



Use of Technology for Training and Skill Development

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Learning Architects



- eLearning Delivery Strategies
- Selecting Delivery Strategies
- Knowledge Management & eLearning



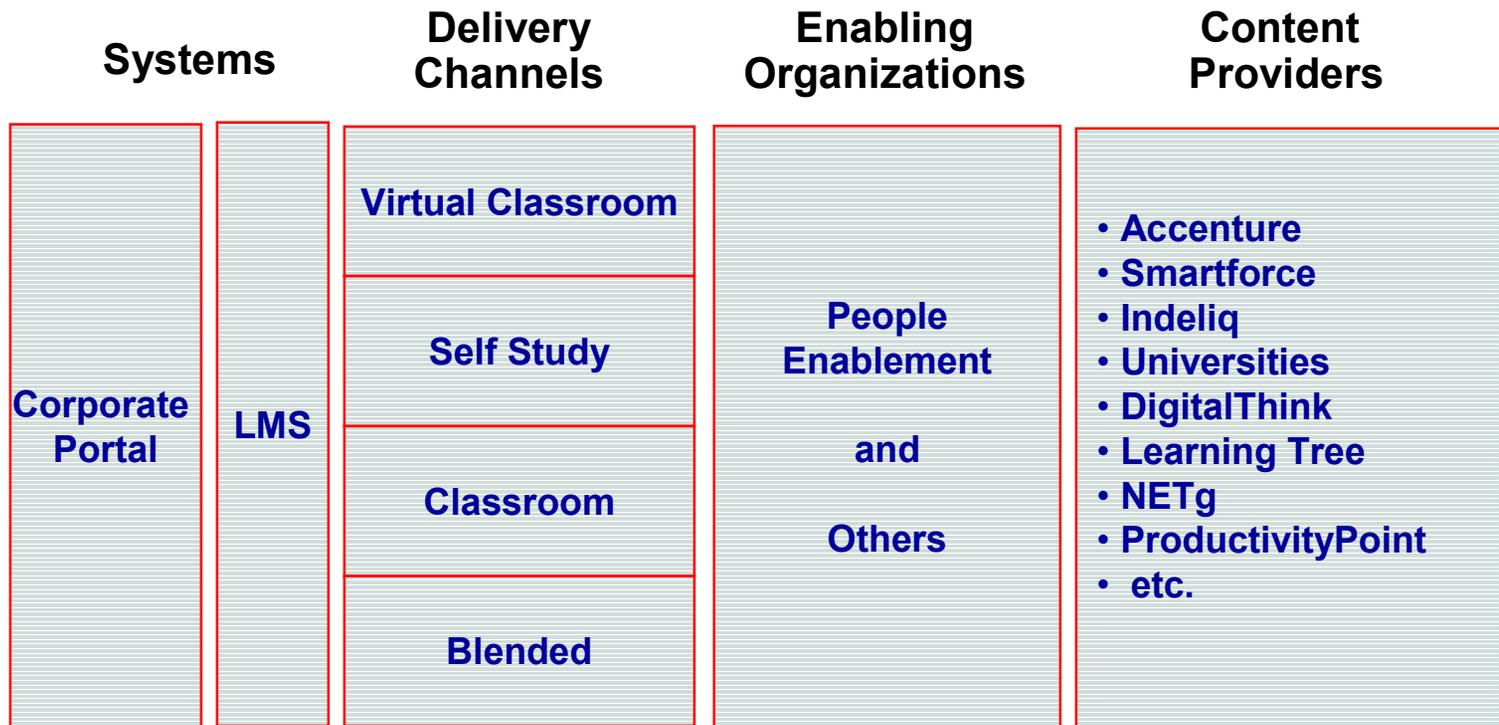
- **eLearning Delivery Strategies**
- Selecting Delivery Strategies
- Knowledge Management & eLearning



A complete eLearning solution has many components



Individual
or Group



Typical reasons for using eLearning



- **Cost Reduction:** decreased travel expenses.
- **Provide more flexibility for diverse audience:** the right content at point of need.
- **Extend or accelerate reach of training:** fewer constraints on facilities and faculty.
- **Improve overall learning experience:**
 - Use optimal delivery media
 - Integrate into job context



	Key Characteristics
Virtual Classroom	<ul style="list-style-type: none"> • Remote students and/or faculty. • Synchronous web-based collaboration (same time/different place) • Significant interaction possible with design
Self-Study	<ul style="list-style-type: none"> • Web-based or traditional CBT • Granular content • Varying levels of interactivity & media: <p style="text-align: center;"> Overview Tutorial Simulation </p> 
Blended Solution	<ul style="list-style-type: none"> • Mix of different delivery strategies (virtual classroom, self-study, classroom) • Delivery channels optimized based on type of content • Blended programs can be extended over weeks and months
Performance Support	<ul style="list-style-type: none"> • Tool intended to support actual job performance; assumes some prior knowledge of deliverable. • Provides templates, how-to, examples, and other resources



Virtual Classroom



Key element

- Students and faculty interact from remote locations.

Typical Functions

- Presentation content
- Audio Interaction
- Text-based Chat
- Application Sharing
- Access to “Live” experts
- Whiteboards
- Polling
- Live demonstrations
- Assessments
- Video-Conferencing



- Features
 - Short sessions - about 2 hours
 - Highly relevant content
 - “Radio Show” Treatment:
 - More engagement through multiple presenters
 - Making classroom mgt. / logistics transparent
 - Highly dependent on expert faculty
- Technology: Centra Conference
- Examples: Virtual Seminar Series, CHT New Realities, Resources series



- Overview website ([Electronics Industry Overview](#))
 - Provide reference knowledge
 - Low interactivity
 - Content can be authored by SMEs
- Tutorial
 - Small modules – 20 to 45 minutes
 - Teach conceptual, procedures, basic skills
 - Moderately interactive
- Simulations
 - Build individual skills
 - Historically CD-ROM based, but moving to net delivery



