corporations lose knowledge

Knowledge Loss

- Corporations loose knowledge through:
 - attrition
 - consultants
 - memory loss
 - change

Knowledge Loss by Consultant

- What is the product a consultant sells?

Knowledge Loss by Consultant

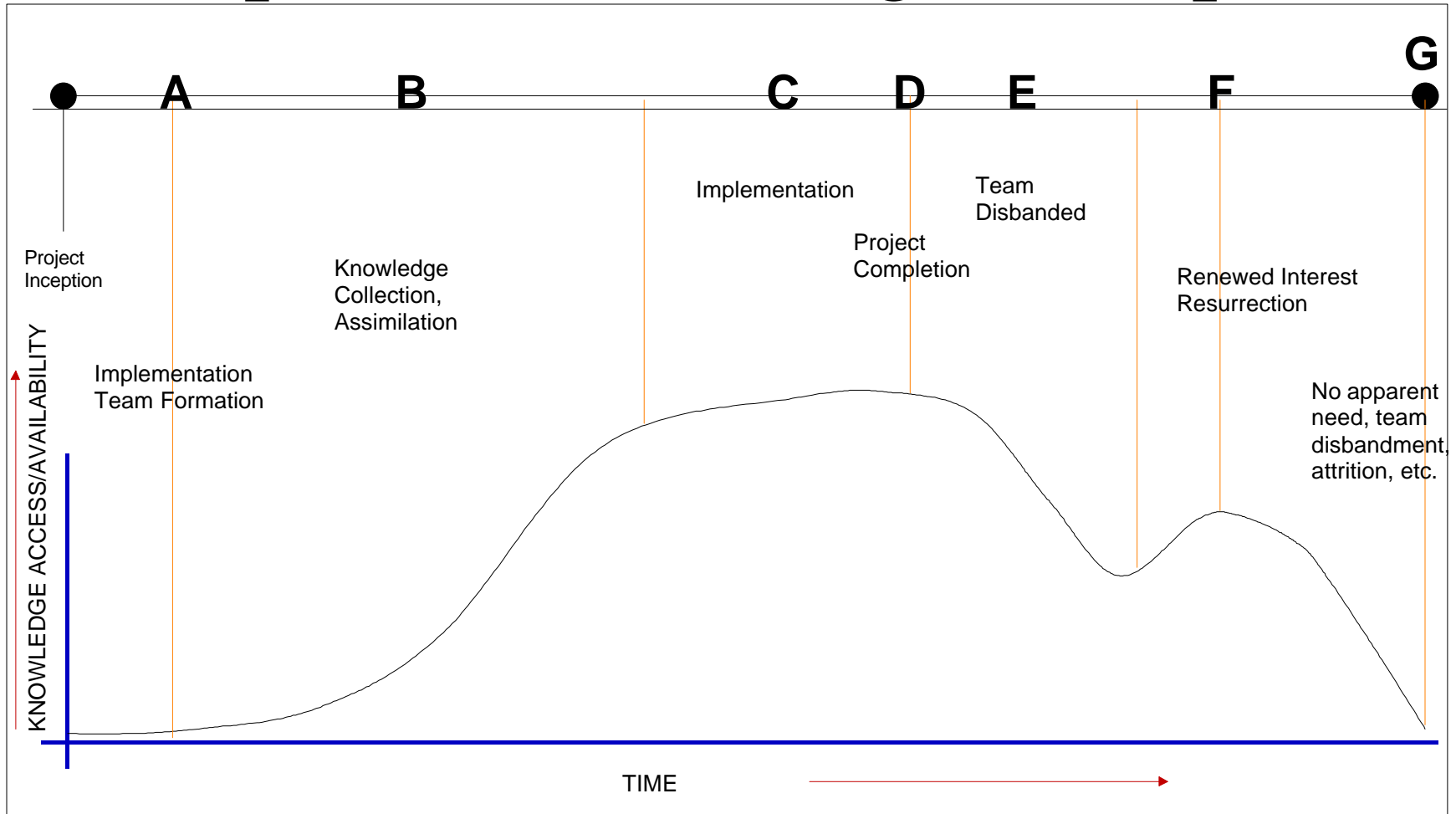
- What is the product a consultant sells?

