

# Nigerian Nuclear Regulatory Authority

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Spring November 22, 2016

## Knowledge Management in NNRA.pdf

Nkiru Opara, *Nigerian Nuclear Regulatory Authority, Abuja.*



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Available at: <https://works.bepress.com/nkirujarlath/10/>

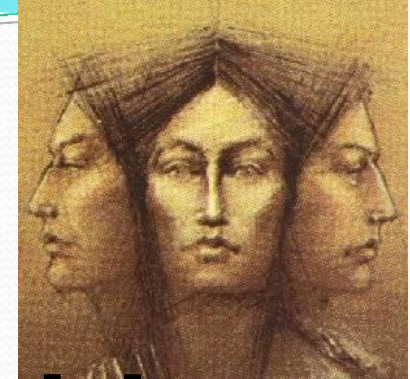
# KNOWLEDGE MANAGEMENT IN NNRA

Opara Nkiru

Department of Authorization and Enforcement

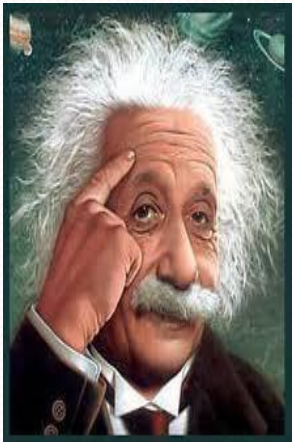
22 November 2016

# Quotes



**“When you make a decision, you must think seven generations out”**

*...The Constitution of the Iroquois Nations*



**“Knowledge is experience; everything else is information”**

***Albert Einstein***



## Ponder on this:

- What are the unique/critical knowledge in NNRA
- Where they reside
- Are there any risk of losing them
- Can they be captured
- Are there policy for KM in NNRA
- Who is responsible for knowledge Management in NNRA



# Content

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# Objectives





# What is knowledge

“mental constructs used in acquiring and understanding facts, and the application and re-assembling of those facts to think creatively, solve problems and make judgments.

**acquiring, understanding and interpreting information.** Knowledge provides the full requirements to undertake a given job or task.