- Features:
 - Primary purpose is to support performance rather than to teach.
 - Integrates tools / supporting information with regular workflow.
- Examples:
 - IBPS / Effective Communication Job Aid
 - ASG Presentation Toolkit



Demo: Performance Support



- Issue Based Problem Solving Job Aid



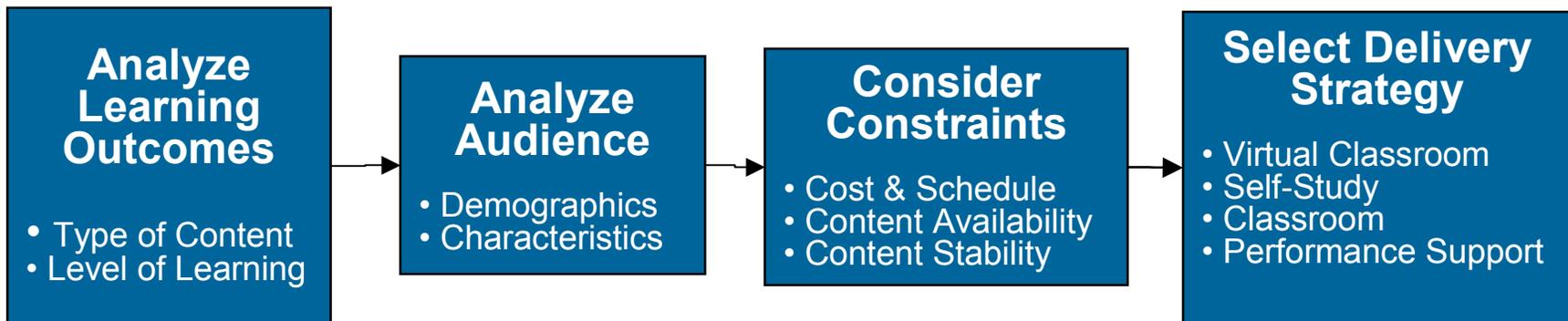
- A **Blended Solution** combines elements of different delivery channels to create an integrated learning experience. Different “flavors” include:
 - *Self-studies embedded within a classroom learning experience*
 - *Instructor-led classroom enhanced with eLearning technologies*
 - *Extended programs using various delivery channels*



- A extended blended program could have these characteristics:
 - Synchronous kickoff via Centra
 - Individual self-study work integrated with online community
 - Periodic synchronous check-ins with faculty
 - Face to face session focused on complex problem solving, sharing of experience & networking.



- eLearning Delivery Strategies
- **Selecting Delivery Strategies**
- Knowledge Management & eLearning





Learning Outcomes

What type of content is involved?



Content can be classified into five types:*

Content Type	Description	Example
Facts	Unique or static information. One of a kind associations between concepts.	<i>Handspring gained 15% market share over Palm in 2000.</i>
Concepts	Class of items that shares common features and is known by a common name.	<i>Supply chain, inventory, cost of service</i>
Procedures	Series of clearly defined steps that result in achievement of a job task.	<i>Calculate inventory costs, Configure ABC function of Manugistics</i>
Processes	Processes are descriptions of how things work. There are two types of processes: <ul style="list-style-type: none">• Business Processes (workflow, often across organization)• Technical processes (how things work in equipment or natural system)	<i>Procurement or Fulfillment processes</i> <i>Semi-conductor fabrication</i>
Principles	A principle is a cause-effect relationship that results in a predictable outcome. Principles break down into guidelines for applying the principle in new situations.	<i>Customer Values and Channel Analysis</i>

* Based on Merrill's taxonomy found in Ruth Clark's *Developing Technical Training*



Learning Outcomes

What level of learning is required?



Bloom's taxonomy defines levels of learning for the five content types.

Know | Comprehend

| Apply | Analyze | Synthesize | Evaluate

Content Type	Remember	Apply
Facts	<i>Recall top 2 market leaders in PDA sales in 2000 and their respective market shares.</i>	N/A – Applying facts involves the other types of content.
Concepts	<i>Define Synchronization of a supply chain. Give an example of a supply chain.</i>	<i>Explain the goal of an optimal Inventory/Service tradeoff.</i>
Procedures	<i>List the steps in a supply chain diagnostic.</i>	<i>Given the necessary client data, calculate inventory costs. Configure the ABC function of Manugistics.</i>
Processes	<i>List the steps in the order fulfillment process.</i>	<i>Given an issue found with a product lot, predict some possible problems in the manufacturing process.</i>
Principles	<i>List and describe the 7 principles of integrated supply chain management.</i>	<i>Given information about a client's supply chain performance, make a recommendation for improved information flow.</i>

Summary of Learning Strategies & Outcomes



	Recommended Learning Outcomes
Virtual Classroom	<ul style="list-style-type: none"> • “Remember” level of learning for facts, concepts, procedures, processes, and principles. • To achieve this level, students need to interact with the content on their own – taking notes, discussing with others, etc.
Self-Study	<ul style="list-style-type: none"> • Best for Remember and basic Apply level of all content types. • To achieve higher levels of Apply (Synthesize, Evaluate) students need simulations and/or significant human interaction online.
Classroom	<ul style="list-style-type: none"> • Recommended for higher levels of “apply” for procedures, processes, and principles. Best for highly interactive simulations and face to face coaching.
Performance Support	<ul style="list-style-type: none"> • Best for Apply level of procedures and principles with relatively simple guidelines. • Can be used effectively as reminder of previously learned content, or in place of training when enabling skills and knowledge are in place.

