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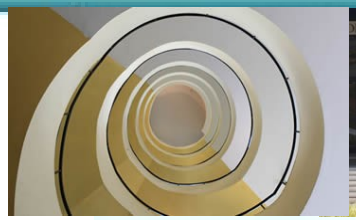
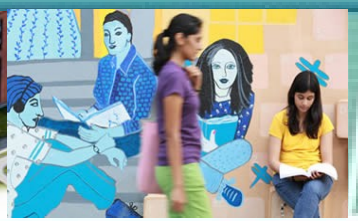




Chapter 3

KNOWLEDGE MANAGEMENT SYSTEMS LIFE CYCLE

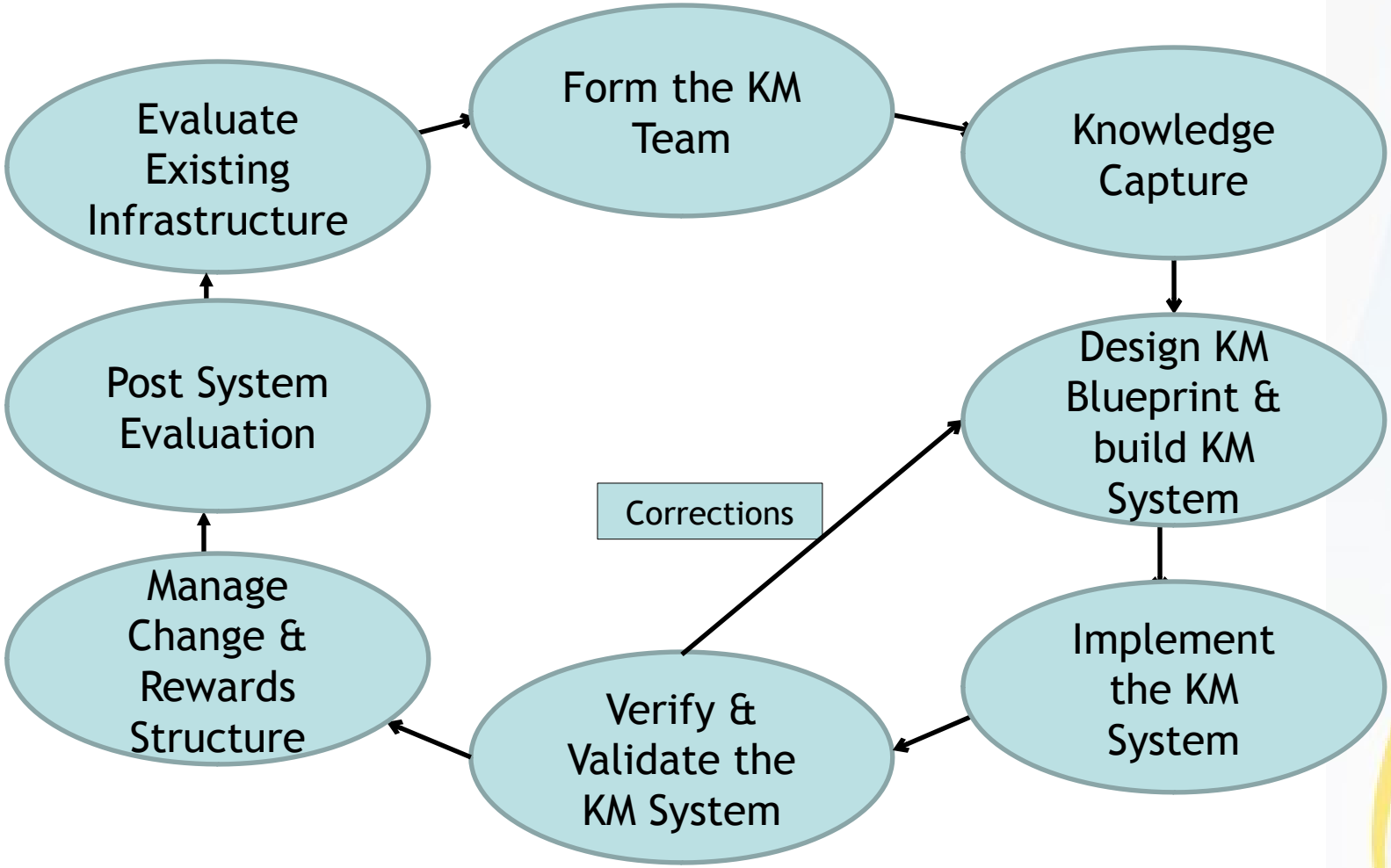
Building KM Systems

- Understand the KM requirements
  - Immediate, Short-term and long-term
  - Need to form a team that can do this activity
- Prepare a plan for building the system
- Follow the KM Life Cycle of processes/steps

Challenges In Building KM Systems

- Culture – getting people to share knowledge
- Knowledge evaluation – assessing the worth of knowledge across the firm
- Knowledge processing – documenting how decisions are reached
- Knowledge implementation – organizing knowledge and integrating it with the processing strategy for final deployment

KM Life Cycle



Conventional Vs KM System Life Cycle

- Key differences
  - Systems analysts deal with information from the user; knowledge developers deal with knowledge for company specialists
  - Users know the problem but not the solution; company specialists know the problem and the solution
  - System development is primarily sequential; KMSLC is incremental and interactive

Conventional Vs KM System Life Cycle

- System testing normally at end of cycle; KM system testing evolves from beginning of the cycle
- System development more extensive than for KMSLC
- Conventional system life cycle is process-driven “specify then build”; KMSLC is result-oriented “start slow and grow”

Conventional Vs KM System Life Cycle

- Key similarities:
  - Both begin with a problem and end with a solution
  - Both begin with information gathering or capture
  - Testing is essentially the same to make sure the system is right and it is the right system
  - Both developers must choose the appropriate tool(s) for designing their respective systems

SDLC Vs KMSLC

SDLC

- Recognition of need & Feasibility Study
- Software Requirement Specifications
- High Level Design (Logical)
- Low Level Design & Coding (Physical)
- Testing
