Knowledge Management

Beneath The Fad

Dr David J. Skyrme

This talk is dedicated to the memory of

James Harrison Skyrme

Born 20th May 1911, Pembroke
Died 7th December 1998, Bourton-on-the-Water

Winner of The Duke of Connaught Prize, 1945 (RSA Life Membership)
He introduced me to RSA lectures when I was a schoolboy
and instilled in me a thirst for knowledge,
a legacy that I will treasure for ever.

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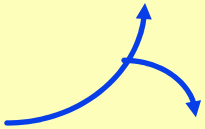
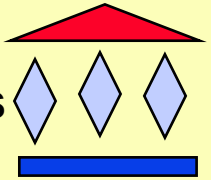
Session Knowledge Map

Questions/ Discussion

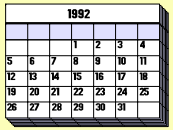


Fad or Fundamental?
Why Knowledge, Why Now?

Critical Success Factors

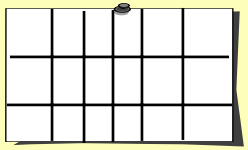


Knowledge Management



The Agenda
- 2 Thrusts
- 7 Levers

Cases



Innovation as Knowledge Flow

Key Concepts
Explicit vs. Tacit

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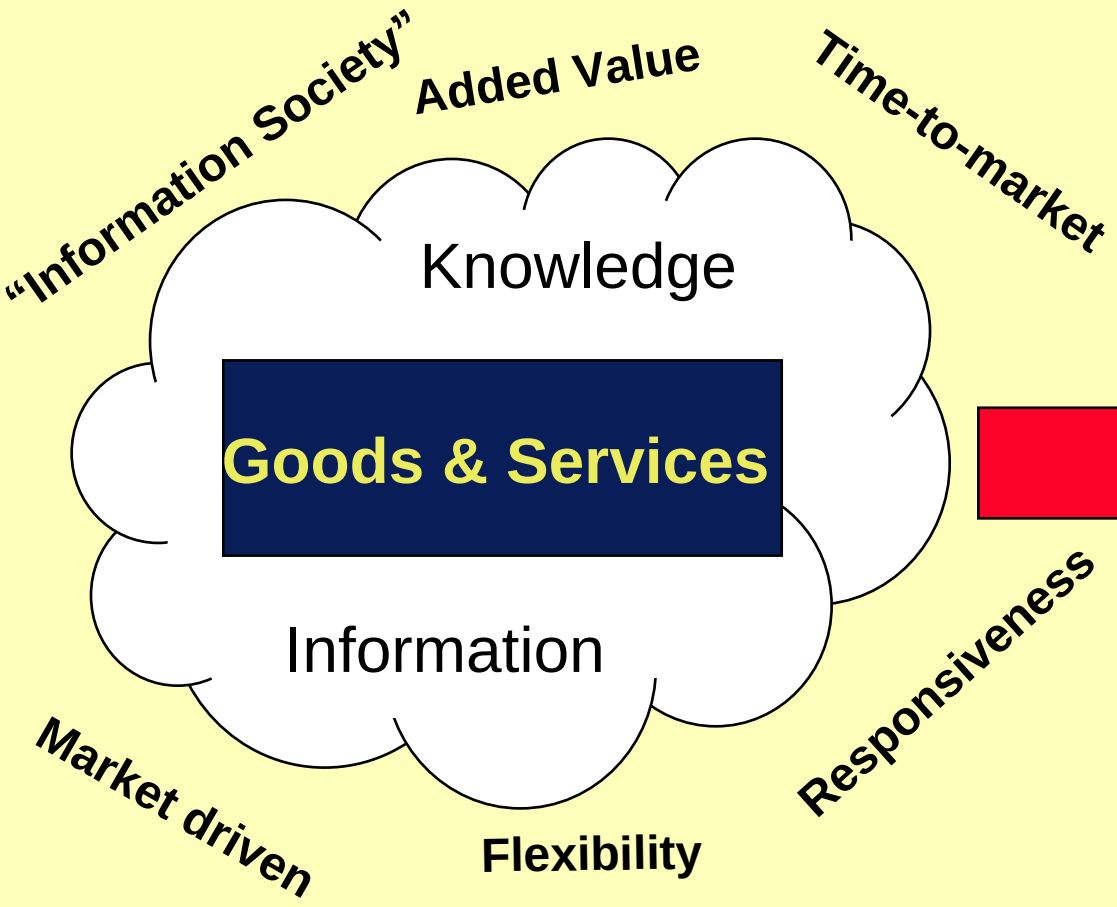
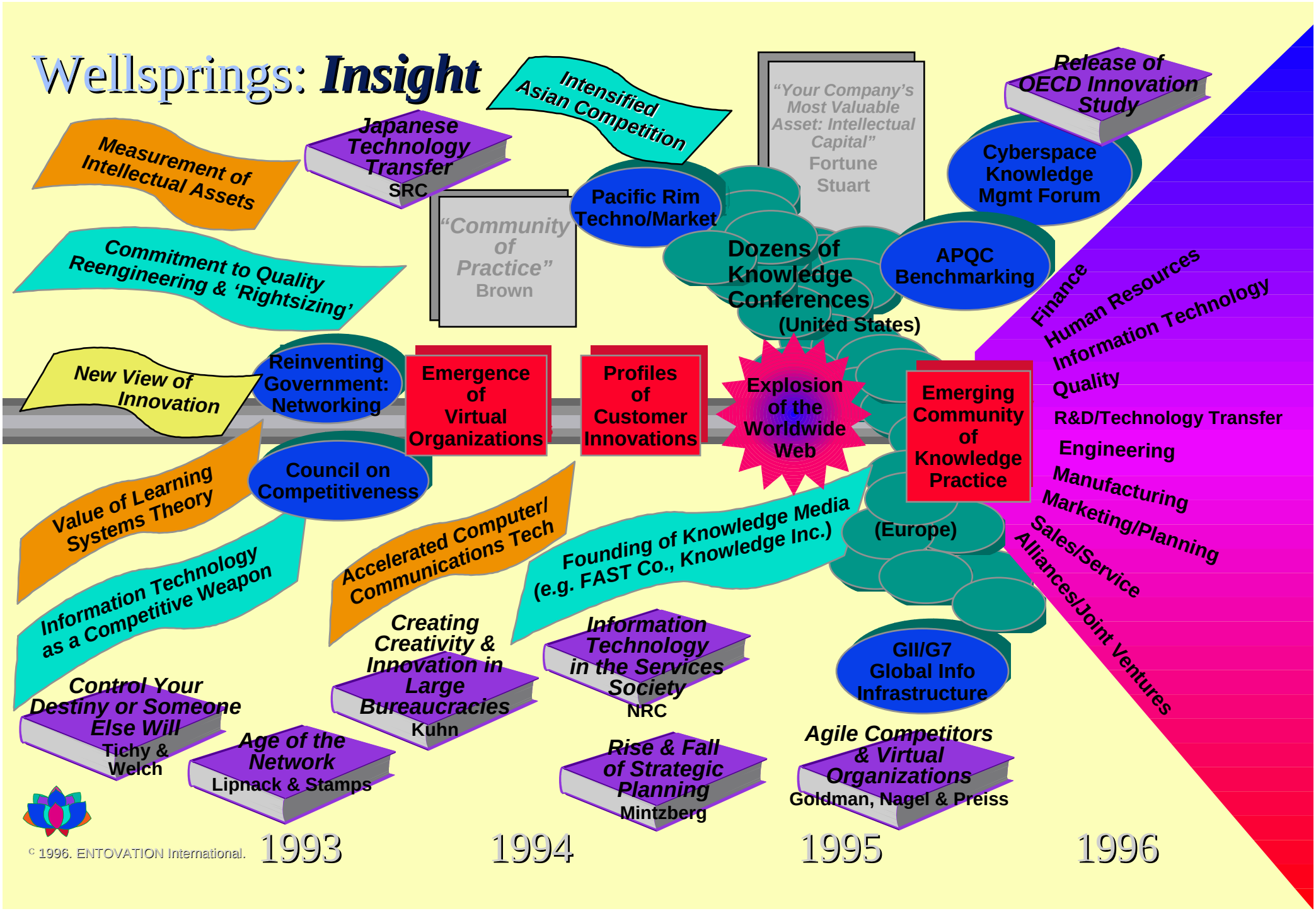
Fad or Fundamental?