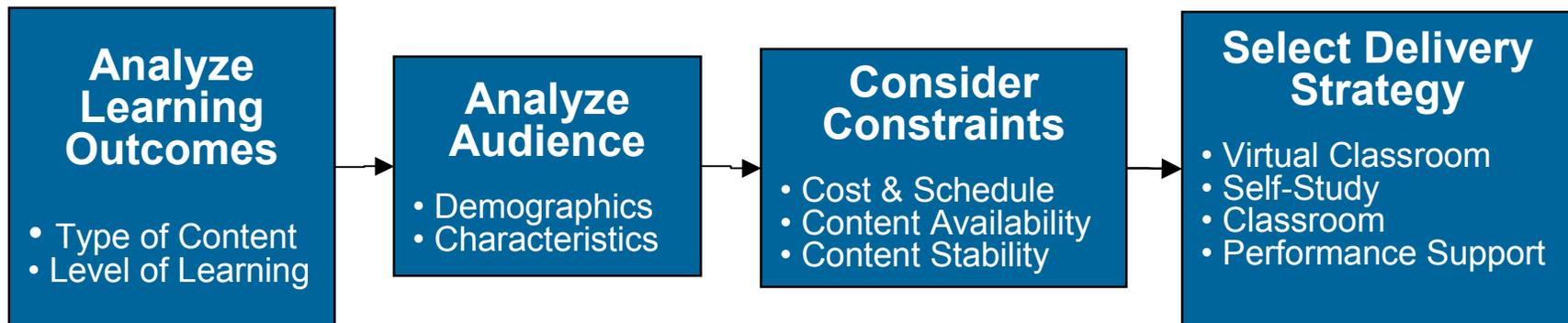


- Demographics
 - Size
 - Location
 - Connectivity
- Characteristics
 - Prior knowledge
 - Meta-cognitive skill
 - Motivation for content

accenture [>] Constraints



- Cost & Schedule
- Content Stability
- Content Availability





- eLearning Delivery Strategies
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- **Knowledge Management & eLearning**



- What is KM
- Ford: Case Study
- Compare KM and Training
- KM: Beyond the Database
- Summary



- **What is KM**
- Ford: Case Study
- Compare KM and Training
- KM: Beyond the Database
- Summary



Why Knowledge Management?



- “The only thing that gives an organization a competitive edge... is what it knows, how it uses what it knows, and how fast it can know something new.”

•

Prusak Laurence, IBM



- ”KM is “a management philosophy, which combines good practice in purposeful information management with a culture of organizational learning, in order to improve business performance”

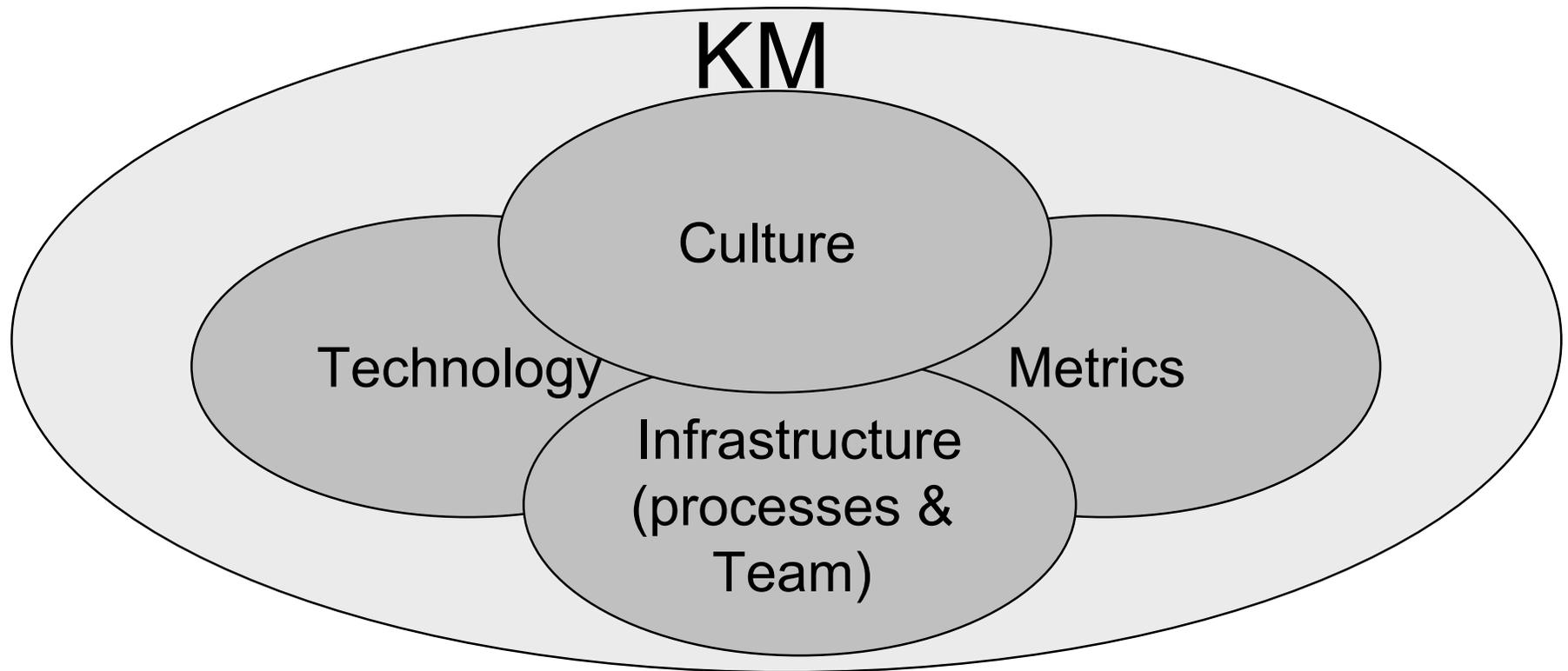
Sheila Corrall, Reading University Library, UK

- “KM is a conscious strategy of getting the right knowledge to the right people at the right time and helping people share and put information into action in ways that strive to improve organizational performance.”