- Implementation
- Operations & Maintenance

Corrections

KMSLC

- Evaluate Existing Infrastructure
- Form the KM Team
- Knowledge Capture
- Design KM Blueprint & build KM System
- Verify & Validate the KM System
- Implement the KM System
- Manage Change & Rewards Structure
- Post system Evaluation

Corrections

Users Versus Knowledge Workers

Attribute	***User***	***Expert***
Dependence on system	High	Low to nil
Cooperation	Usually cooperative	Cooperation not required
Tolerance for ambiguity	Low	High
Contribution to system	Information	Knowledge/expertise
System user	Yes	No
Availability for system builder	Readily available	Not readily available

KM System Development Life Cycle

- Evaluate existing infrastructure
- Form the KM team
- Knowledge capture
- Design KM blueprint (master plan)
- Test the KM system
- Implement the KM system
- Manage change and reward structure
- Post-system evaluation

Evaluate Existing Infrastructure

System justification:

- Will current knowledge be lost through retirement, transfer, or departure to other firms?
- Is the proposed KM system needed in several locations?
- Are experts available and willing to help in building a KM system?
- Does the problem in question require years of experience and cognitive reasoning to solve?

System Justification (cont.)

- When undergoing knowledge capture, can the expert articulate how problem will be solved?
- How critical is the knowledge to be captured?
- Are the tasks non-algorithmic?
- Is there a champion in the house?

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The Scope Factor

- Consider breadth and depth of the project within financial, human resource, and operational constraints
- Project must be completed quickly enough for users to foresee its benefits
- Check to see how current technology will match technical requirements of the proposed KM system

The Feasibility Question

A feasibility study addresses several questions:

- Is the project doable?
- Is it affordable?
- Is it appropriate?
- Is it practicable?

