

# RECOGNISING THE TRUE VALUE OF KNOWLEDGE MANAGEMENT WITHIN EPC PROJECT ENVIRONMENT



## POST COVID- NEED TO RETHINK?

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## Knowledge as a key asset and resource

*“Knowledge is one of the most important resources to an organisation, and may be the only meaningful resource”*

(Nonaka and Takeuchi, 1995)

- 1970’s saw emergence of knowledge management in Japanese multi nationals
- Heavy investment to seek competitive advantage
- Slow progression into project based industries

*42% of knowledge goes home at the end of the day  
22% is trapped in personal devices (or cloud)  
Increasing amount displayed to externals through social media*

# Knowledge is a core competency for effective

- Communication, decision making, risk management, time management, quality management, cost and budget management, management of health and safety, dispute resolution, integration, collaboration, and team building, improved trust

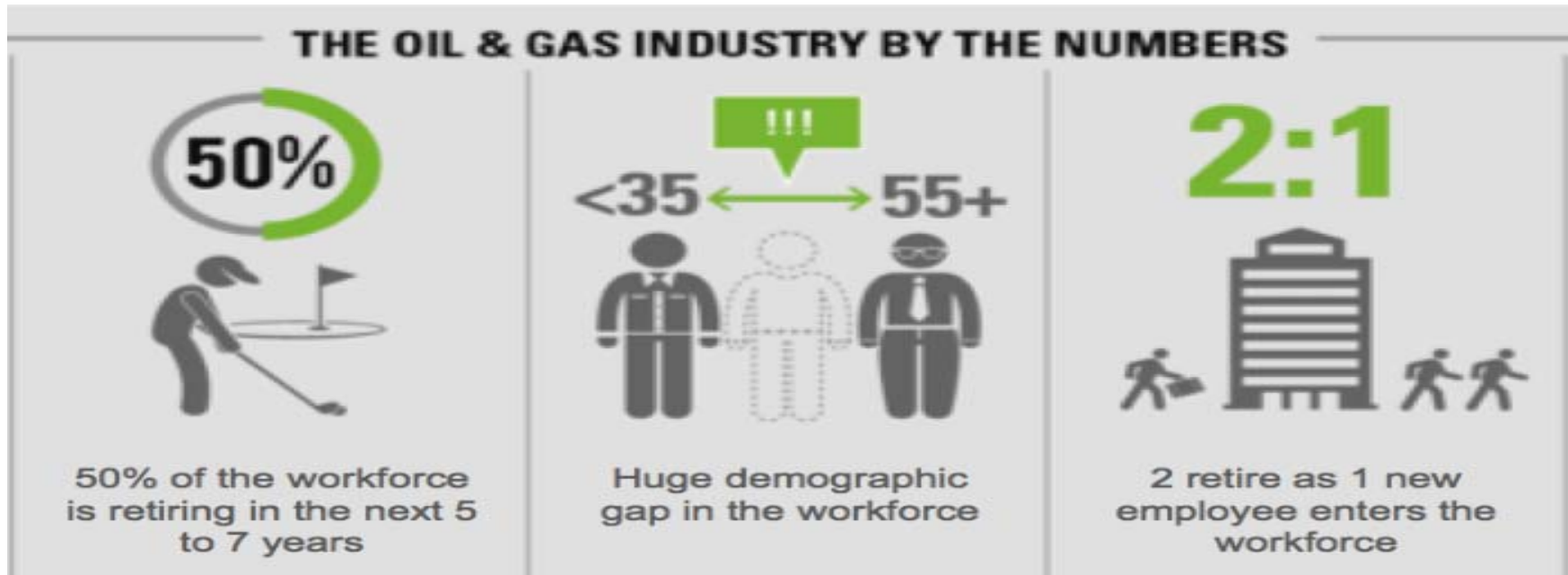
*‘Unlike traditional factors of production, knowledge is **intangible**, residing within individuals. As a result, it may be more difficult to locate and harness, and may be easily lost’*  
(Fong, 2003)

**Need recognition that it is valued as an asset  
and is social-technical by nature**

# Common barriers to KM in projects

- Unique and temporal
- Geographical dispersal of people
- Different languages
- Diverse backgrounds and cultures
- Multi firm and disciplines
- Information decentralisation
- Little incentive to share knowledge
- Weak ties and high mobility of staff
- Employee empowerment
  - Knowledge fragmentation
  - Loss of organisational learning