Carla O’Dell, & C. Jackson Grayson, Jr.
American Productivity and Quality Center



- “philosophy” “strategy”
- “purposeful” “conscious “
- “culture of organizational learning”
“sharing”
- “improve...performance”
- “right time”
- “information into action”



“If you are spending more than 1/3 of your energy on the technology side, you’re probably not going to be successful “ -- Tom Davenport



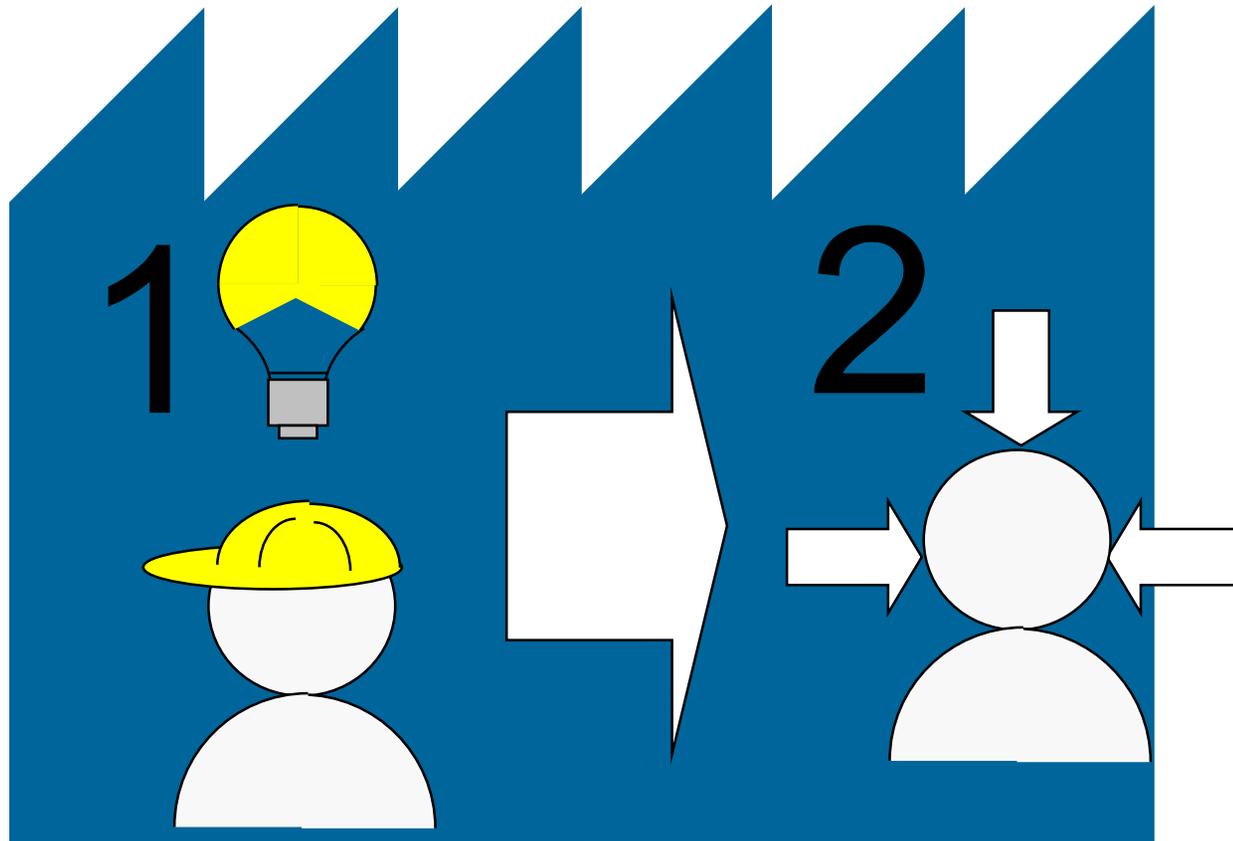
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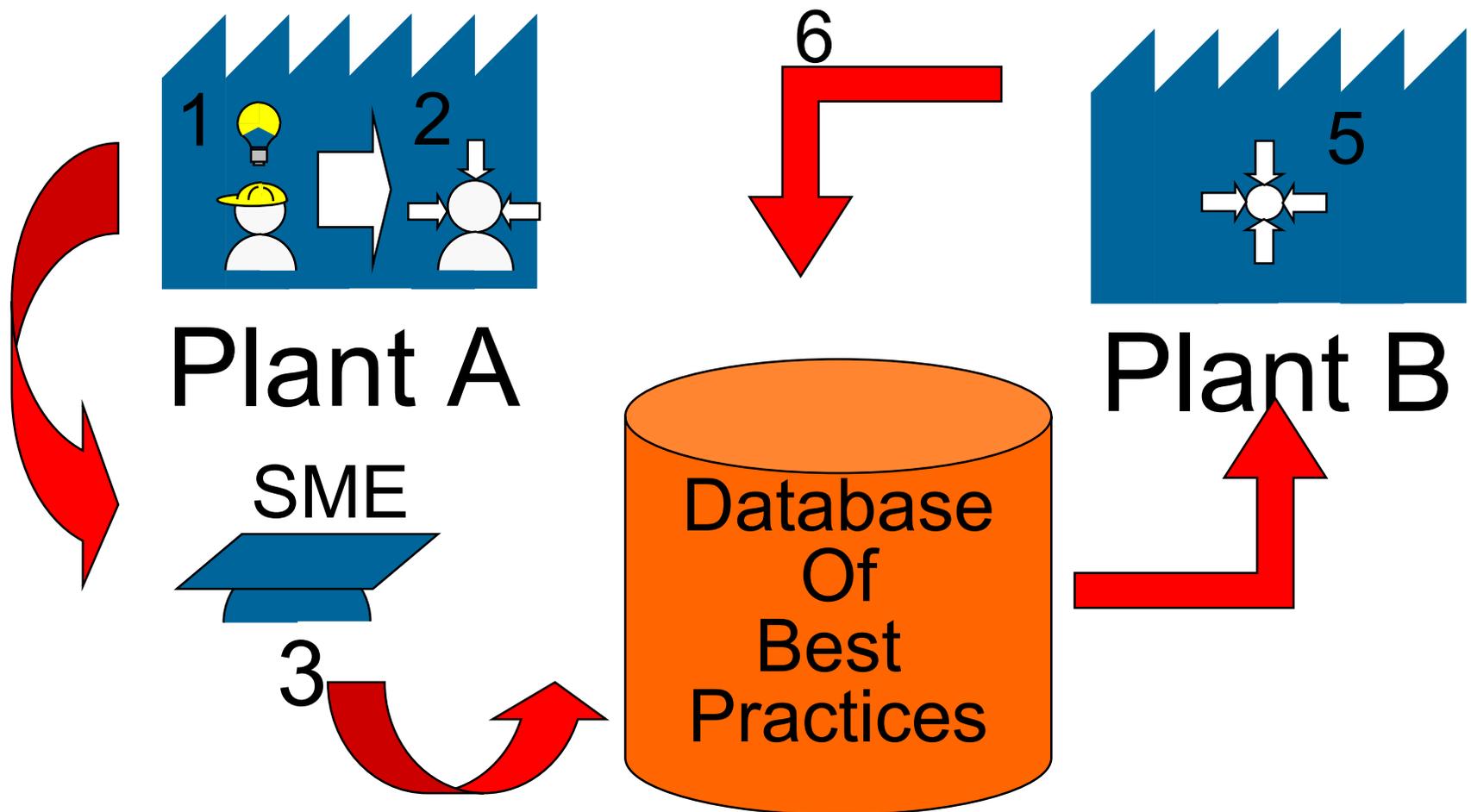
- “Final Assembly” (Paint and Bumpers)
engineers from a Missouri plant visit a German Ford plant
 - They did not set out to build a KM
 - This was manager vision not manager mandate
 - Engineers drink beer