Innovation in Products, Services and Processes

- **Global Customers**
- **Changing Needs**
- **Time-to-market**
- **'Smart' Products**
- **Customization**
- **Service**
- **Quality**
- **Intangibles**



Working Definition

Knowledge Management is the explicit and systematic management of vital knowledge - and its associated processes of creation, organisation, diffusion, use and exploitation.

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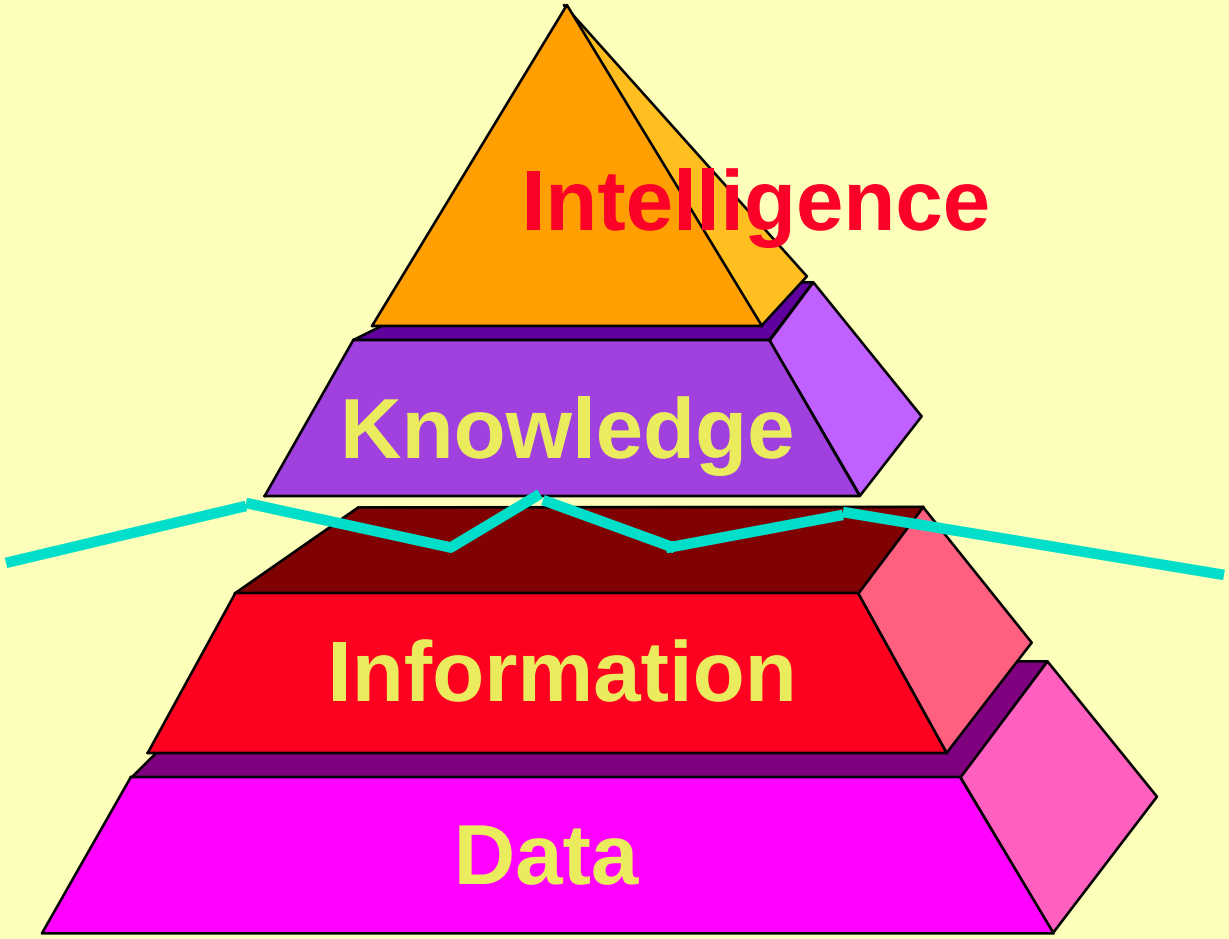
Knowledge is Different (1)



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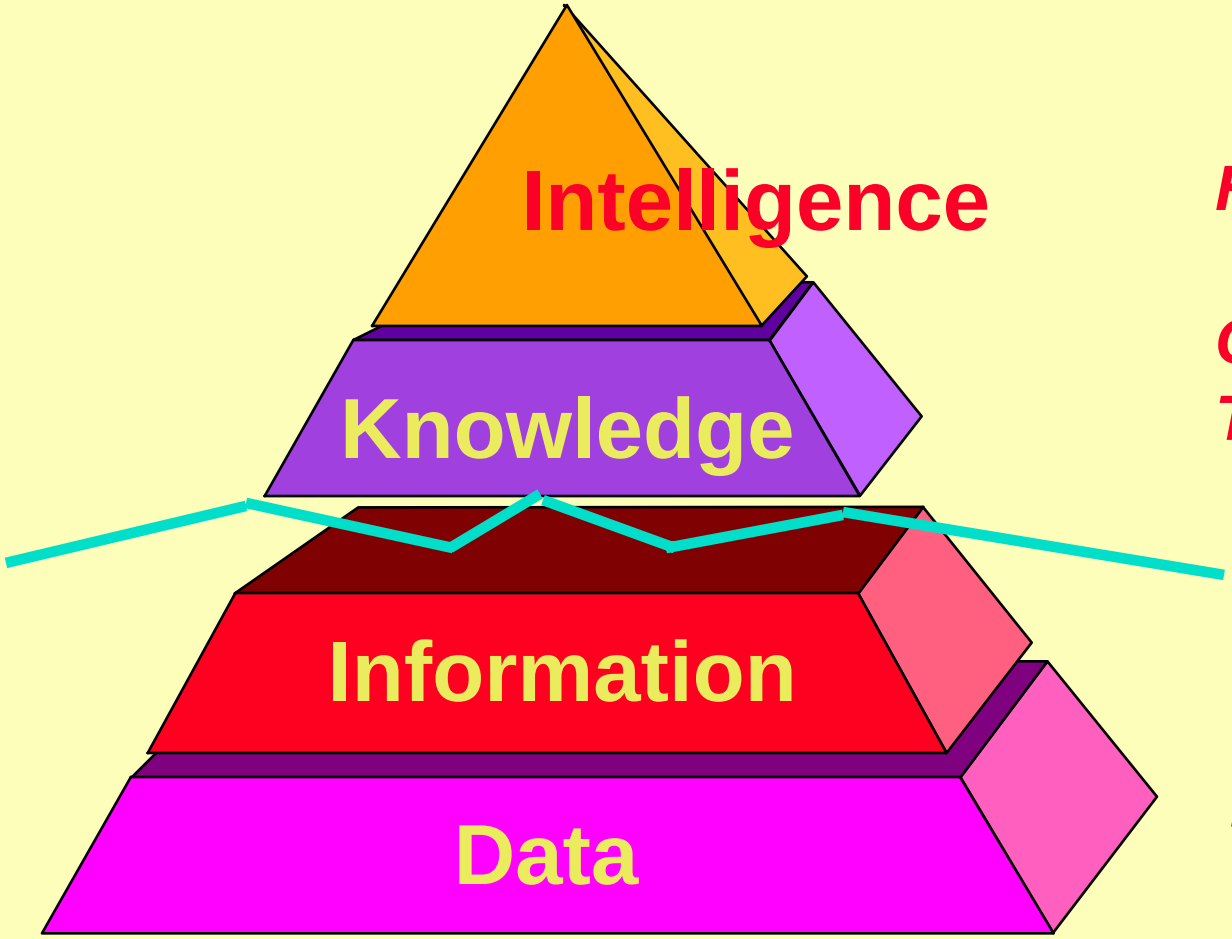
Knowledge is Different (1)