# Challenges for EPC sector: retention of people



## Loss of people = Loss of knowledge

### Causes in an organisation

- Retirement
- Promotion
- Career change
- Job change
- Downsizing
- Dismissal

### Impacts

- Critical core knowledge
- Productivity
- Quality
- Consistency in practice
- Ability to adapt and change
- Loss of business

# Challenges for EPC sector: Merger and Acquisitions

**20%** of employees voluntarily leave during process

**44%** of organisations have no knowledge transfer process in place and no plans to create one

**50%** of those companies acquiring others have fragmented and very simple knowledge based systems or maintain no knowledge data base

**3.5 years** tenure for Merger and Acquisition experts

# Covid Pandemic has changed workplace

There's a need to reimagine the workplace of tomorrow



**72%** of workers want a mix of remote and in-person working.

PeW's Hopes and Fears Survey March 2021



**9%** of those who can work remotely want to go back to a traditional commute and work environment full time.

## The evolution of work

New norms in a post-pandemic world

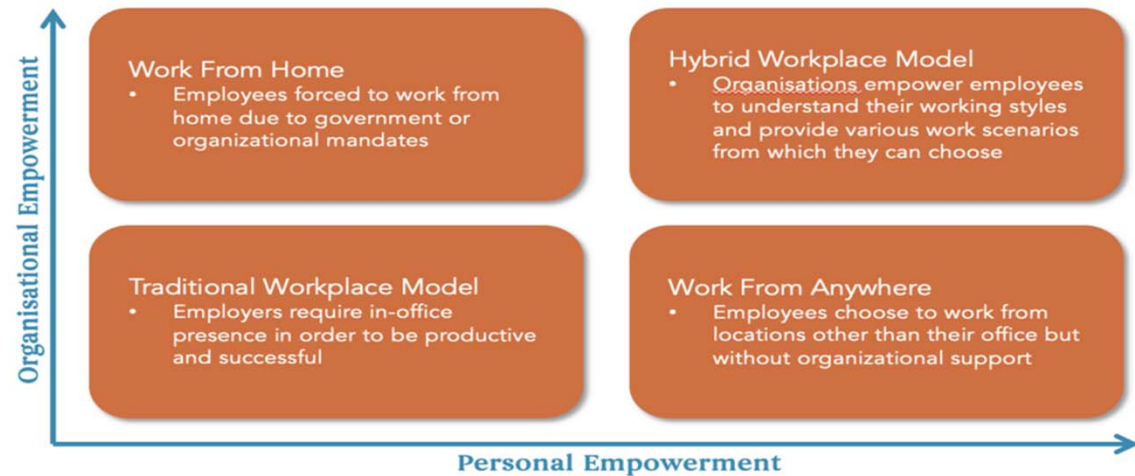


# Generational shift in working mode and environment (so no going back)

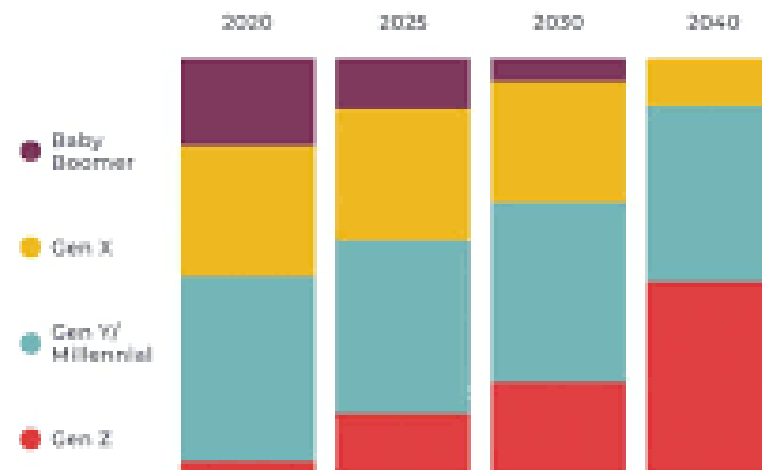
**Modern workplace move from command and control to collaboration with your employees**

- Less about procedures to define practice
- More about exchange of knowledge to improve practice

Empowerment: Potential Shift due to COVID-19



Workforce Percentages



Source: U.S. Census Bureau



# In EPC Projects due to Global multi mode of delivery already hybrid for many pre-pandemic



On average, those **who work from home** spend 10 minutes less a day being unproductive, work one more day a week, and are **47% more productive**.