The Feasibility Question (cont.)

Areas of feasibility:

- *Economic* feasibility determines to what extent a new system is cost-effective
- *Technical* feasibility is determined by evaluating hardware and supportive software within company's IT infrastructure
- *Behavioral* feasibility includes training management and employees in the use of the KM system

The Feasibility Question (cont.)

Traditional approach to conducting a feasibility study:

- Form a KM team
- Prepare a master plan
- Evaluate cost/performance of proposed KM
- Quantify system criteria and costs
- Gain user support throughout the process

Role of Strategic Planning

Risky to plunge with a new KM system without strategizing. Consider the following:

- *Vision* — Foresee what the business is trying to achieve, how it will be done, and how the new system will achieve goals
- *Resources* — Check on the affordability of the business to invest in a new KM system
- *Culture* — Is the company's political and social environment amenable to adopting a new KM system?

Matching Business Strategy With KM Strategy

Business Environment

Competitive threats; government regulations; customer threats

Impacts

Strategic Plan

Regarding products or services, market, customers, suppliers, etc.

Impacts

Impacts

Drives

KM Technology

Enables

KM Strategy

Quality and reliability of the infrastructure and IT staff and resources

Enables

Focus on competitive advantage, role of IT, and level of creativity and knowledge innovation

KM Team Formation

- Identify the key stakeholders in the prospective KM system.
- Team success depends on:
  - Caliber of team members
  - Team size
  - Complexity of the project
  - Leadership and team motivation
  - Promising more than can be realistically delivered

KNOWLEDGE CAPTURE

- Explicit knowledge captured in repositories from various media
- Tacit knowledge captured from company experts using various tools and methodologies
- Knowledge developers capture knowledge from experts in order to build the knowledge base
- Knowledge capture and transfer often carried out through teams, not just individuals

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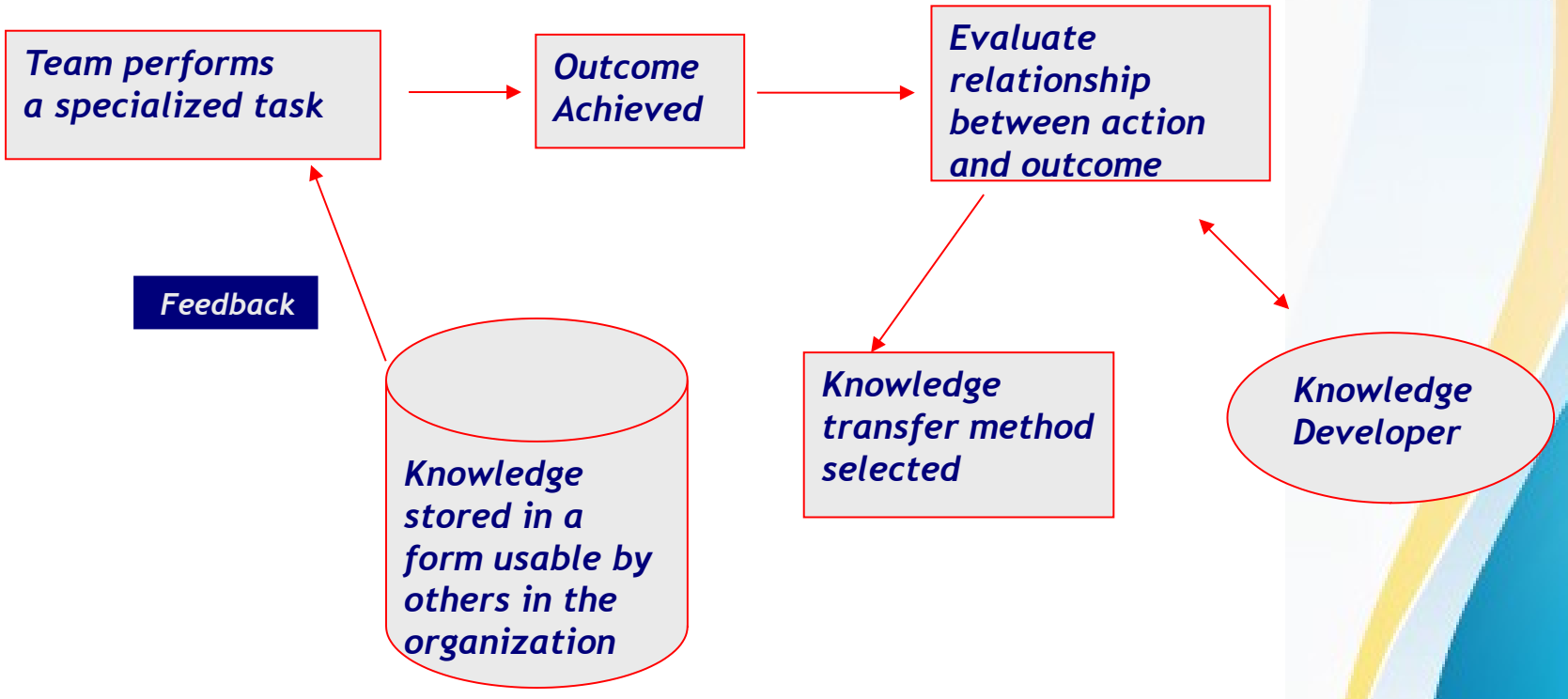
Knowledge Capture & Transfer Thru Teams