- From that came
 - A reciprocal visit by German Engineers to Missouri
 - A paper based system to catalogue best practices
 - System opened up to all 53 plants
 - System put on line



Plant A





- Grass roots start – 2 plants shared information
- Now it involves
 - 53 Plants
 - 23 Communities (2 marketing)
 - 2800 Proven Practices
 - 8000 Replications
 - 1.3 Billion in projected value
(\$899 Million in actual Savings)
- Licensed system to Nabisco and Texaco

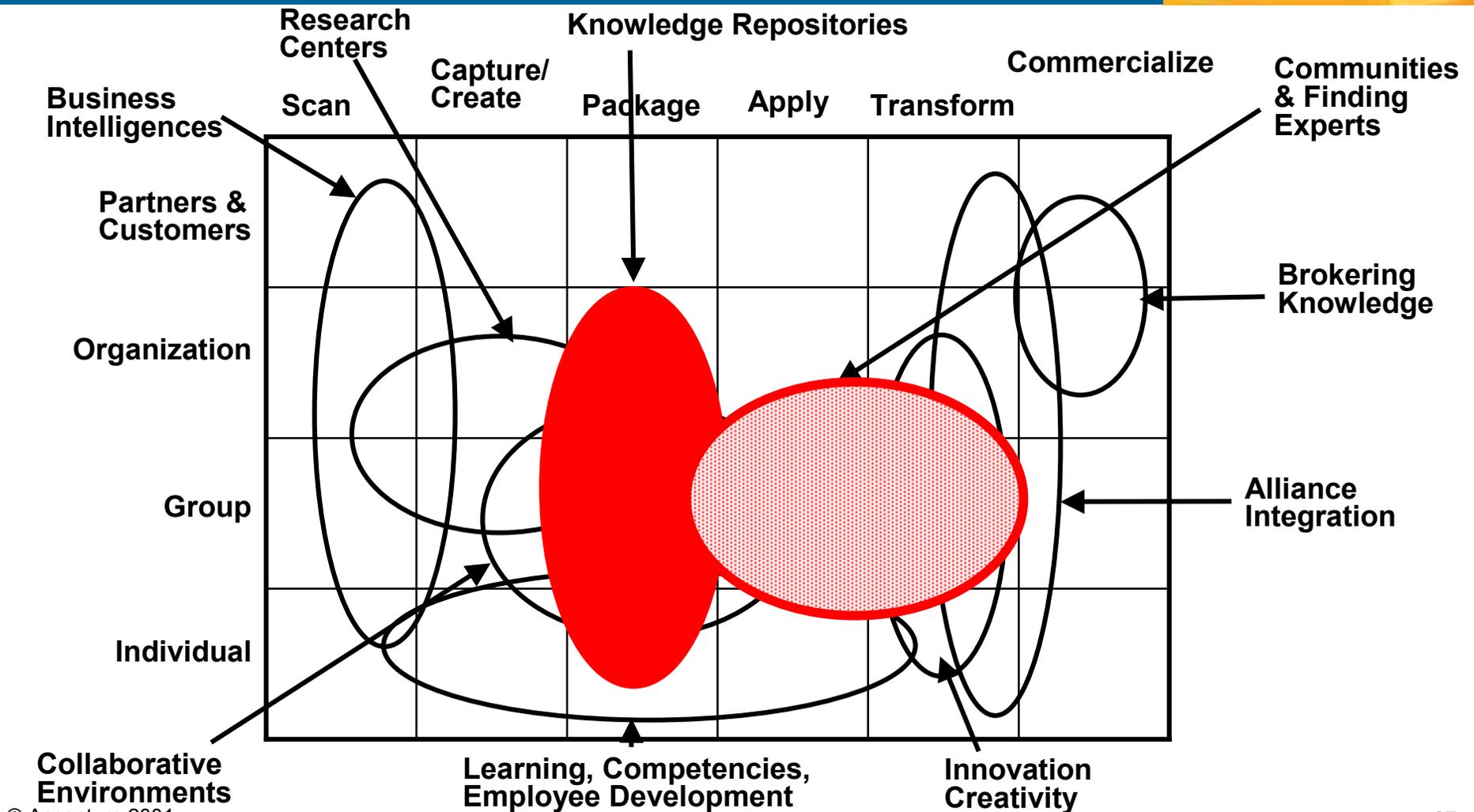


- For each Community
 - 1 SME
 - 1 Focal point at each plant
(possible Total of 53)
- KM team
 - 4 3/4 FTEs