**“Working from home if you want to be better at your role”**

**However**

Evidence is emerging that many employers want workers back in the office **to gain advantages from in-person interaction that cannot be measured by productivity alone**

**“Working from office if you want to advance your career”**

**KEY FOR THIS DIFFERENCE IS ROLE PLAYED BY  
“KNOWLEDGE” AND ITS SHARING IN WORKPLACE**

# What is knowledge?

## What is knowledge?

'Knowledge originates and exists within the minds of the individual, consisting of truths, belief about causal relationships held by individuals within a group'

(Sanchez et al., 1996)

## Different types of knowledge:

Explicit (codifiable)

Implicit (not codified but could be with understanding)

Tacit (people centred, know how experience)

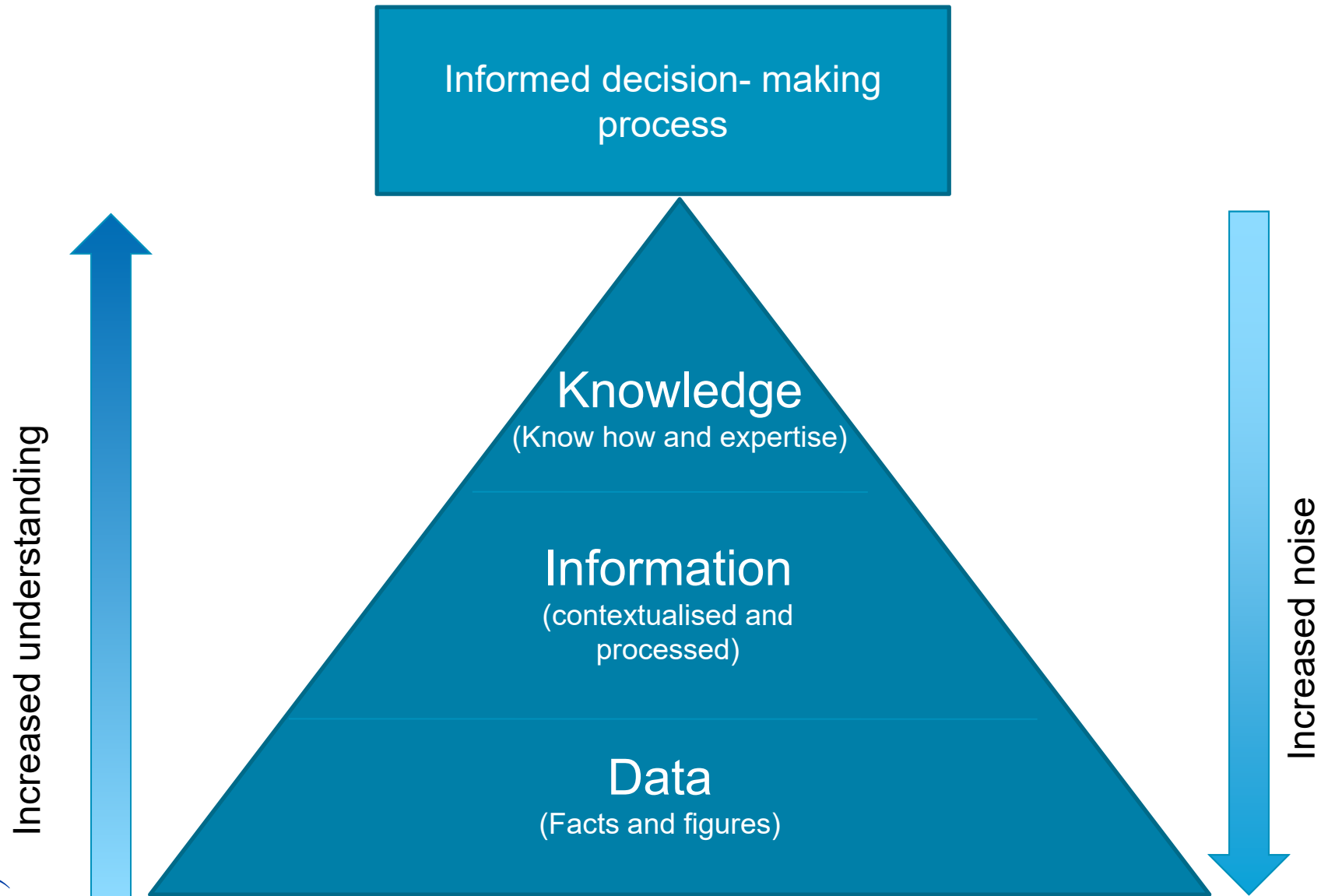
Knowledge is **dynamic** by nature

Knowledge is **highly contextual**

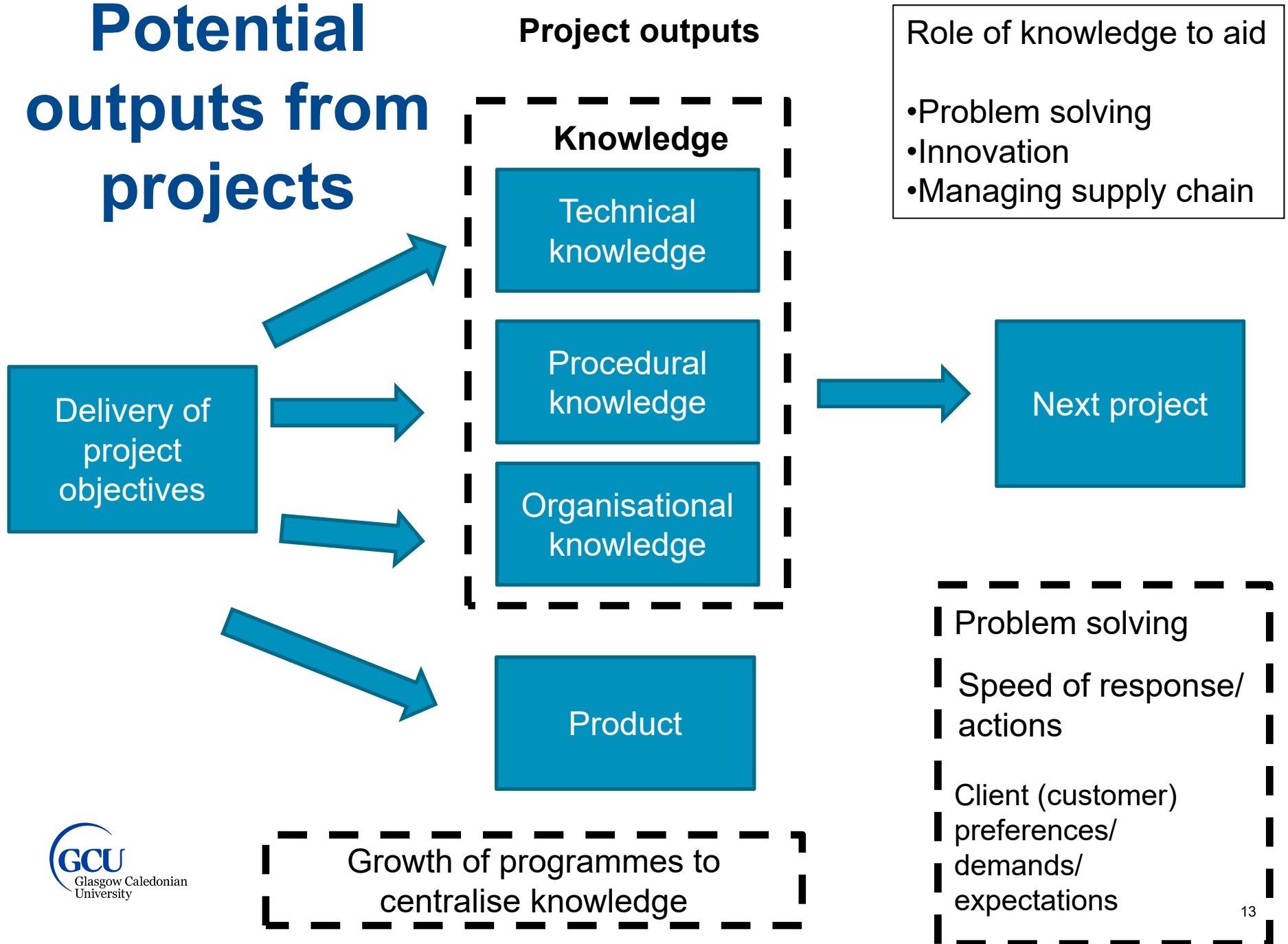
*“A good decision is based on knowledge and not on numbers.”*