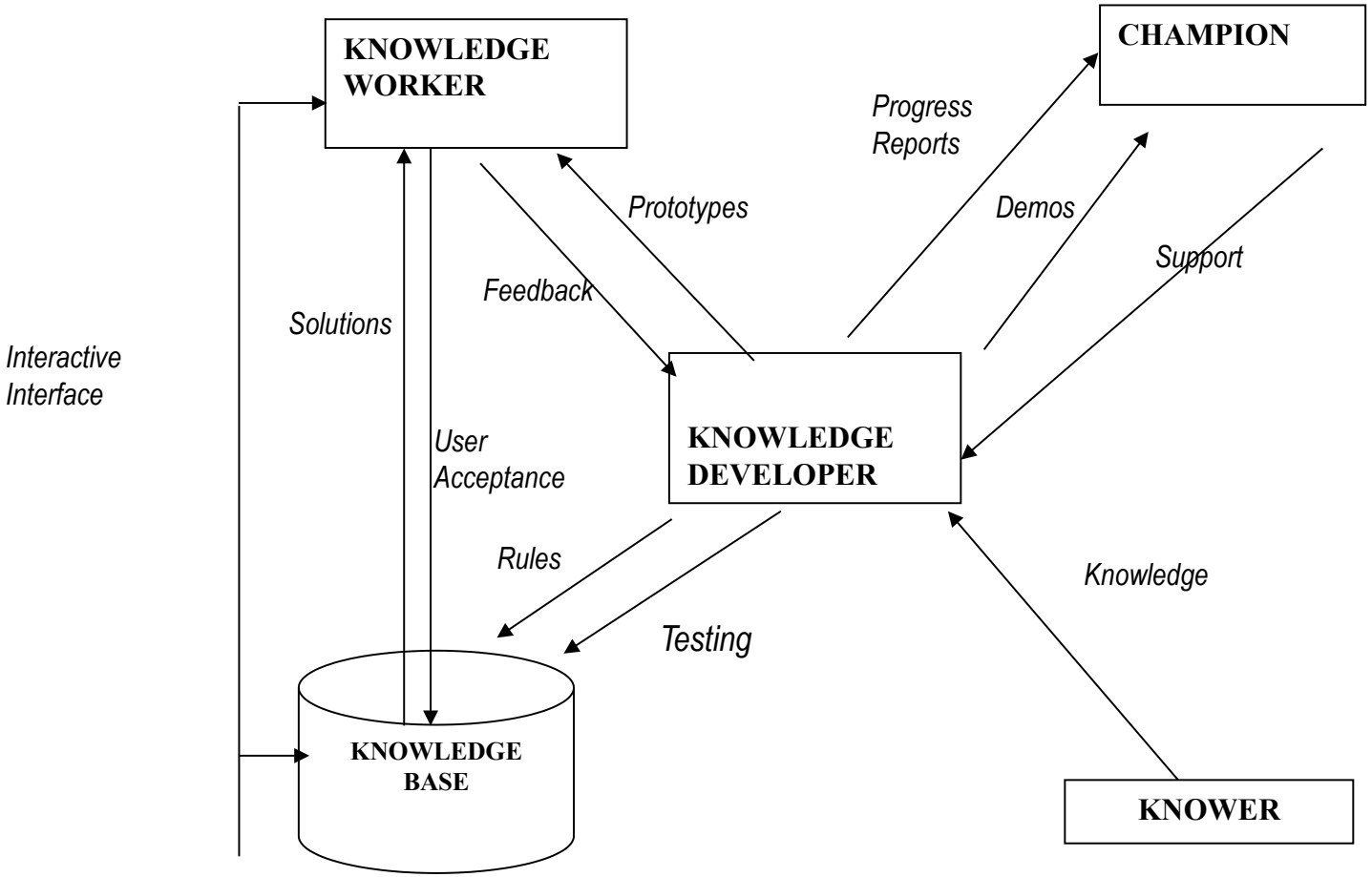
Selecting an Expert

- Knowledge base should represent expertise rather than the expert
- Questions facing knowledge developer:
  - How does one know the expert is in fact an expert?
  - How would one know that the expert will stay with the project?
  - What backup should be available in case the project loses the expert?
  - How would the knowledge developer know what is and what is not within the expert's area of expertise?

Role of the Knowledge Developer

- The architect of the system
- Job requires excellent communication skills, knowledge capture tools, conceptual thinking and a personality that motivates people
- Close contacts with the champion
- Rapport with top management for ongoing support

Central Role of the Knowledge Developer



Design of the KM Blueprint

The KM system design (blueprint) addresses several issues:

- System interoperability and scalability with existing company IT infrastructure
- Finalize scope of proposed KM system with realized net benefits
- Decide on required system components
- Develop the key layers of the KM architecture to meet company requirements. Key layers are:
  - User interface
  - Authentication/security layer
  - Collaborative agents and filtering
  - Application layer
  - Transport Internet layer
  - Physical layer