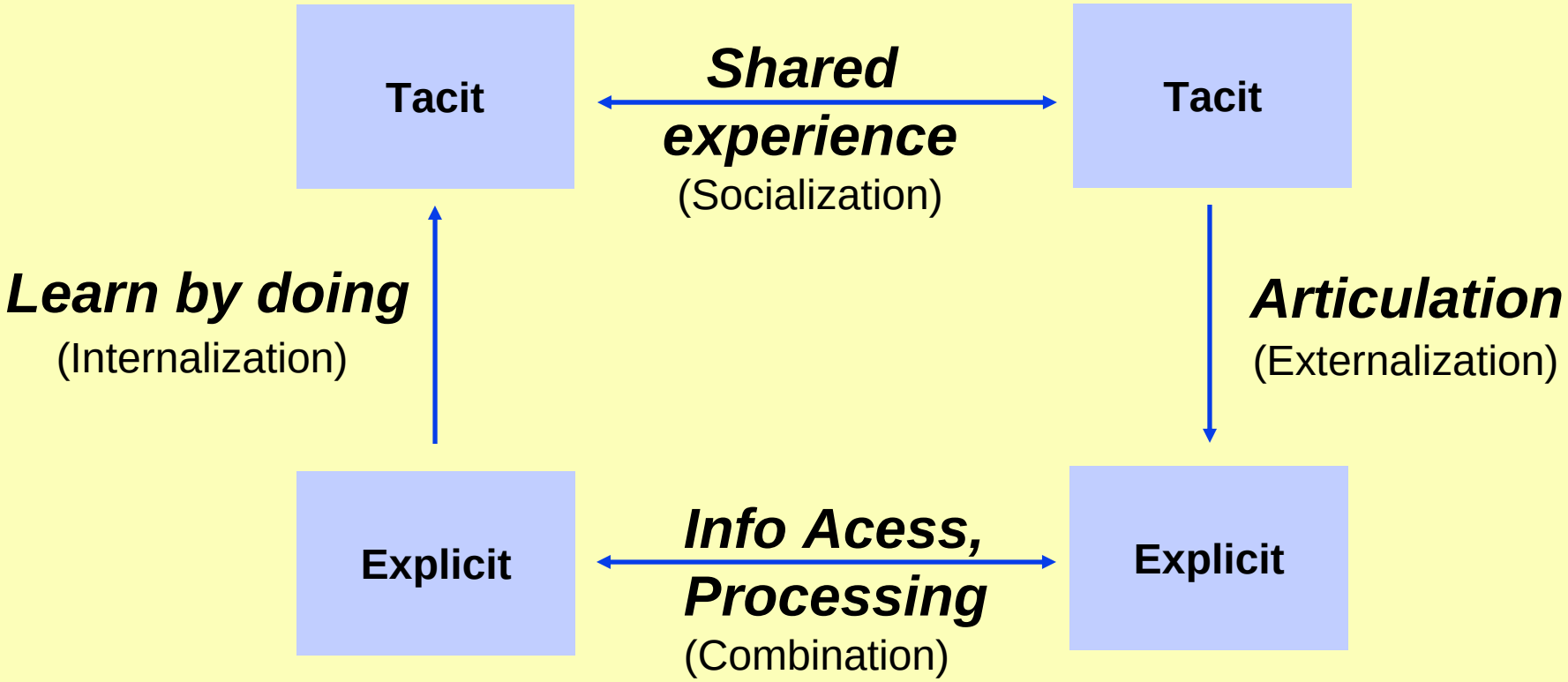
Human, judgemental

Contextual, tacit
Transfer needs learning

Codifiable, explicit
Easily transferable

Conversion Processes

Adapted from Nonaka and Takeuchi



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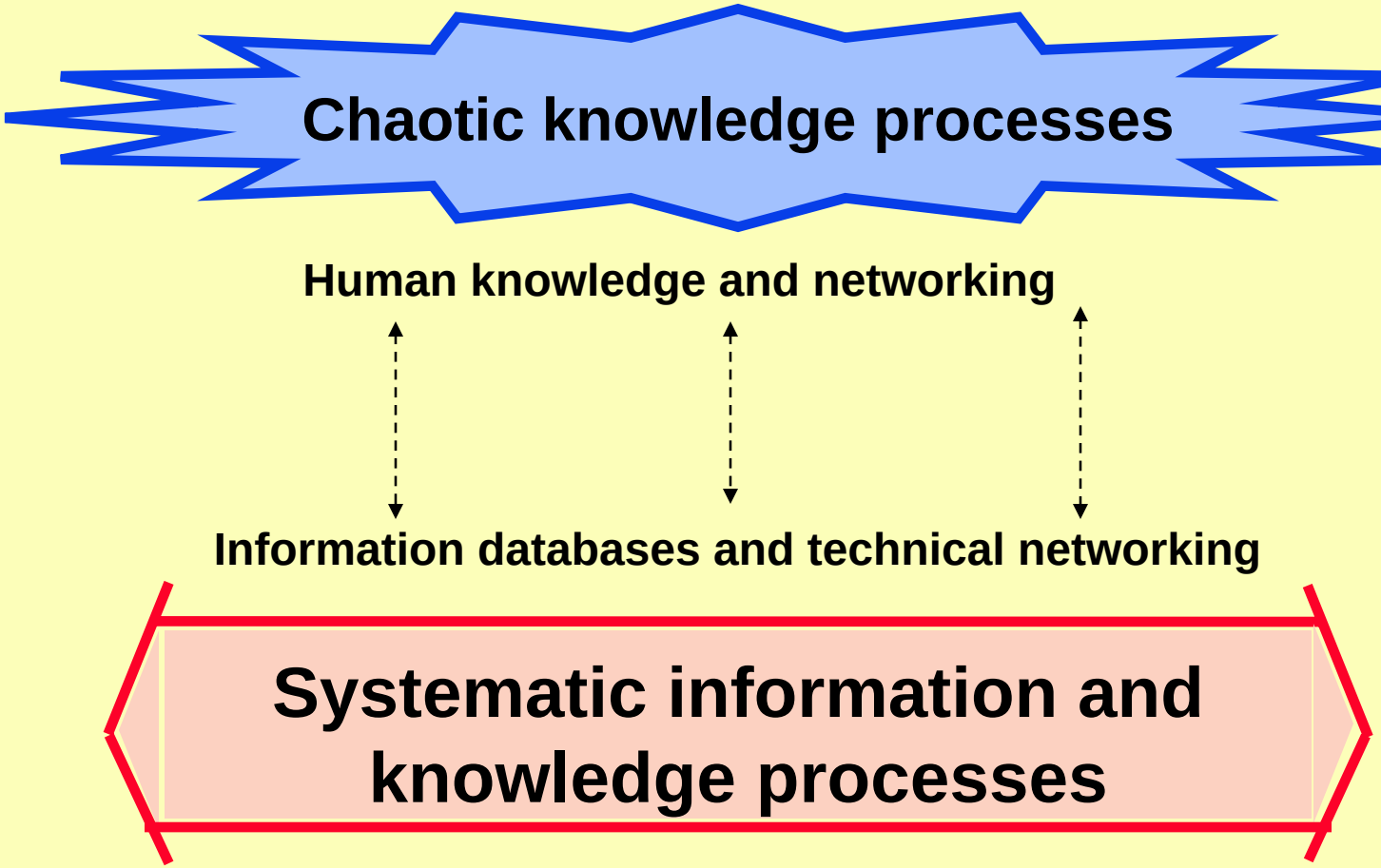
Knowledge is Different (2)



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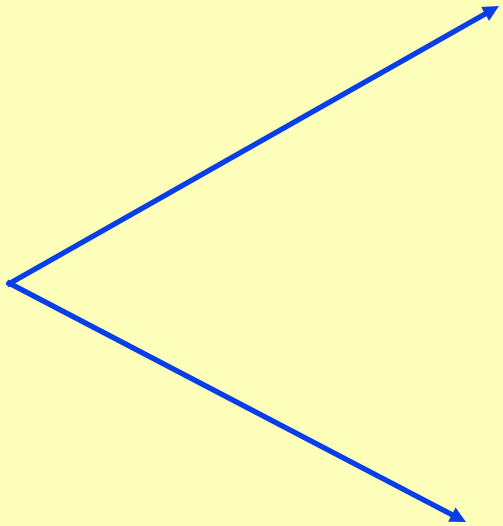
2 Key Thrusts



Sharing existing knowledge
"Knowing what you know"