**capacity for effective action** with respect to the subject in question.



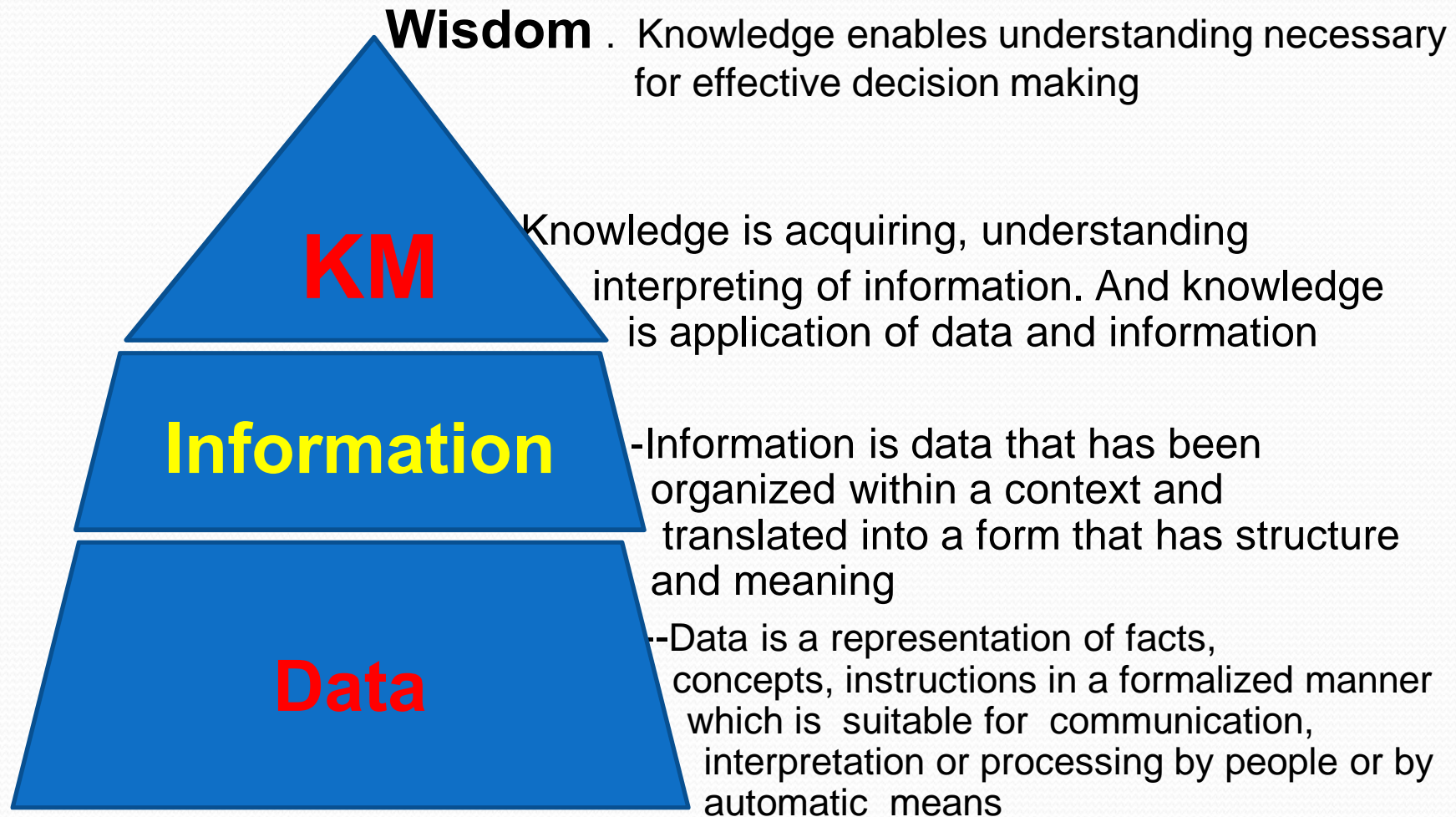
# Knowledge cont'd

Knowledge is applied to;

- problem solving and learning,
- forming judgments and opinions,
- decision making,
- forecasting and strategic planning,
- generating feasible options for action, and
- taking action to achieve desired results.

# Content of human mind

## Data---Information---Knowledge





# Information/Knowledge

Information is understood as purposefully and relevantly structured data,

knowledge exists within people as a function of their values, framed experiences, contextual information, and expert insight.

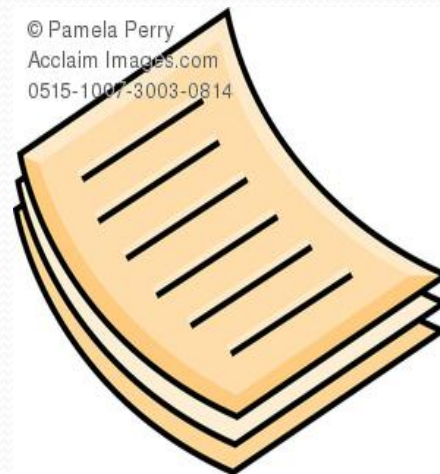
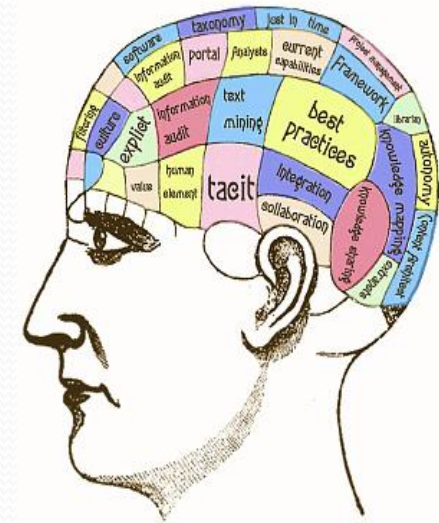
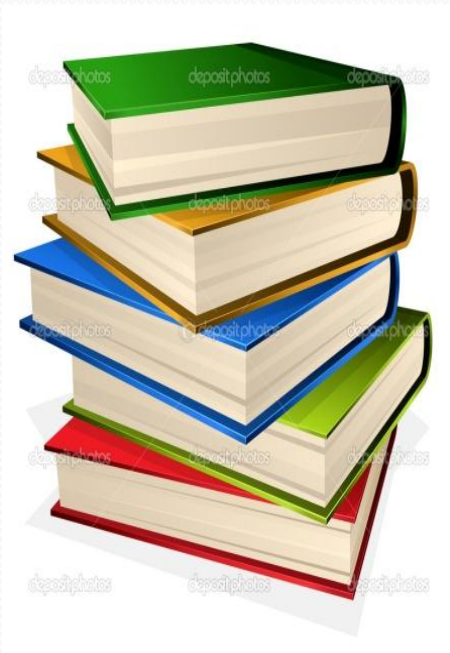
Thus, knowledge is information that has been enriched through human interpretation, analysis, and context.