Plato

# Knowledge support for decision- making



# Potential outputs from projects



## Key challenges moving forward

- How do organisations **retain knowledge** when employees retire or move on?
  - Mentoring, story telling, retention through advisory roles
- How can we ensure that **hybrid working** allows know-how to be retained within workforce and that the culture facilitates career development?
- How do we **capture knowledge from project teams** to learn and apply in future?
  - Lessons learnt, complete the project closure process, capture and codify knowledge, organisational memory
- How can we **facilitate the flow of knowledge** more effectively during projects?
  - Focus on knowledge flow, codification, ICT infrastructure but also focus on people

# Digital world important, but don't forget the people

- Capture, storage and retrieval of knowledge
- Increasingly heavily resourced
- Databases, repositories and portals
- Common problems

Poorly codified, difficult to search

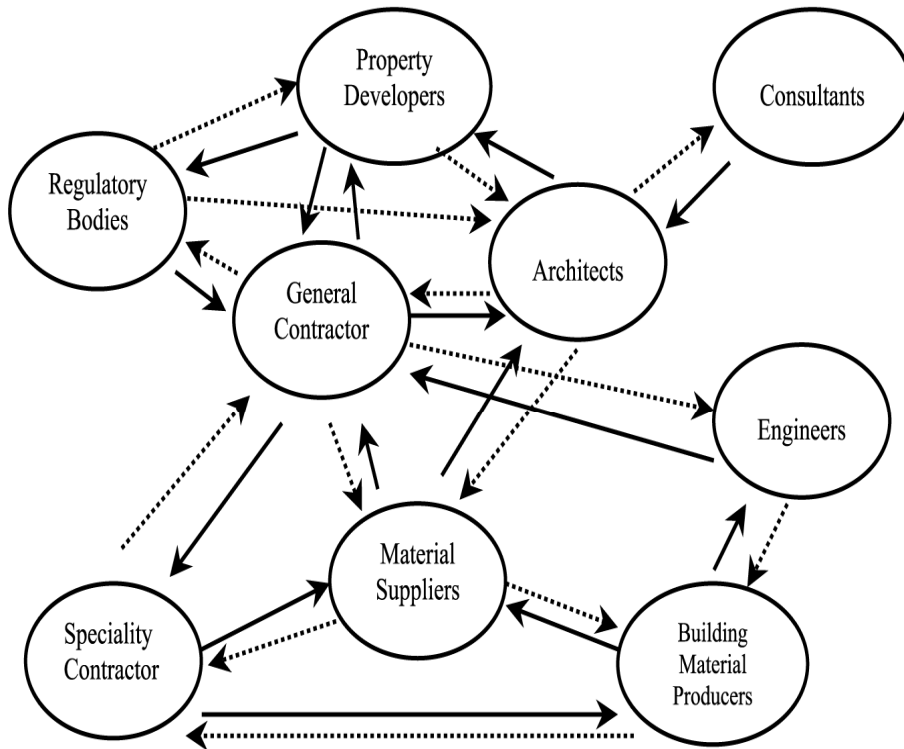
People too busy to search and look at it