Knowledge for Innovation
"Creating and Converting"

Seven Levers

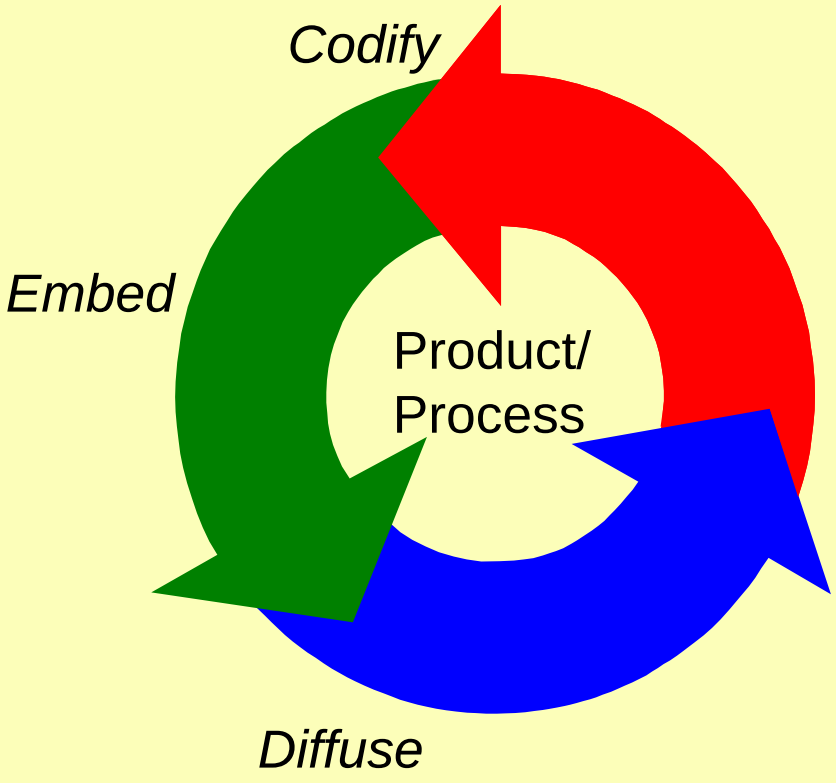
- Customer Knowledge *- the most vital knowledge*
- Knowledge in Products *- 'smarts' add value*
- Knowledge in People *- but people 'walk'*
- Knowledge in Processes *- know-how when needed*
- Organizational Memory *- do we know what we know?*
- Knowledge in Relationships *- richness and depth*
- Knowledge Assets *- intellectual capital*

What is ... in Practice

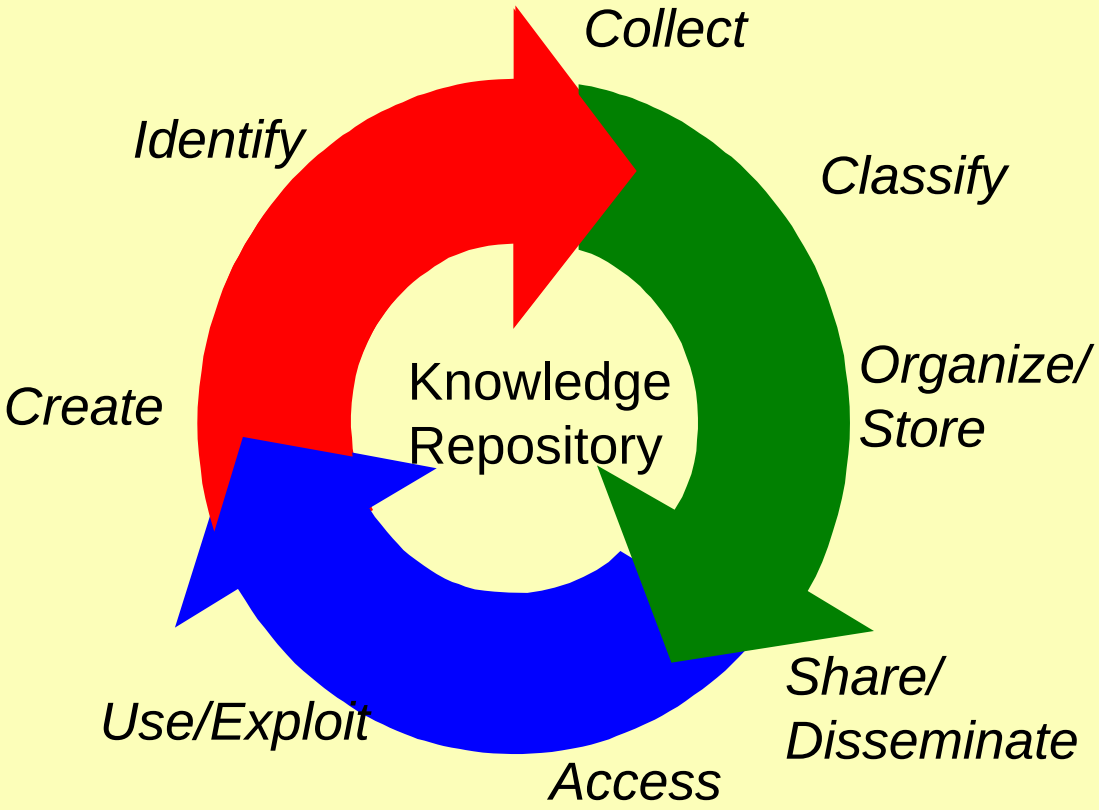
- Knowledge Teams - multi-disciplinary, cross-functional
- Knowledge (*Data)*bases - experts, best practice
- Knowledge Centres - hubs of knowledge
- Learning Organization - personal/team/org development
- Communities of Practice - peers in execution of work
- Technology Infrastructure - Intranets, Domino, doc mgt
- Corporate Initiatives - CKOs, IAM, IC accounting

Knowledge Cycles

Innovation Cycle



KM Cycle



‘Knowledge’ Repositories

- More contextual information - why, where, how etc.
- Pointers to experts/expertise - useful directories
- Multimedia - video, sound clips, desk-top conferencing
- Author(ity)/expert access - click for conversation
- Build Knowledge Communities - discussion groups, forums
- Add the human interface - people-to-people as well as people-to-computer

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Knowledge Transfer Mechanisms

	Same Place	Different Place
Same Time	***Settings*** Workshops Meeting Support ShareFairs Conversations	***Remote Access*** Videoconferencing Audioconferencing DTC
Different Time	***Information Objects*** Document mgmt White boards Project rooms Log books	***Asynchronous*** Email lists Intranets Web conferencing