Information's applicability, credibility, and validity cannot be taken for granted.

Knowledge, however, is difficult to duplicate because its validation and applicability depends on the interpretation of a person based upon certain skills and experiences.

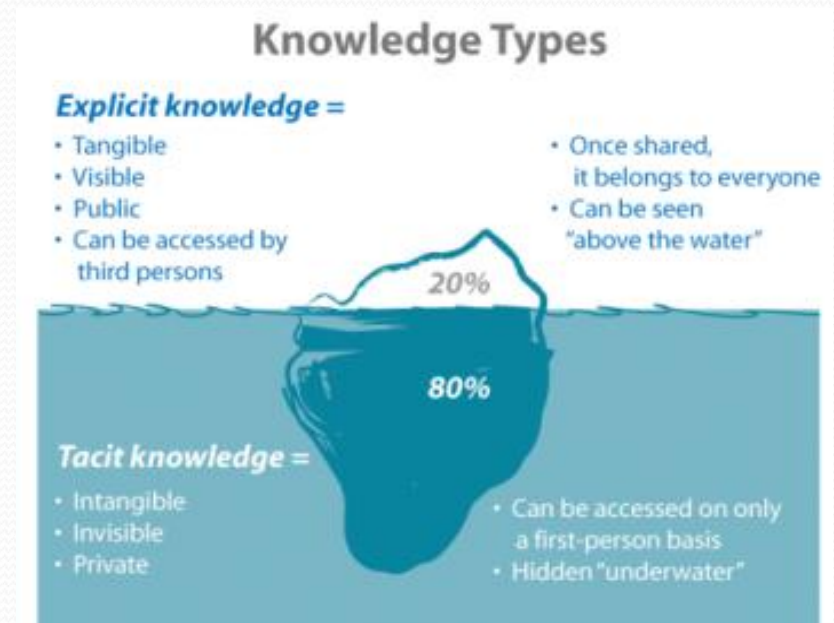
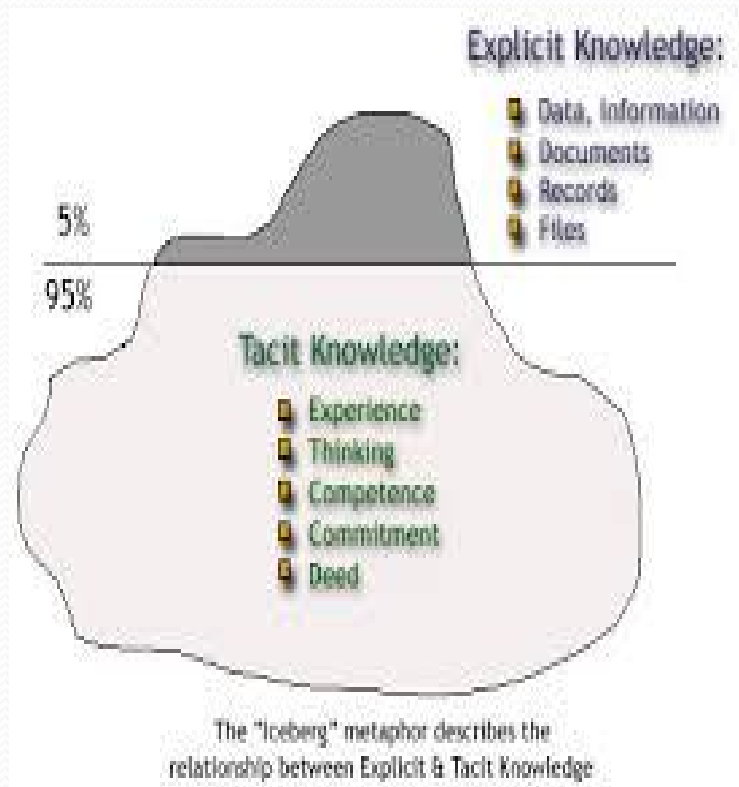
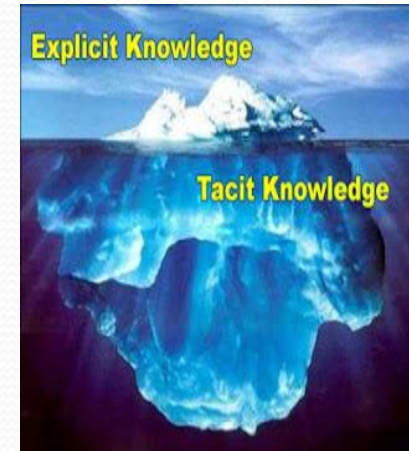