Currency is short lived

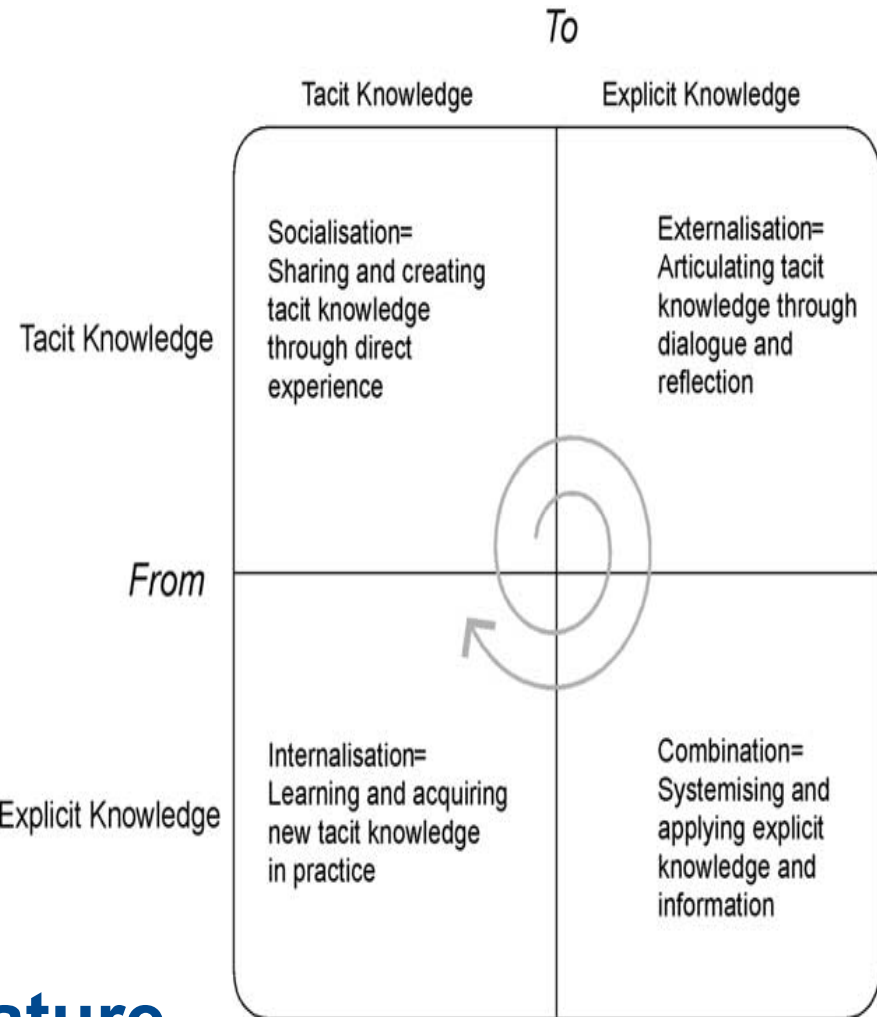
People communicating online (MS Teams, Skype, ZOOM etc)

Focus on the technical but not on the social **IGNORES PEOPLE** and the importance of knowledge flow and expertise

# Communication is bi-directional and complex



Source: Wasek et al. (2000)





# Designing a Knowledge Management System

- Aims to support the **capture, storage, retrieval and transfer** of knowledge held by and generated during the project
- A **people centred management system** aimed at reducing the fragmentation of knowledge within the project environment. Predominantly supported (often delivered) through an ICT system

Two different types of KM strategy

- **Codification strategy** (objective)
- **Personalisation strategy** (subjective)