A consultant sells **EXPERTISE**

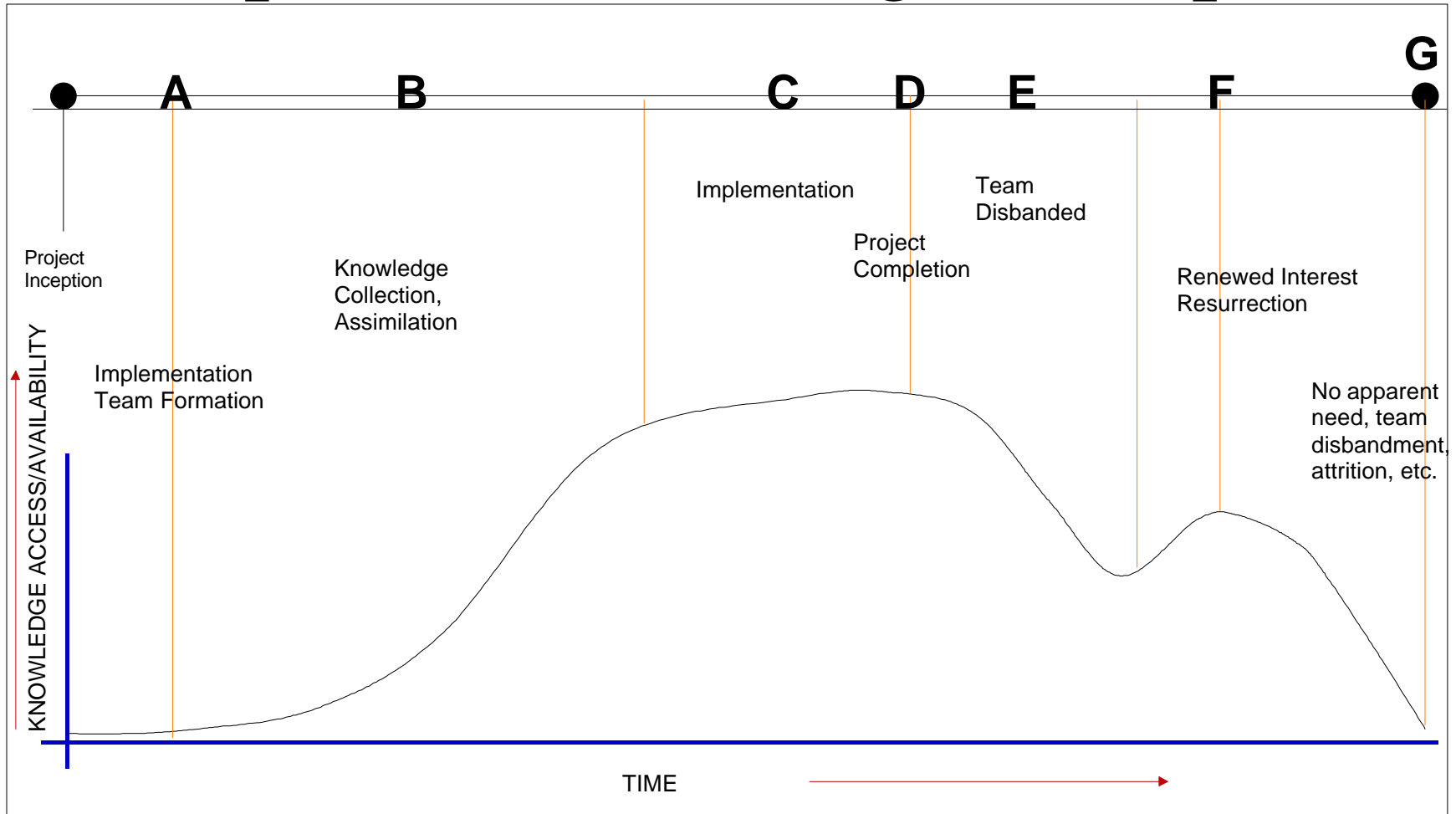
Knowledge Loss By Memory Loss

- Corporations tend not to care too much about their knowledge - it is not thought about archivally
- There seems to be a life span associated with corporate knowledge