# Types of Knowledge



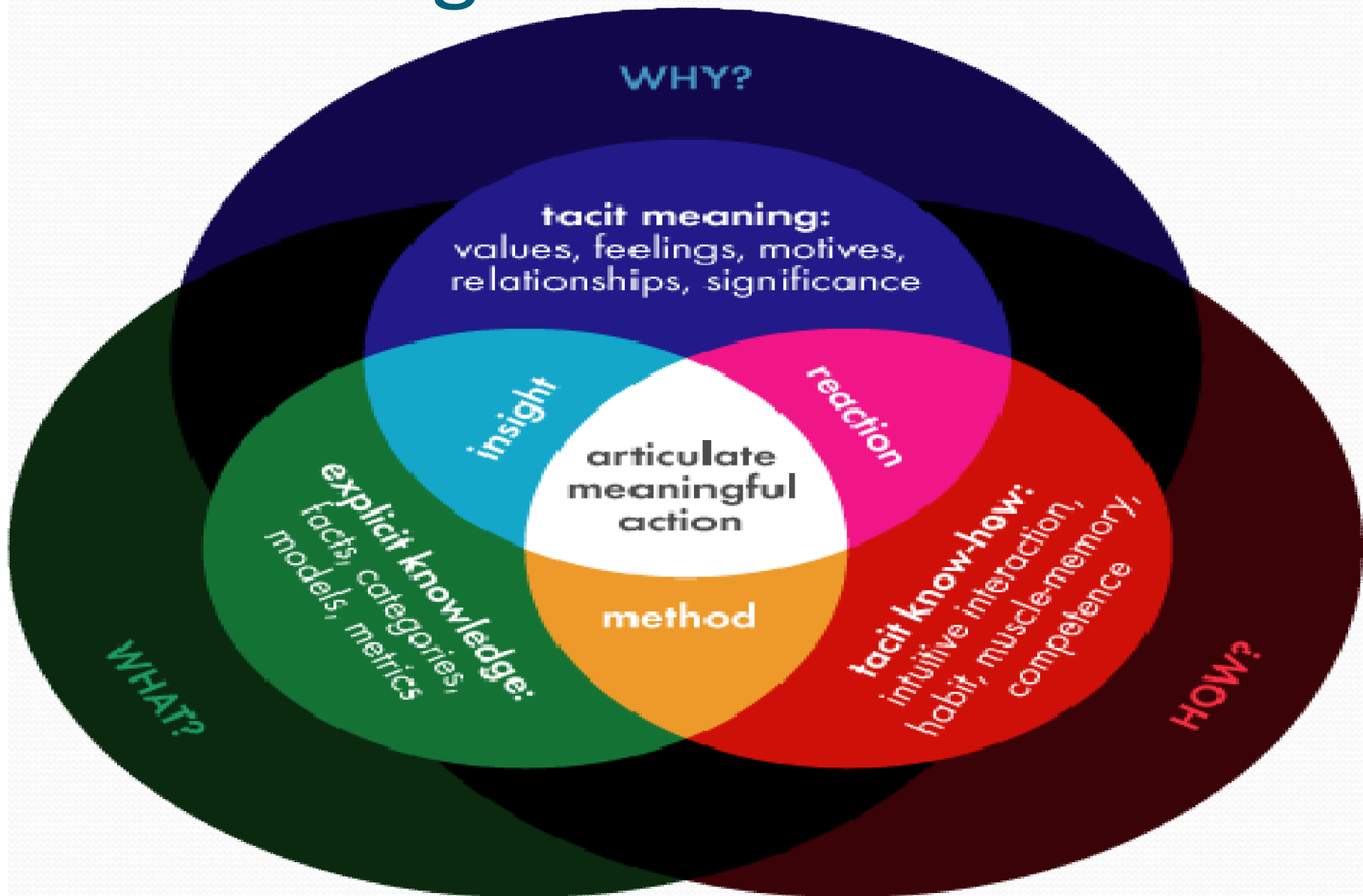
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# Types of Knowledge