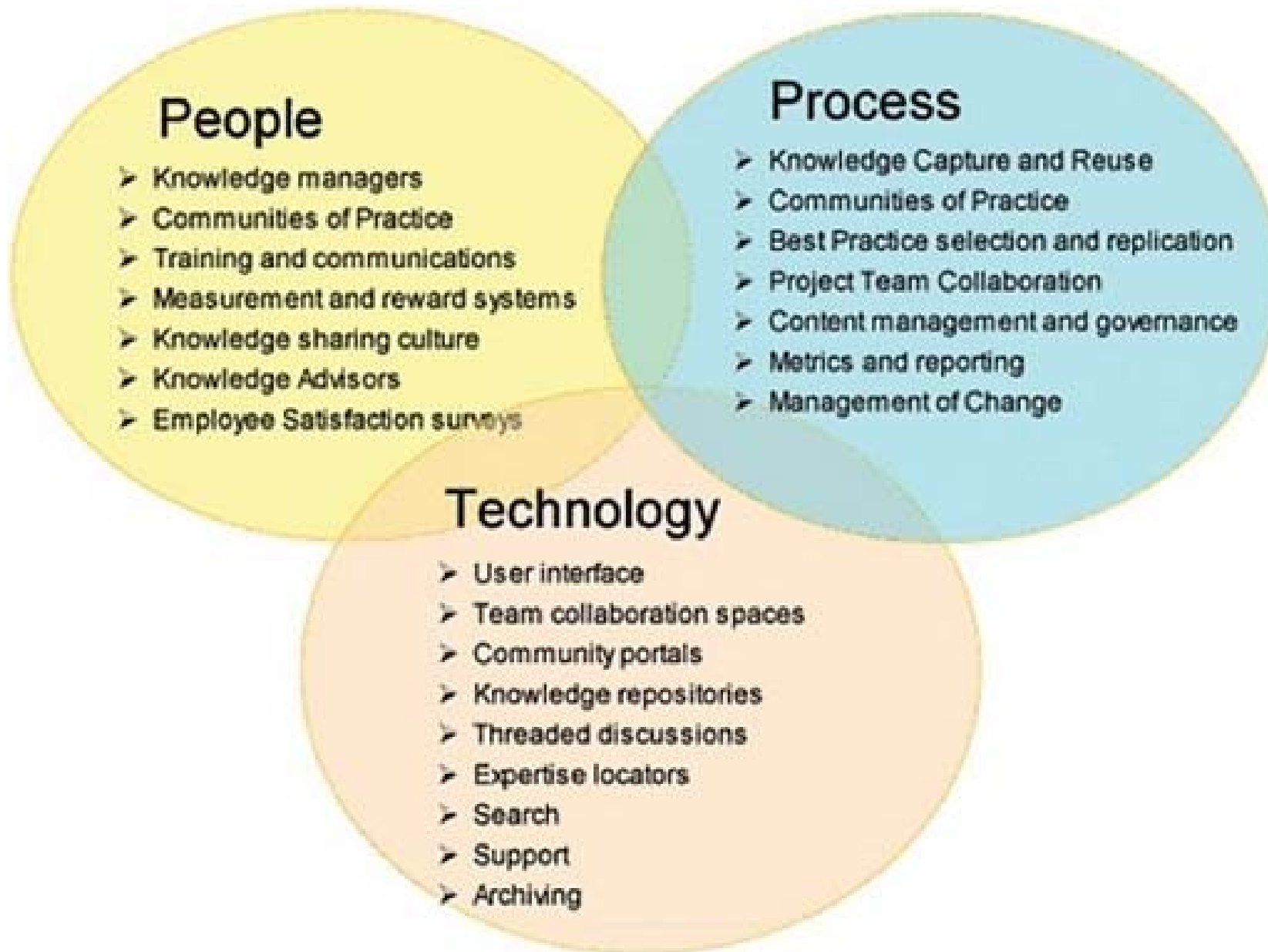
**Knowledge Broker/ Manager to establish system and support culture**