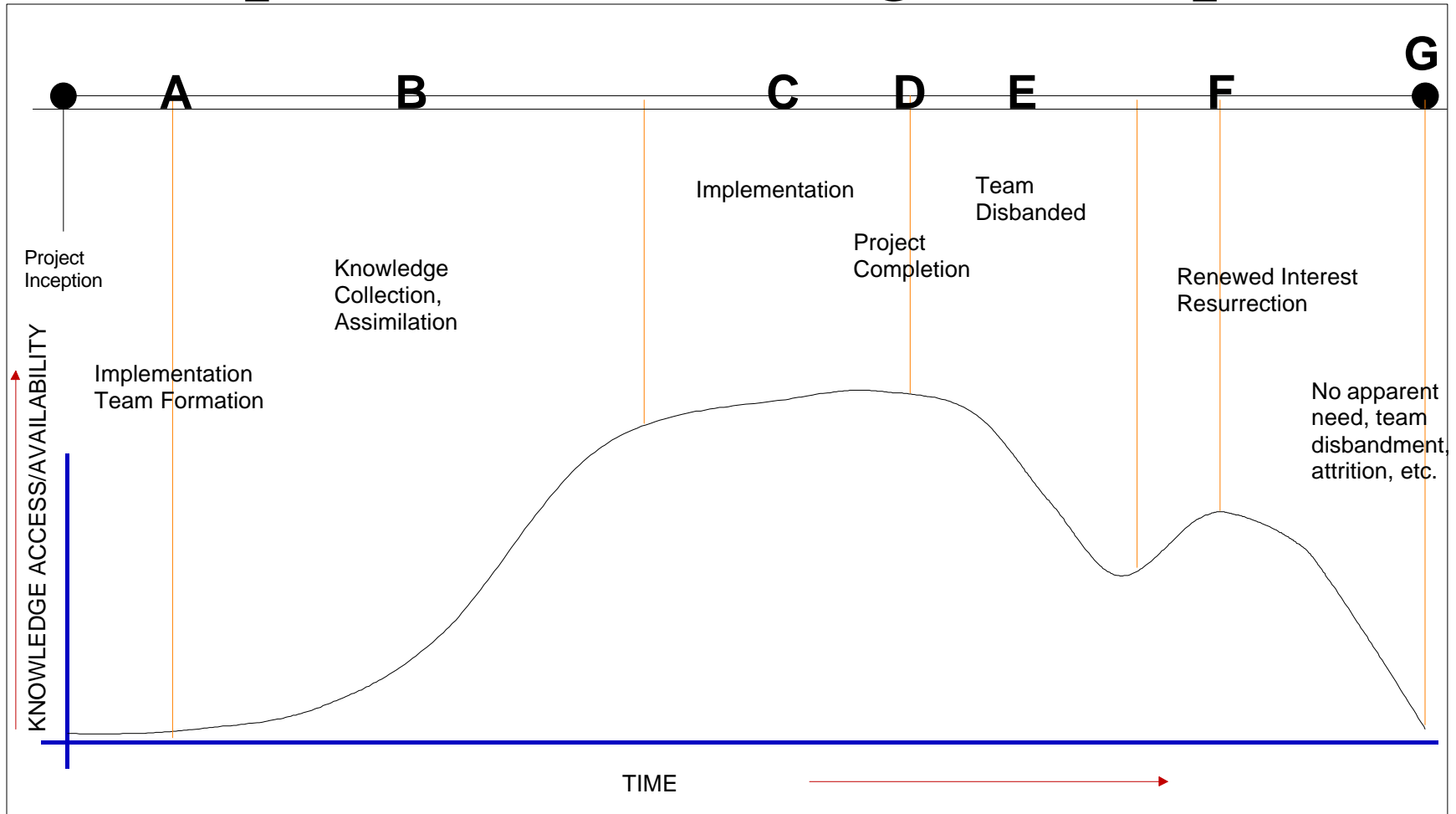
Corporate Knowledge Lifespan



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