# Knowledge as a resource





# Knowledge as a resource cont'd

Know what is descriptive and is the basis of a shared and explicit understanding of concepts, ideas, relationships, and categories that enables effective communication among people in organizations.

Know how refers to how an activity is performed or how it happens. It is a procedural knowledge shared among people in organizations that enables their actions to be coordinated smoothly.

Know why refers to why something occurs. As such, it sometime becomes the assumptions and theory in action that drives the formation of organizational strategies and practices.

# What is knowledge management

An integrated systematic approach to identifying, managing, and sharing an organization's knowledge and enabling groups of people to create new knowledge collectively to help in achieving the organization's objectives.

Knowledge management helps an organization to gain insight and understanding from its own experience



# Why KM in Nuclear Industry

**Complexity:** physical, chemical, biological and other aspects must be considered as a whole. That makes it unique/critical.

**Cost:** due to its complexity, the creation of nuclear knowledge is quite expensive. The construction and operation of nuclear facilities often involve large, complex engineering projects which require sophisticated safety systems and specialized staff.

And loss of the staff and their knowledge might be very costly.

**Time:** nuclear facilities have a long lifecycle of construction, operation and decommissioning, so there is a long-term accumulation of knowledge.

**Innovation:**



# IAEA view of KM in Nuclear Industry

- Nuclear Knowledge has been being developed and accumulated over literally centuries of research and application of nuclear technologies for both energy and non-energy applications.
- Our present generation is the owner and custodian of that body of nuclear knowledge.
- Large part of it will be used in the future. Since nuclear knowledge is unique in many ways, managing it properly will require programs designed to achieve specific objectives.
- Without diligence in managing such knowledge, substantial portions of it could be lost due to personnel retirements and the likelihood that much of it could be disused or discarded.