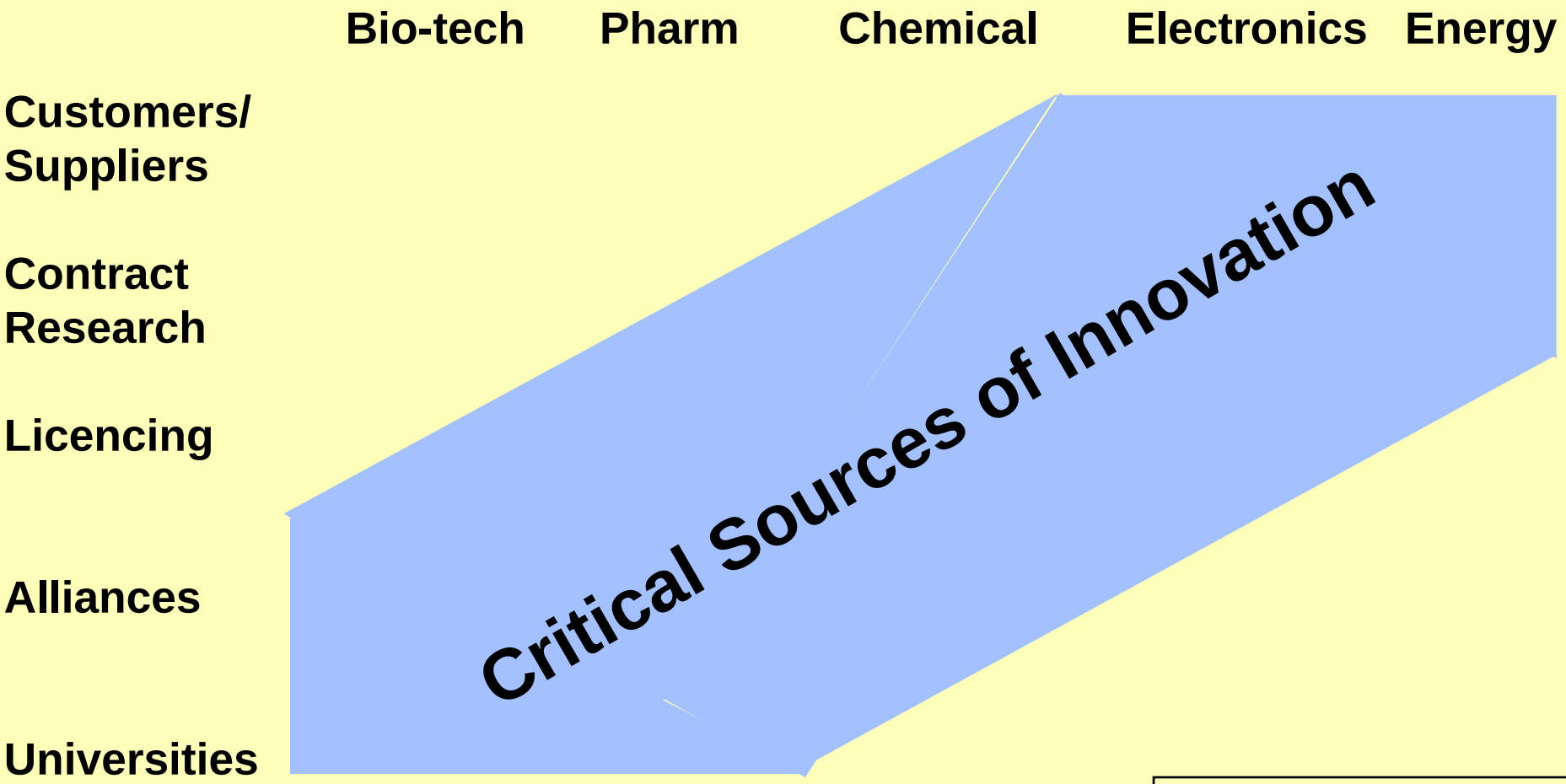
Contrast In R&D Generations

Source: ENTOVATION International

Management Operations	*1st* Technology as the Asset	*2nd* Project as the Asset	*3rd* Enterprise as the Asset	*4th* Customer as the Asset	*5th* Knowledge as the Asset
Core Strategy	• R&D in Isolation	• Link to Business	• Technology/ Business Integration	• Integration With Customer R&D	• Collaborative Innovation System
Change Factors	• Unpredictable Serendipity	• Inter-dependence	• Systematic R&D Management	• Accelerated Discontinuous Global Change	• Kaleidoscopic Dynamics
Performance	• R&D as Overhead	• Cost-Sharing	• Balancing Risk/Reward	• 'Productivity Paradox'	• Intellectual Capacity/ Impact
Structure	• Hierarchical; Functionally-Driven	• Matrix	• Distributed Coordination	• Multi-Dimensional 'Communities of Practice'	• Symbiotic Networks
People	• We/They Competition	• Proactive Cooperation	• Structured Collaboration	• Focus on Values and Capability	• Self-Managing Knowledge Workers
Process	• Minimal Communication	• Project-to-Project Basis	• Purposeful R&D/Portfolio	• Feedback Loops and 'information persistence'	• Cross-Boundary Learning and Knowledge Flow
Technology	• Embryonic	• Data-Based	• Information-Based	• IT as a Competitive Weapon	• Intelligent Knowledge Processors

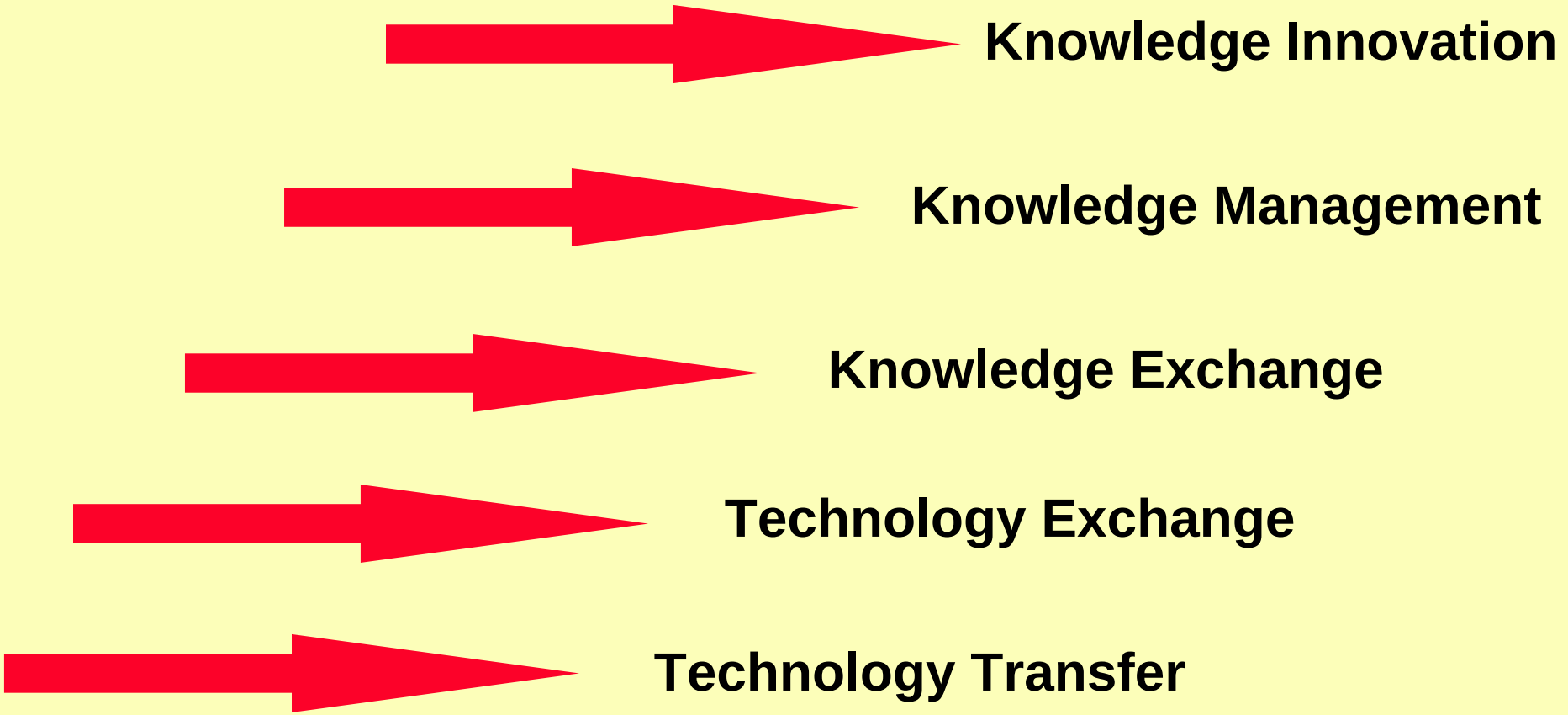
Customer *Retention* → Customer *Satisfaction* → Customer *Success*

Collaboration



After Tidd & Trewhella (1997)

Evolution of the *Transfer Concept*



Stages of Innovation Process

Source: ENTOVATION International

Stage I **Technology Transfer** (i.e., moving from one place to another; the 'passer/receiver language' applied within labs, within consortia or country to country)

Stage II **Technology Exchange** (i.e., technology transfers through people; the 'contact sport'; dual communication links; dialogue among parties; ideas from either side)