Success Factors

- Nurtured, not mandated
- Focused
 - Did not try to be all things to all people
 - Only allowed proven practices into system
- Focal points – Humans with responsibilities
- Measured replication of practices
- Kept technology simple, cheap and usable



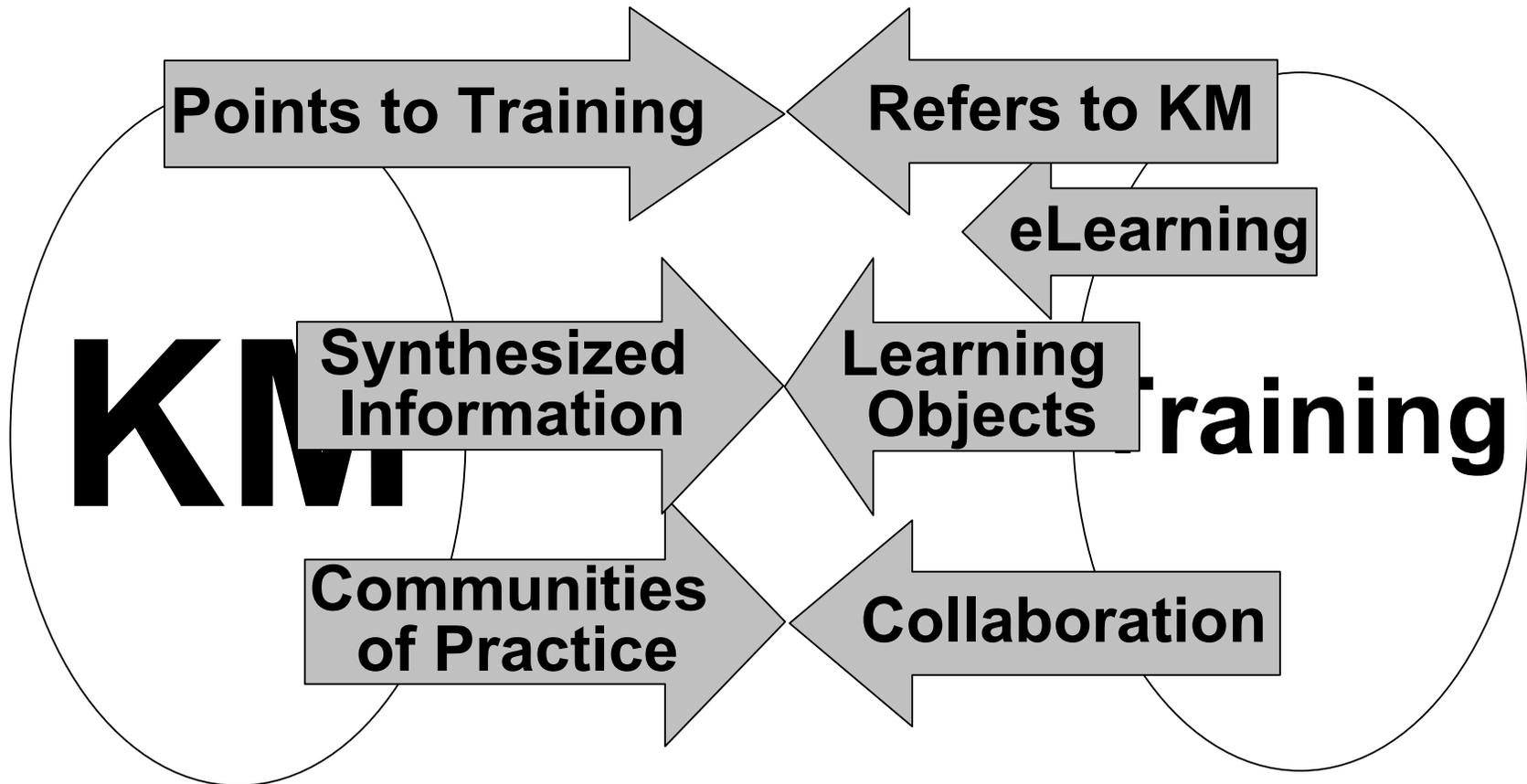


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- “By 2004 all enterprisewide knowledge management programs will incorporate e-learning products and services” - Gartner
- “All eLearning vendors and service providers now offer some KM functionality, such as collaboration in chat rooms and asynchronous discussion groups. This online community support, which was missing from early eLearning offerings, is a feature in high demand from users.” - Gartner

Traditional View of KM and Training



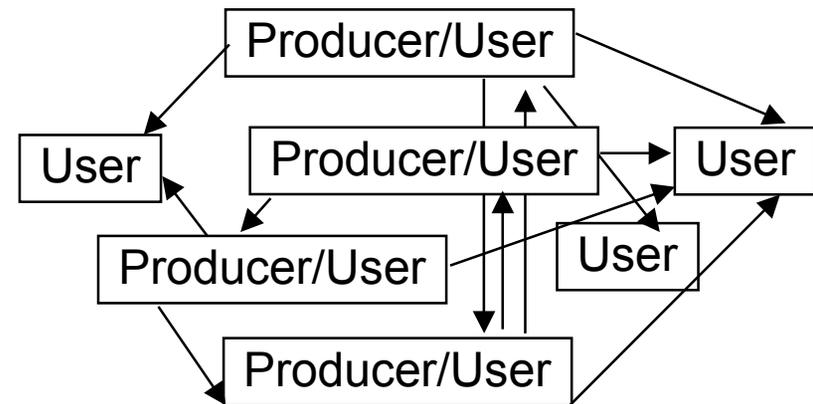
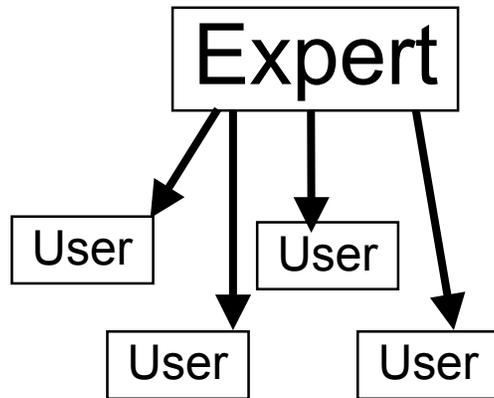