# Guide on Nuclear Knowledge Management

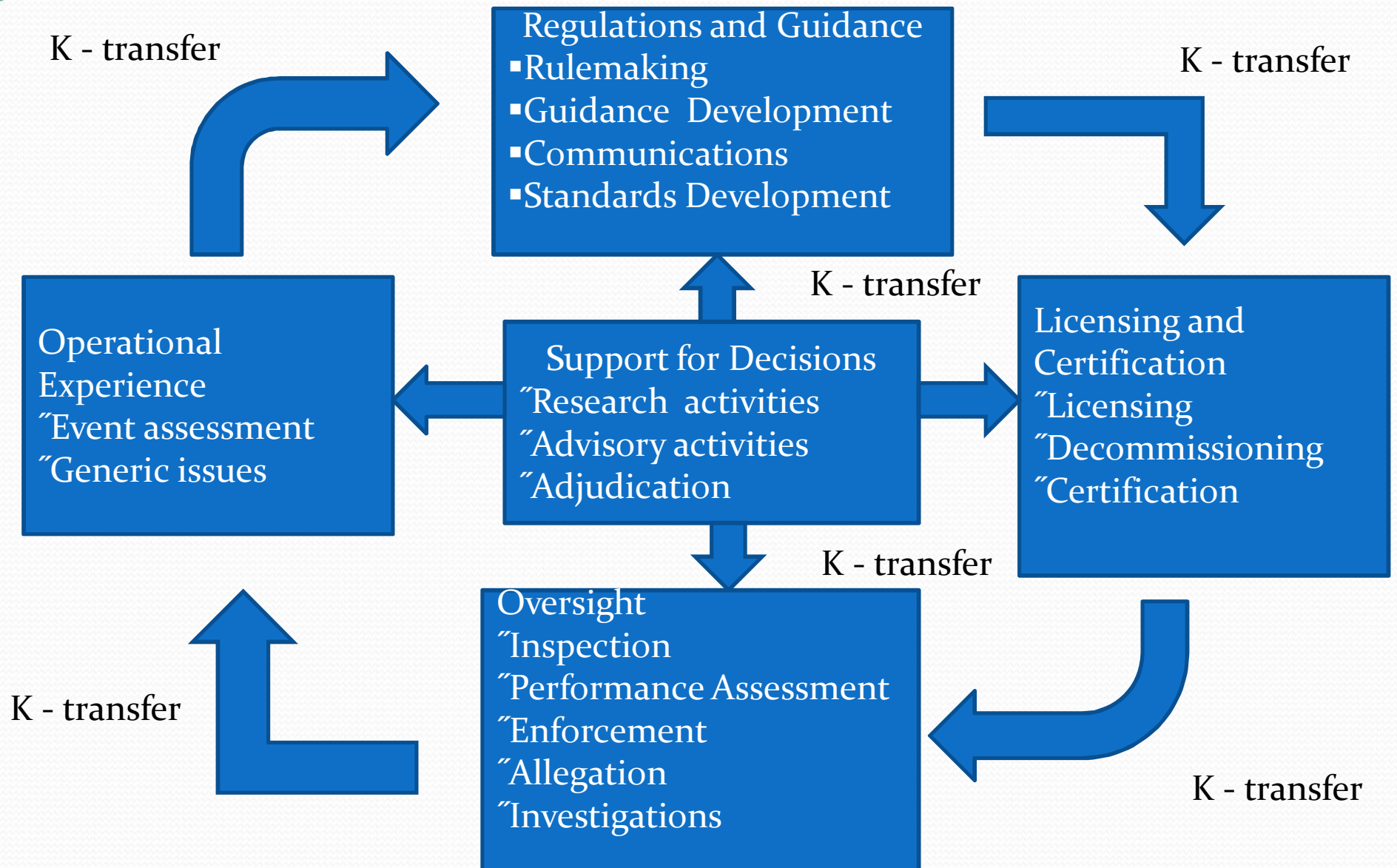
APPENDIX I			
IAEA REQUIREMENTS RELATED TO MANAGING KNOWLEDGE			
Pub	Title	Chapter	Requirements
GSR- Part 2	Leadership and Management for Safety	4.20	Retention times of records and associated test materials and specimens shall be established to be consistent with the statutory requirements and with the obligations for knowledge management of the organization. The media used for records shall be such as to ensure that the records are readable for the duration of the retention times specified for each record.
		4.27	The knowledge and the information of the organization shall be managed as a resource.
		4.34	The organization shall have a clear understanding and knowledge of the product or service being supplied. The organization shall itself retain the competence to specify the scope