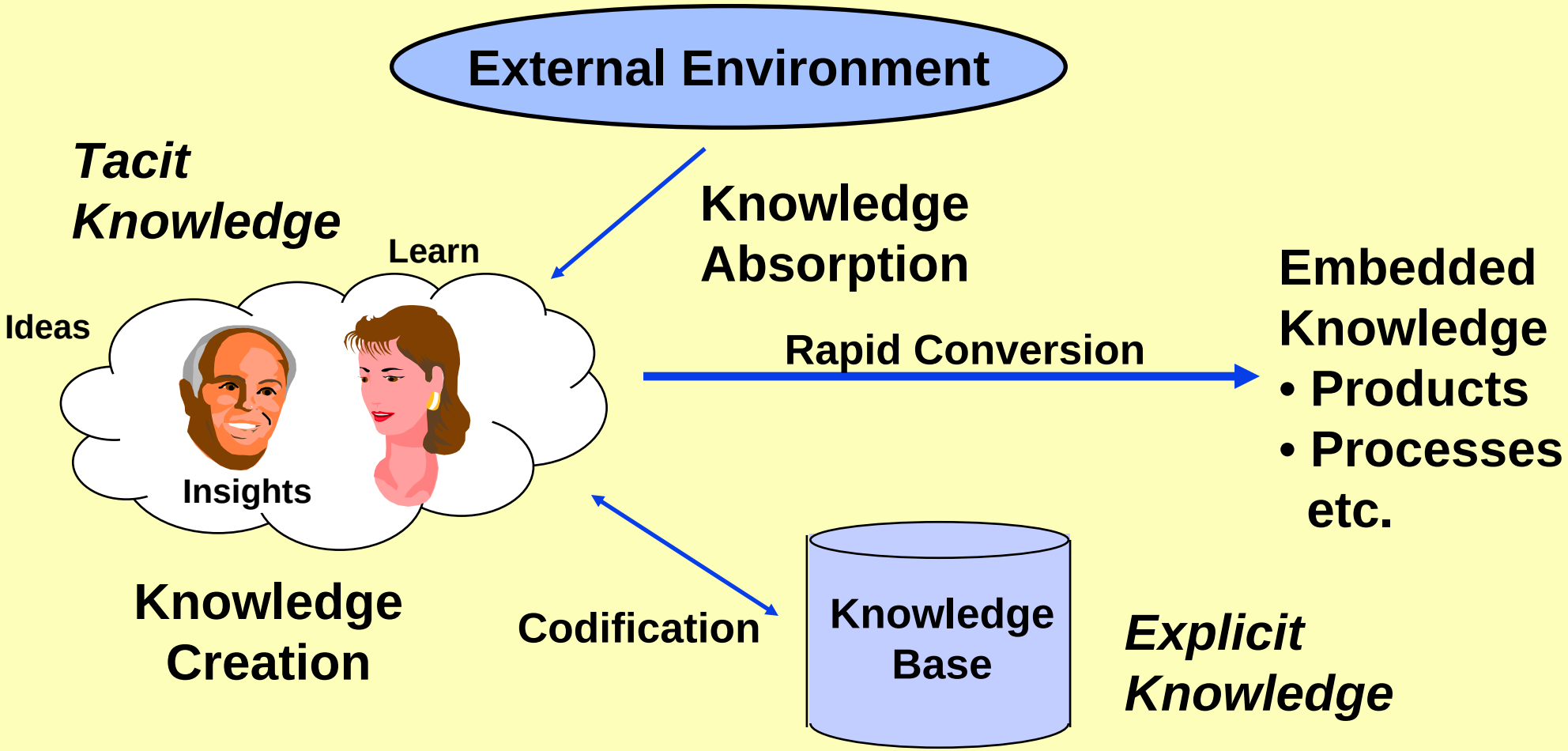
Stage III **Knowledge Exchange** (i.e., shift of what is transferred from 'widgets' to ideas and insights as a function of the human interaction; realization of something beyond 'information'; timely access provides the competitive advantage)

Stage IV **Technology/Knowledge Management** (i.e., recognition that the 'process' cannot be left to serendipity; organizations must pay 'sweat dues' in addition to the enrollment fee; emergence of a 'new' discipline - The Management of Technology; attempts to build planning staffs and mechanisms)

Stage V **Knowledge Innovation Systems** (i.e., realization of the dynamic nature of the total process of innovation; emergence of the 'virtual' research enterprise without functional, industry, sector or geography borders; ; takes a systematic view of 'knowledge flow'; focus shifts from monitoring discrete deliverables to creation of a learning system intended to provide sustainable economic growth)

Note: These can be mapped across the five architectural dimensions to assess your stage.

Research as Knowledge Flow

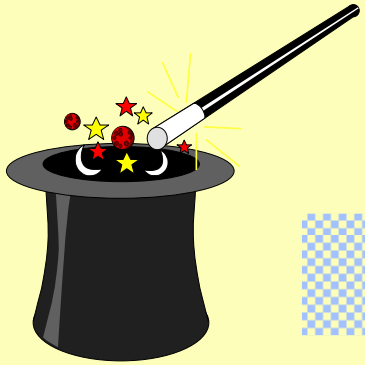


Is Creativity the Problem?

Problem Analysis

Innovation Process

Motivation



Idea Generator

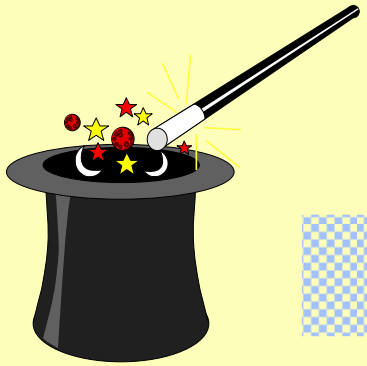
Accepted

Converted

Settings

100 **10** **1**

Better Innovation



Idea Generator

Accepted

Converted

Real World

Customers
Markets
Suppliers
Employees
Partners

Example: Schlumberger ClientLink

Idea Bank

Problem Bank

Some Cases

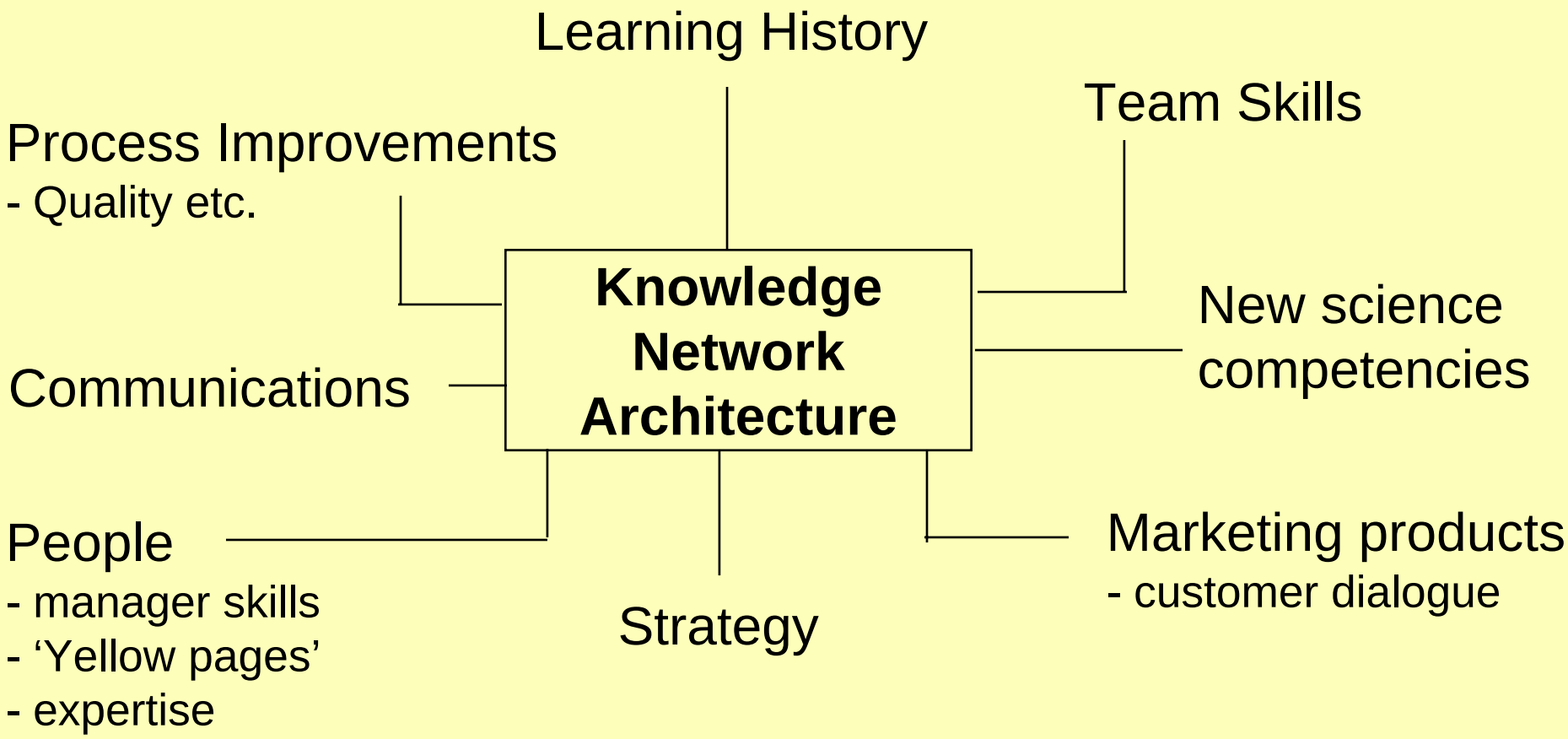
- Create/discover - 3M, Glaxo Wellcome
- Codify - BHA, Standard Life, PwC
- Diffuse - H-P, Mitre, Thos. Miller, Rover, BP
- Use - Buckman, Steelcase, PwC,Teltech
- Process/culture - Cigna, Analog
- Conversion - Monsanto
- Measure/exploit - Skandia, Dow