Both Knowledge Management
and eLearning have the same
goal:

To improve the performance of
employees



Where Does Knowledge Live



Training

- Knowledge is in experts, Need to disseminate it from Experts

KM

- Knowledge is in Employees, Need to get them sharing



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Where do you go when
you need Information?
Be Honest!



Department of Labor
research based on 8
U.S. Based Firms.

“80% of learning is Informal”

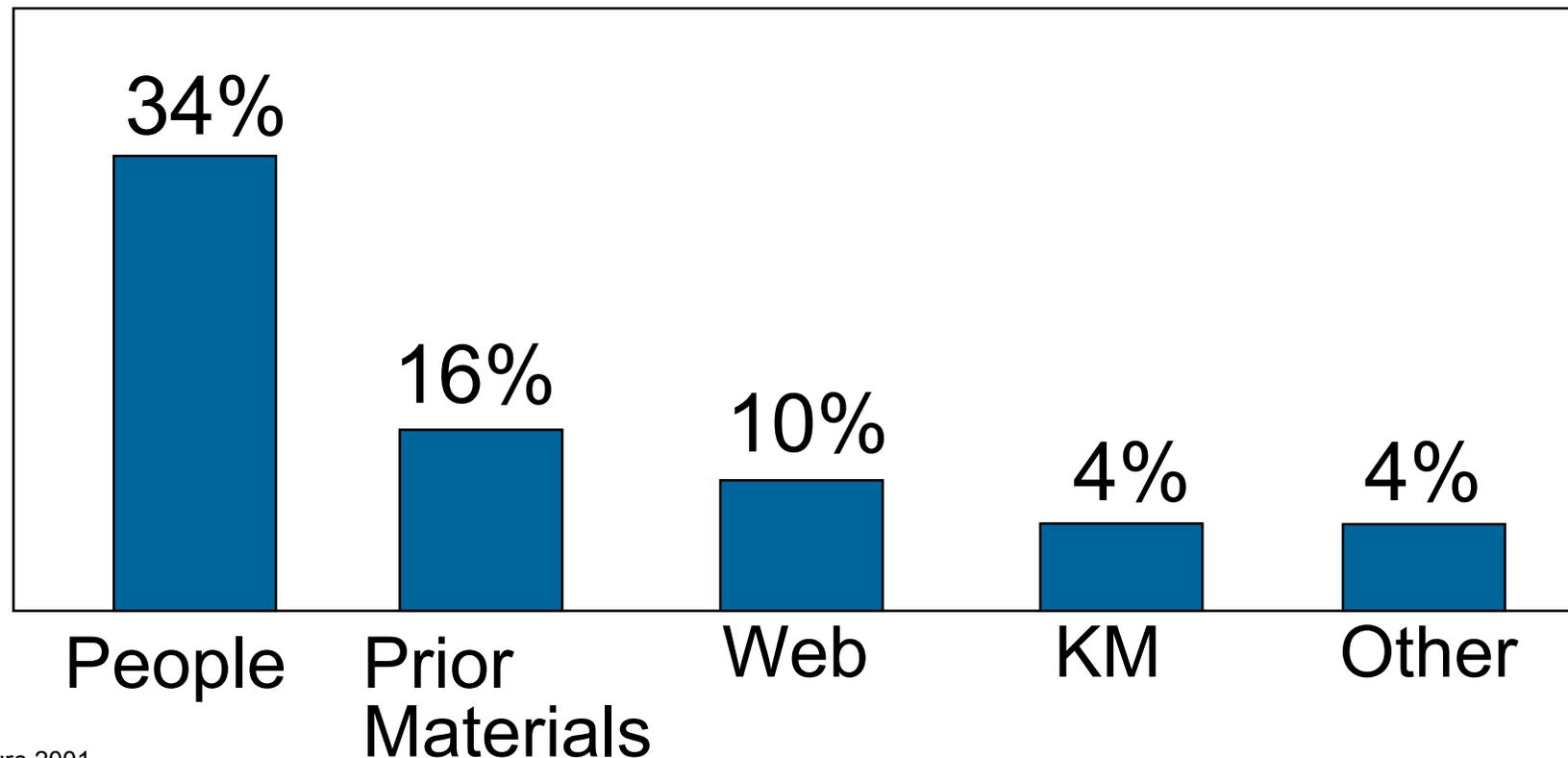


Where do you go when you need Information? Be Honest!