IAEA NG-G-6.1 Guide on NKM, Draft 2016,



## Five Elements of Regulatory Programme (

All elements contain knowledge



# Regulator's Knowledge Resource

	<b>Human Resources (competences)</b>	<b>Structure Resource</b>
Legal Regulatory knowledge	Legal basis. Regulatory policies and approaches. Regulations and regulatory guides. Management system	Governance and Terms of reference: The requirements, codes and regulations to be utilized and met for the process, as appropriate, and determine where all other IT requirements which support core activity implementation
Knowledge of technical disciplines	Basic science and technology Applied science and technology Specialized science and technology	Technical documents, data and other resources utilized for meeting required outputs of the regulatory process, and IT support as needed for process.
Knowledge of Regulatory Practices	Review and assessment Authorization. Inspection Enforcement . Development of regulations and guides	Internal guidelines, procedures, records and reports of activities, review, audits, lessons learned to guide and regulate the process implementation and measure effectiveness of meeting Process requirements.
Personal and behavioural competence	Analytical thinking and problem solving. Personal effectiveness and self-management. Communication Team work Managerial and leadership Safety culture	Code of conduct, documents, training material, assessments and other resources produced and shared to achieve personal and behavioural competences



# Where does knowledge reside in NNRA

- People

Individual learning advances organizational learning. Individual learning is a prerequisite to organizational learning. Individual learning becomes embedded in organizational procedures and structures. Capturing individual learning is necessary before it can be utilized by an organization.

- Technology objects (Dspace)

- Process (operating in culture context)

# Where does Knowledge reside in NNRA cont'd

<b>Individual Learning</b>	<b>Organization</b>
<ul style="list-style-type: none"><li>“Training</li><li>“Increasing skills</li><li>“Work experience</li><li>“Continuous learning</li></ul>	<p>Organizations should create, capture, and transfer knowledge.</p> <p>Transfer of this individual learning to the organization learning is in the heart of knowledge management.</p>





# What do we do?

## Project Scope

- Is there a need for a pilot project?
- Is full implementation needed?
- Is a KM programme required?



# If KM programme is required

- Does the project **align with organizational needs?**
- Is the purpose of the project **clearly defined?**
- Are the benefits understood and **well communicated?**
- Is there top level **management support / commitment**





# Aspects to Consider

- Written policies for implementing KM strategy ?
- KM policy integrated into management system
- Identification of KM responsibilities
- Managers are personally involved in the KM programme
- Organizations' strategic focus supports learning



# Success Factor

- Problem clearly defined, aligned with the business objectives
- Leaders convinced and committed
- Resources in places
- Roles and responsibilities assigned
- Adequate internal communication



# Conclusion

KM is not a universal science

- It refers to people, depends on prevailing culture and values
- Implement step by step, and allow learning from experience
- Should be properly communicated, and perceived as a benefit by the involved community

# Recommendations

- Knowledge Management (KM) activities initiation . roles and responsibilities assigned. Define and approve their responsibilities.
- The KM policy and strategy development . The KM project team make suggestions for KM policy and strategy. The strategy which should include KM goals and objectives will be evaluated by Directors of each Department and approved by DG/CEO.
- Start the knowledge management activities - The initiation and implementation of first pilot projects by:



# Recommendation continued

- a. conducting current status of knowledge: what knowledge is unique/critical?, where does it reside?, and how can its potential loss be stopped?.
  - b. Identify knowledge to transfer
- Report on the implementation of the project should be prepared and distributed to all departments and top management.
- Implementation of other KM elements:
  - a. action plan for transfer and retention,
  - b. tools for capturing,
  - c. coaching and mentoring etc.
- Integration of KM elements into the overall organizations management system



Thank you