Glaxo Wellcome

- A strategy led initiative - learning org. focus
- Workshops to convert rhetoric to action plans
- Using Intranets to share R&D, help approvals
- Library, document management support
- Reoreinted Technical Architecture
- Challenge is creating ‘sharing culture’

Bottom Line - better RoIC

Glaxo Wellcome - Knowledge Net



MITRE

- Focus on accelerating organizational learning
- Submitting publications is “ridiculously easy”
- Knowledge Transfer Champions
- Measures - top performers/org goals/sharing
- Intranet gatekeepers; expert finders; library ESP; News Navigator; knowledge stewards
- KEAN (Knowledge Exchange & Annotation Engine) - metadata

Bottom Line - Better sharing; faster diffusion

Monsanto

- KMA - Knowledge Management Architecture
- Honeycomb organization structure
- Links internal/external, formal/informal (+YP)
- Heavy I&T - library science and IT people
- Focus on conversion processes (cf. Nonaka)
- Global Learning Centre + Balanced Scorecard
- Change Agent - KMT - “virtual encounters”

Bottom line - better collaboration, faster innovation

Teltech Resources

- "Experts for Hire" - 3000 plus; many fields
- Services - assisted database, vendors, technical alert
- KnowledgeScope™ - a taxonomy; 1000 new terms/mth
- Knowledge Analysts - client/user bridging
- Reorient client's 'information behaviour'
- Monthly service summaries

Bottom Line - successful KM consulting service

Analog Devices

- Example of ‘community of practice’
- Stata promoting rate of learning
- email, dbases - customer info into development
- Innovation through collaboration & relationships
- Focus on ‘conversations’ - sharing language
- Challenges - momentum, flow, energy

Bottom line - growth/profit (up 70 per cent 1996)

Buckman Laboratories

- "Solutions lie in minds, not databases"
- Corporate network (V1 - CIS) - up in 30 days
- Knowledge Transfer department and VP
- CEO monitors and uses the network
- FAQs, virtual conferences, forums
- K'Netix (sm) - knowledge sharing Intranet
- Metrics - direct customer engagement

Bottom line - open, unrestricted communication

Key Findings

Laggards

- Simplistic view
- Blindly follow process
- Over reliant on technology
- Disseminate best practice
- 'Know the answers'
- Internal focus

Leaders

- Holistic perspective
- Articulate broad vision
- Add 'soft' infrastructure
- Seek breakthroughs
- Open learning culture
- Broad interaction

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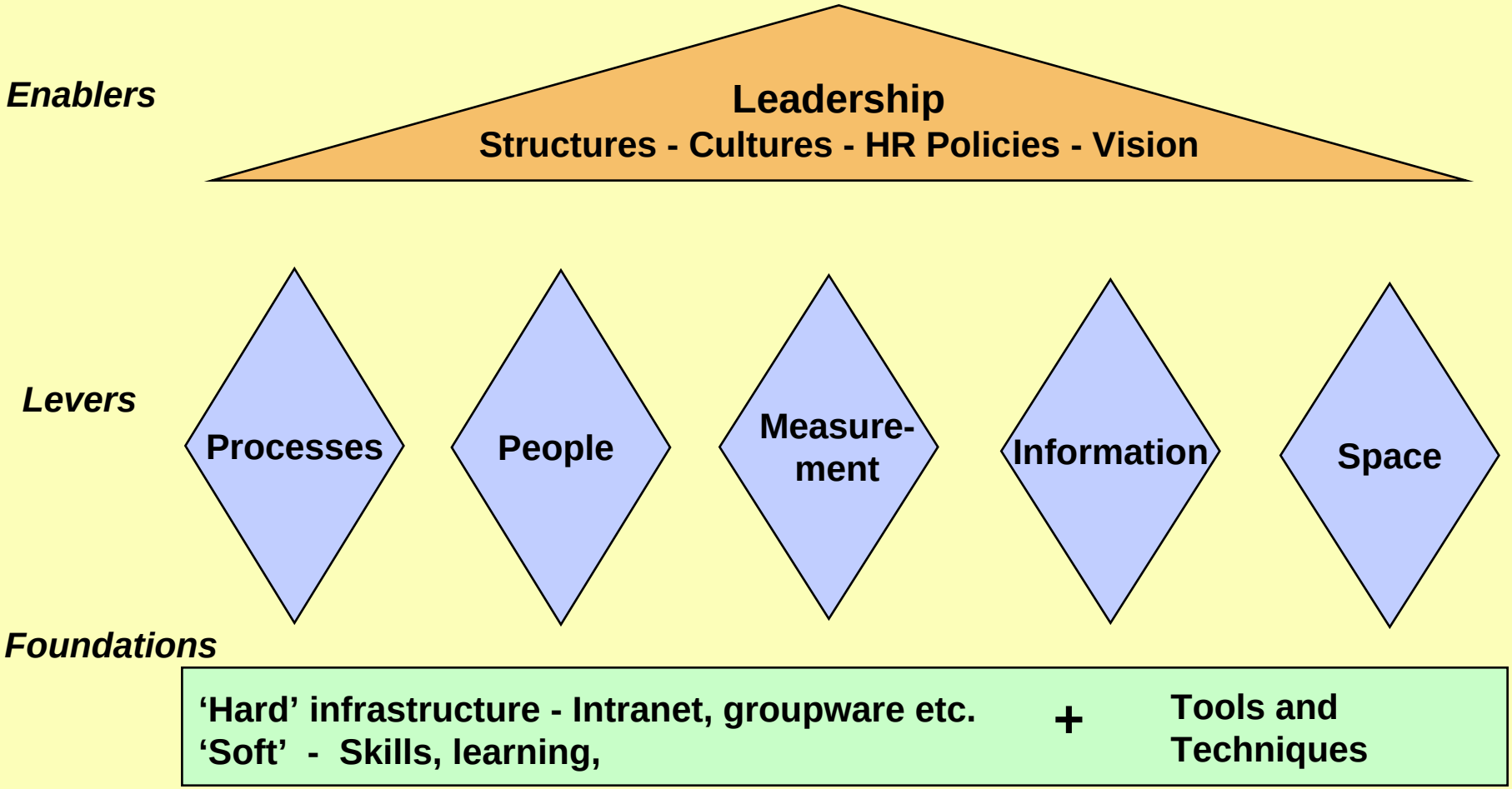
KM Framework for Success