Testing the KM System

- *Verification* procedure: ensures that the *system is right*
- *Validation* procedure: ensures that the system is the *right system*
- Validation of KM systems is not foolproof

Implementing the KM System

- *Converting* a new KM system into actual operation includes *conversion* of data or files and user training
- Quality assurance is paramount, which includes checking for:
  - *Reasoning errors*
  - *Ambiguity*
  - *Incompleteness*
  - *False representation (false positive and false negative)*

Resisters of Change

- Experts
- Regular employees (users)
- Troublemakers
- Narrow-minded superstars
- Resistance via projection, avoidance, or aggression

Question for discussion

- The goal of this project is to develop a consumer-lending knowledge base to guide the junior bank officer through the decision of whether an auto loan should be approved. In the loan department, there are experienced senior loan officers who are willing to share their knowledge with others. You have been assigned the job of building a KM system for the bank. Explain in detail the life cycle of this project.

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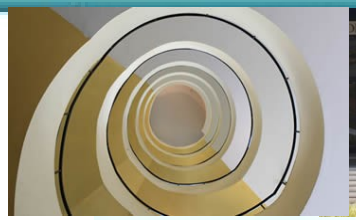




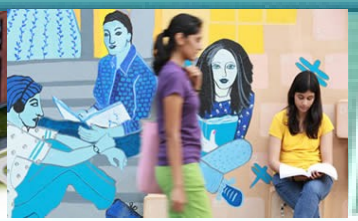

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