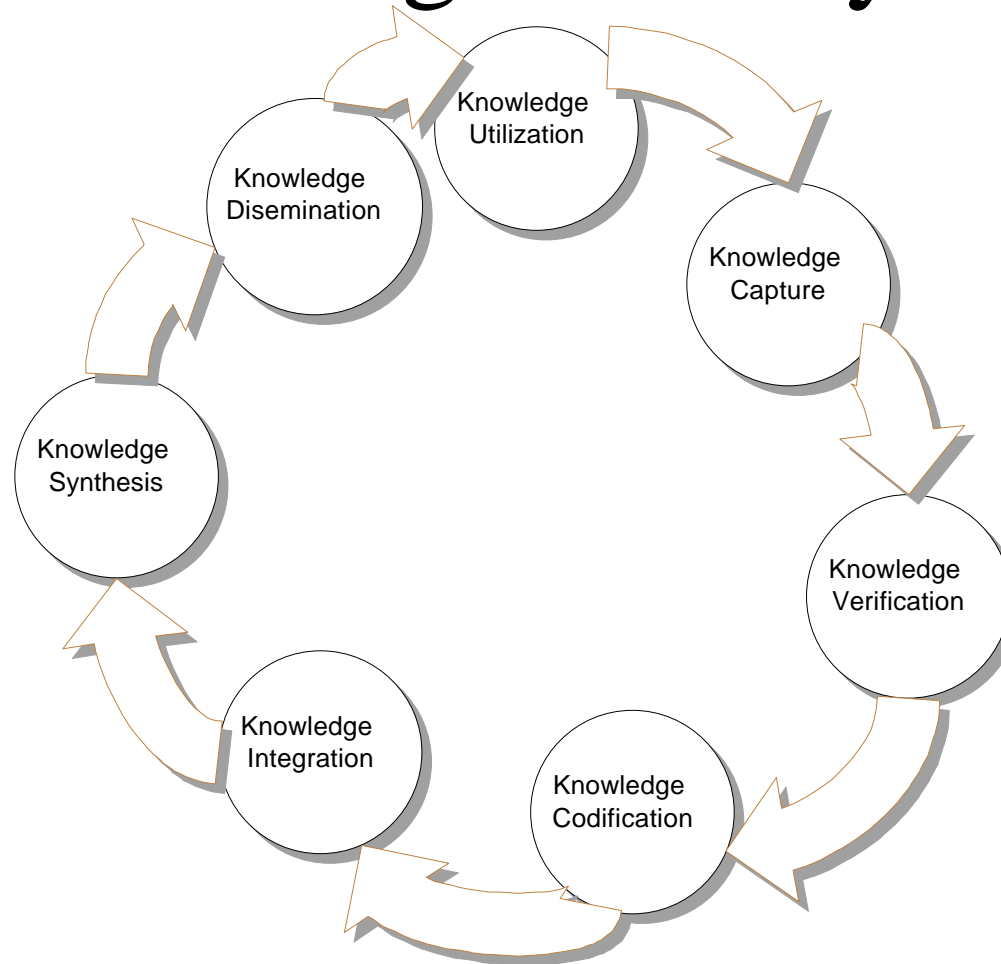
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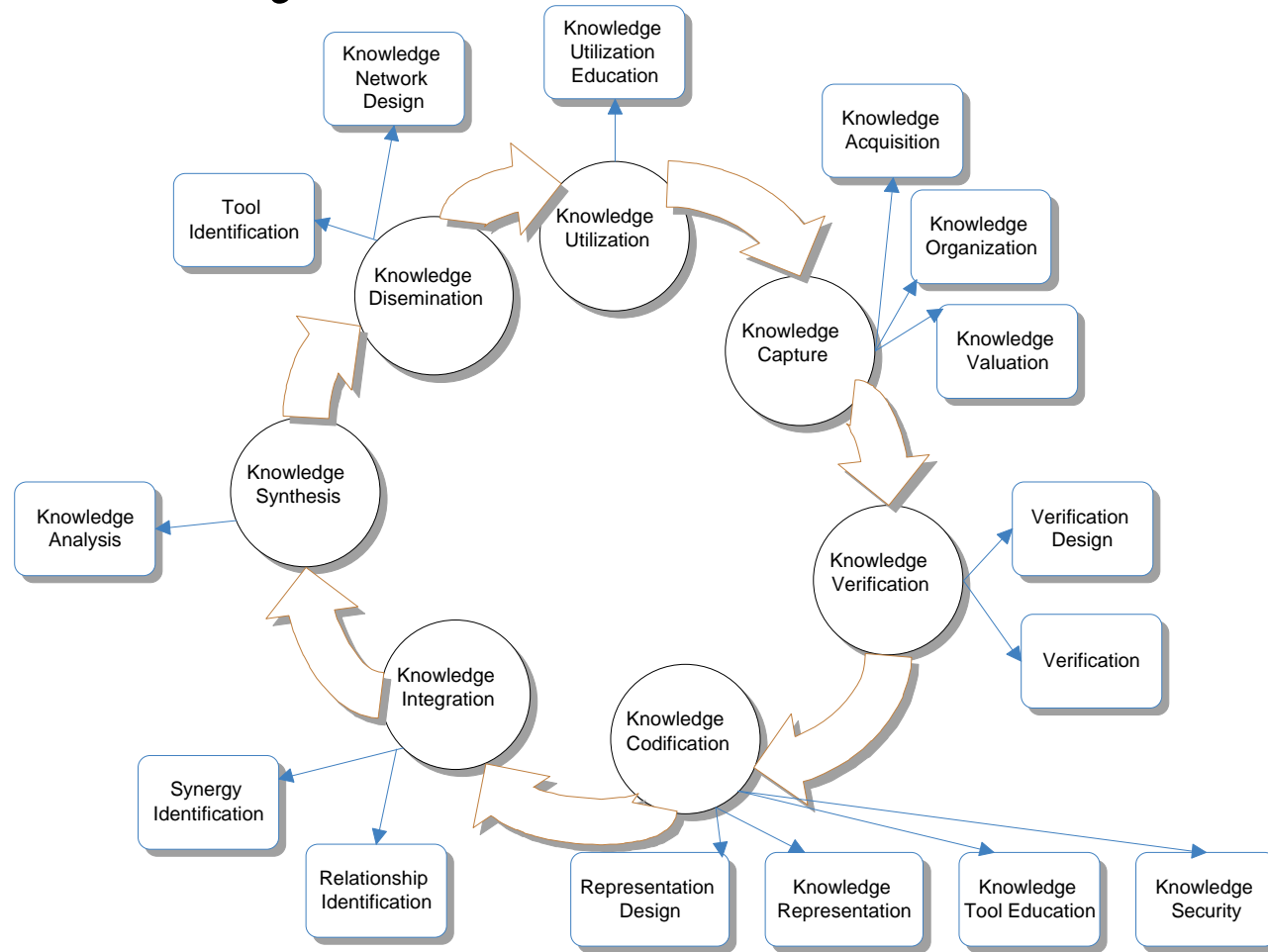
Knowledge Loss by Change

- Change is a significant promoter of loss of knowledge
 - management
 - organization
 - environment