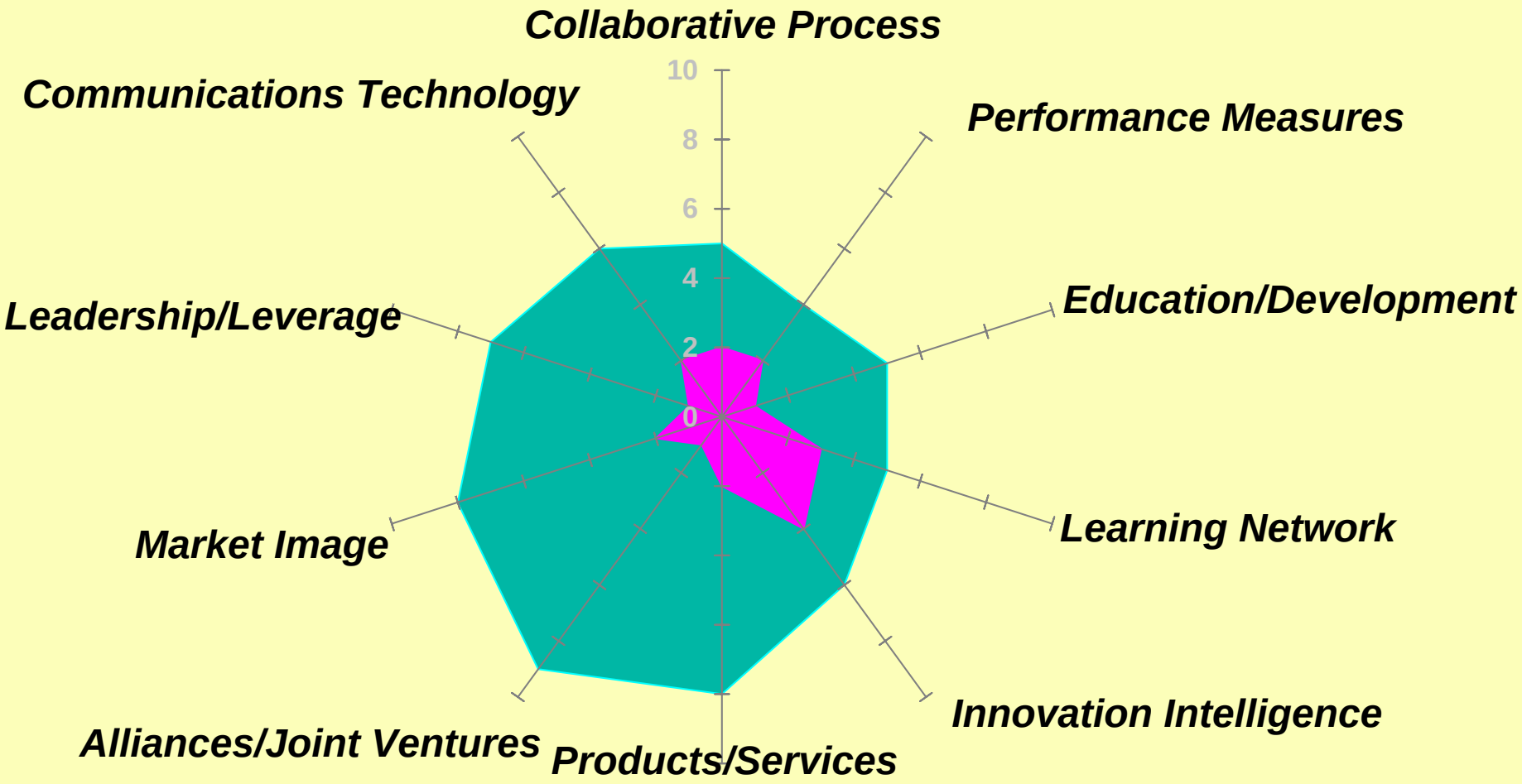


Critical Factors

- Strong link to business imperative
- Compelling vision and architecture
- Knowledge leadership
- Knowledge creating and sharing culture
- Continuous Learning
- Well developed ICT infrastructure
- Systematic knowledge processes

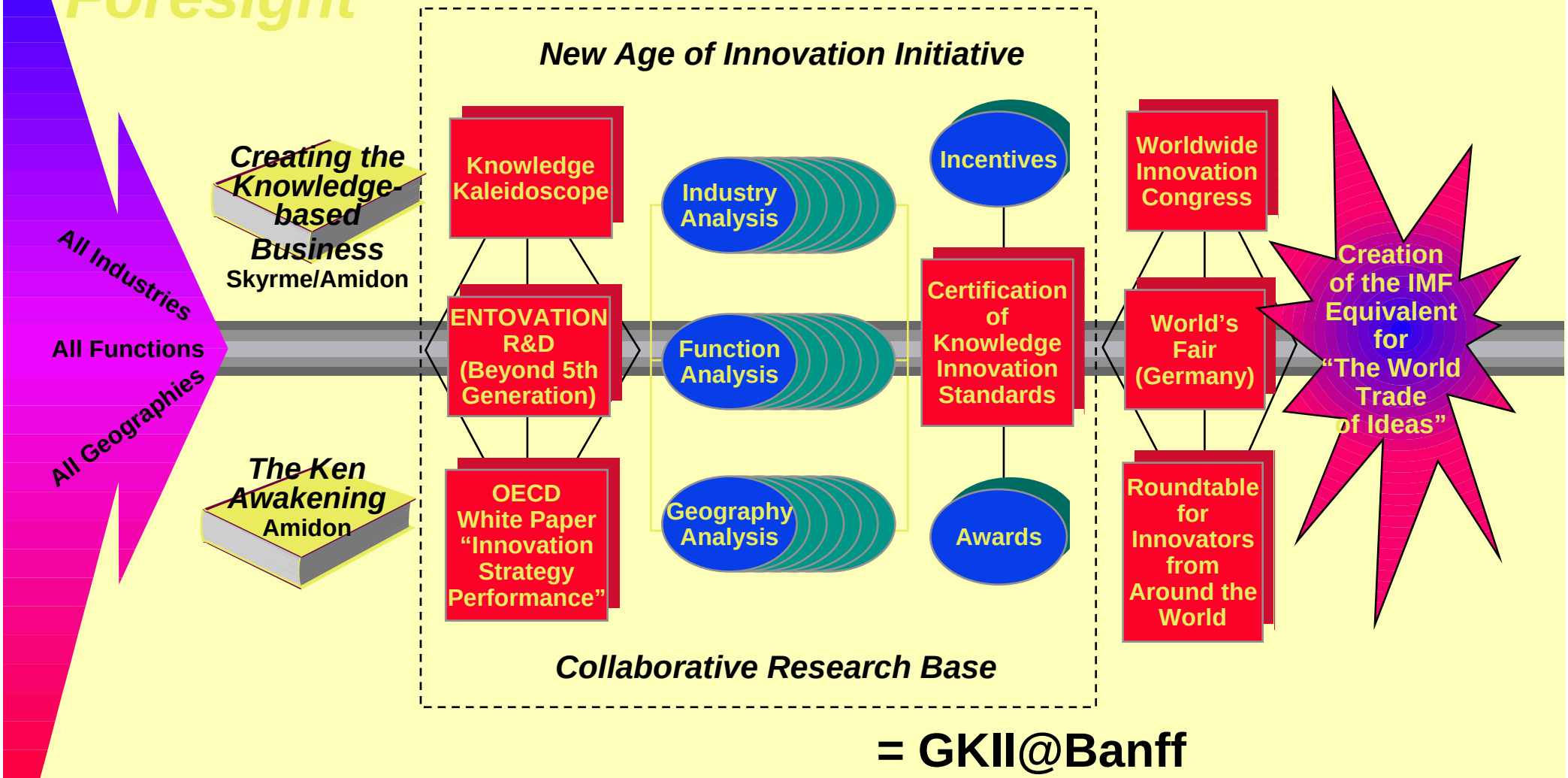
Company/Enterprise: *Gap Analysis*

Source: ENTOVATION



Wellsprings:

Foresight



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1997 1998 1999 2000

Review and Action

1. Where are you? (audit tool)
2. Who are your knowledge champions?
3. Do you need a CKO?
4. Which levers do you exploit?
5. Where is your best knowledge?
6. How can you exploit ICT?
7. Do you reward knowledge conversion/sharing?

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- Global Knowledge Innovation Infrastructure
- Five phases - practicum, research, innovator's roundtable, awards, world-wide innovation congress
- Action-Research through Structured Dialogue
- Implications of the Knowledge economy
  - by function, industry, geographic region
- Banff Centre - blend of management, creative arts and the environment

Contact: Debra Amidon @ENTOVATION or Doug Macnamara@Banff
Web site (from Jan 1999): www.gkii.org