Rob Cross, 2000

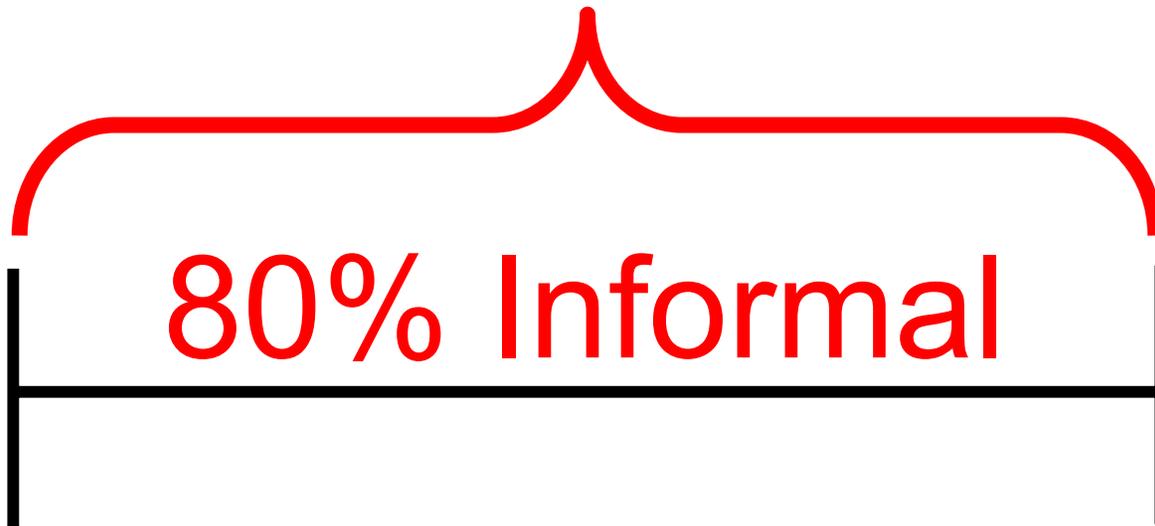
Researched a Consulting Firm with an excellent KM



Where should we focus our effort?



Improve



Improve





- A group with
 - A common sense of purpose
 - Relationships to each other
- Have a real need to know what each other knows

-Diane Hessian, Communispace



Tacit Definition – Marc Rosenberg

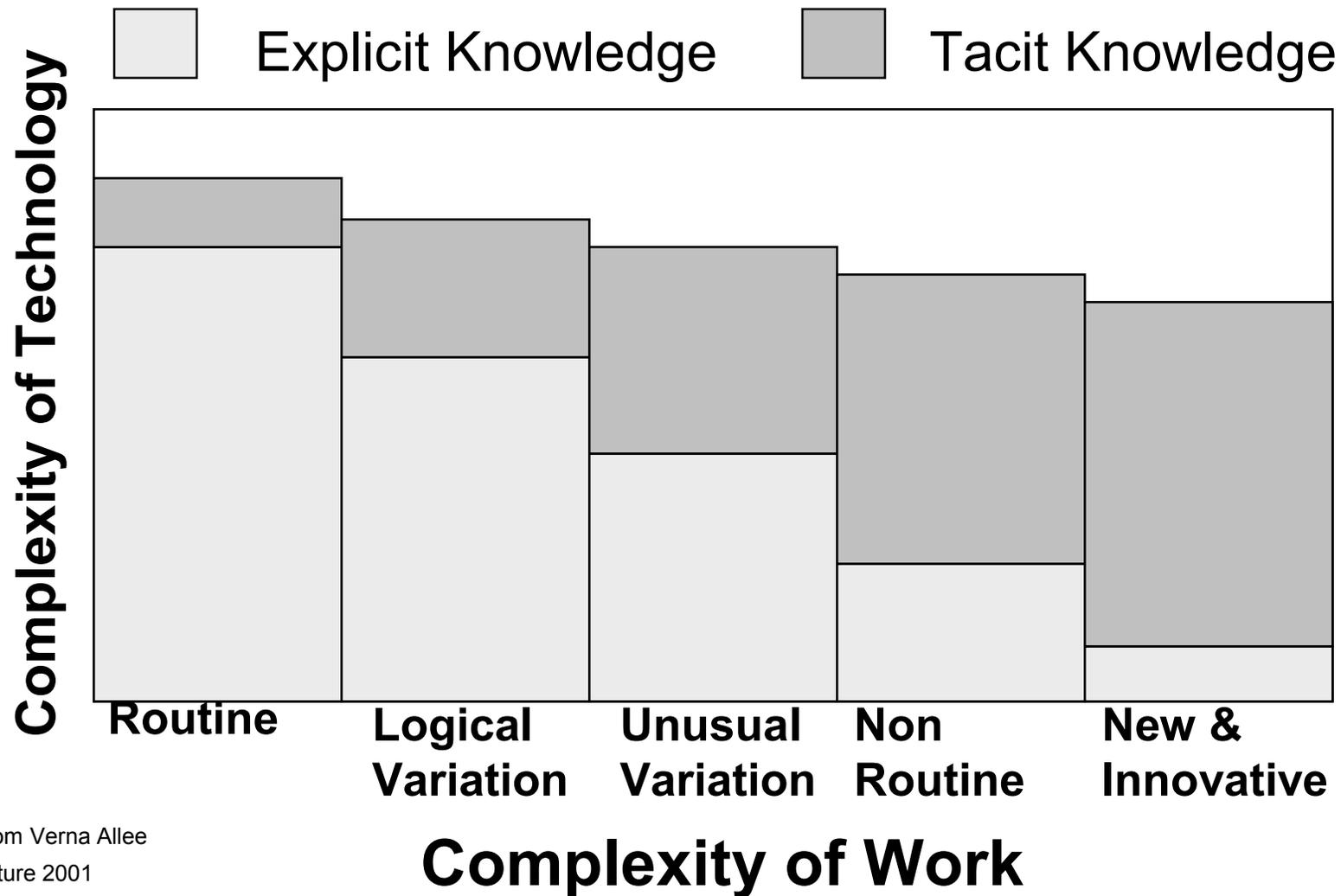
“The expertise, insight and experience of individuals.”

“Heuristics embedded in peoples experience and life’s work.”

“... based on individuals values and in many cases cases the culture of an organization.”

This is hard to capture on paper and is very valuable.

KM – Tacit & Explicit Knowledge



From Verna Allee

© Accenture 2001



So how do you encourage Tacit Knowledge Sharing?

- Value dialogue – Unstructured Dialogue
- Build communities
- Create time and space for employees
- Build systems to find the right person with the right expertise to answer questions
- Build trust to build sharing



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A New Model of Capability Building