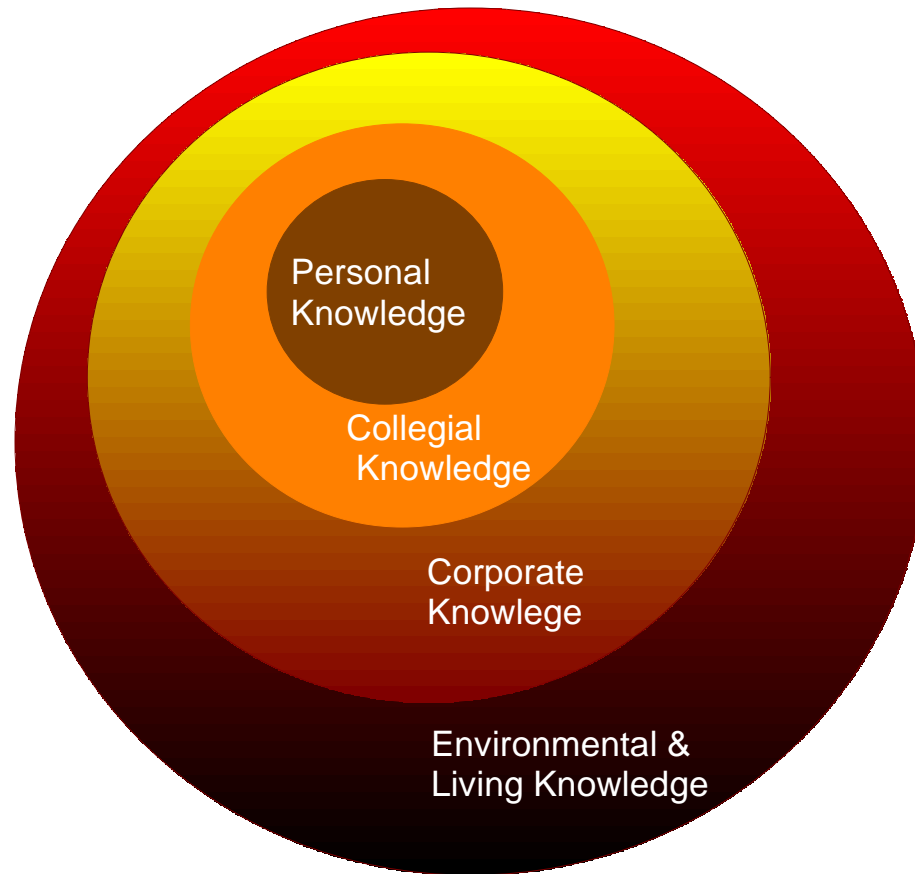
Knowledge Life Cycle



Life Cycle Related Services



An Arbitrary Knowledge Classification Scheme



Knowledge Management Modes



Personal Knowledge
Management

Collaborative Knowledge Management

Enterprise Knowledge Management

Potential KM Niches

- Semantic Network Tools
- Packaged Semantic Networks and Ontologies
- Personal Knowledge Management Tools

Requirements for a Personal KM Tool

- Simple representation of concepts and relationships
 - preferably a graphical representation
- Ability to load information into tool from disparate resources
- Ability to link to information resources
- Ability to WEB deploy information

Requirements for a Personal KM Tool

- Ability to role up into collaborative and enterprise tools

Gartner

- Knowledge management is emerging as a significant area of investment for leading enterprises and revenue for professional services.
- There are more questions than answers at this early stage of adoption.

Gartner

- Compelling propositions are driving KM
 - intellectual assets are worth three to four times a company's tangible book value

Gartner

- KM Value Added
 - adds the interpersonal and social context of information
 - enables information to be made relevant to the user's current process
 - must provide for the credibility and truthfulness of the information
 - provide feedback from experience based on a community's use of the information

Gartner

- Definition
 - Tacit Knowledge
 - Knowledge stored primarily in an individual's head and shared in conversations

The potential KM Market

- Large consulting Organizations with KM Practices
 - Arthur Anderson
 - 1996 KM Income: > \$20 M
 - Ernst & Young
 - 1997 - 1998 Revenue projections: \$50M to \$100M
 - Average project size: \$2M to \$3M