# KM in project environment

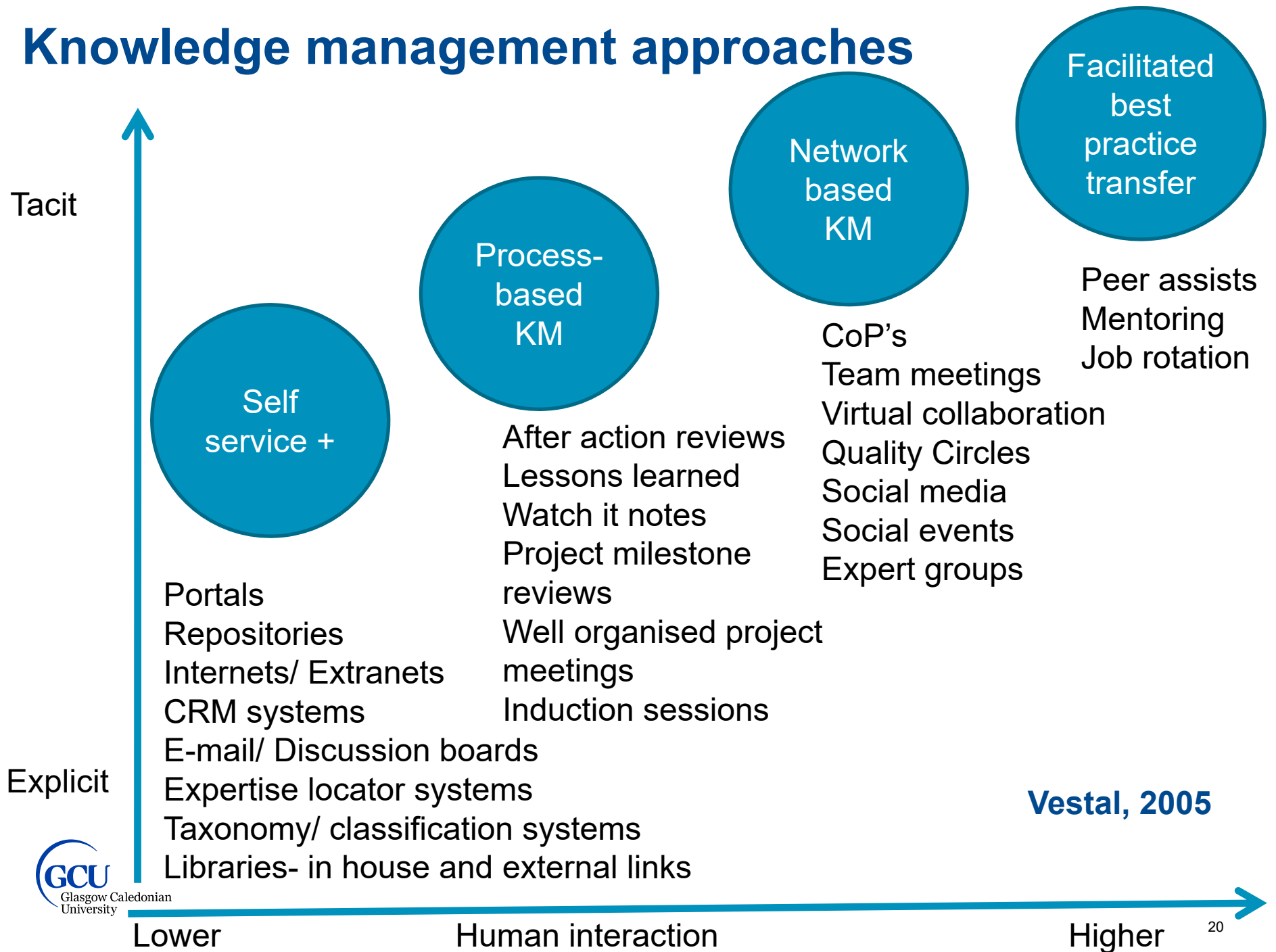
- **During projects-** transfer of experiences and knowledge between those involved within the project
- **Project to project (P2P)-** transfer of experiences from project to project
- **Project to business (P2B)-** from project teams to the central business functions
- **Business to project (B2P)-** Dissemination and development of new skills and competencies in central departments to project teams

**Project leadership- need KM framework, strategy and to facilitate a knowledge sharing culture**

# This is a social technical system



# Knowledge management approaches



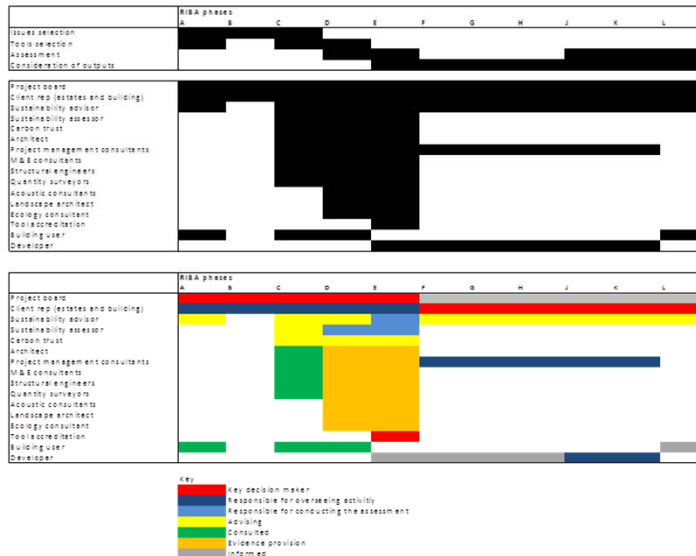
Vestal, 2005

# Important for auditing your knowledge

- What knowledge does your organisation need
- What knowledge does your organisation/ project hold
- Who holds this
- Who needs it
- Where is it
- What format is it in

Activity OR process step	What knowledge is needed?	Who has it? (Sources)	Who needs it? (Recipients)	Where is it?	What format is it in?	Gap (high, med, low)	Comments
A						High	
B						Medium	
C						Low	

## Process mapping

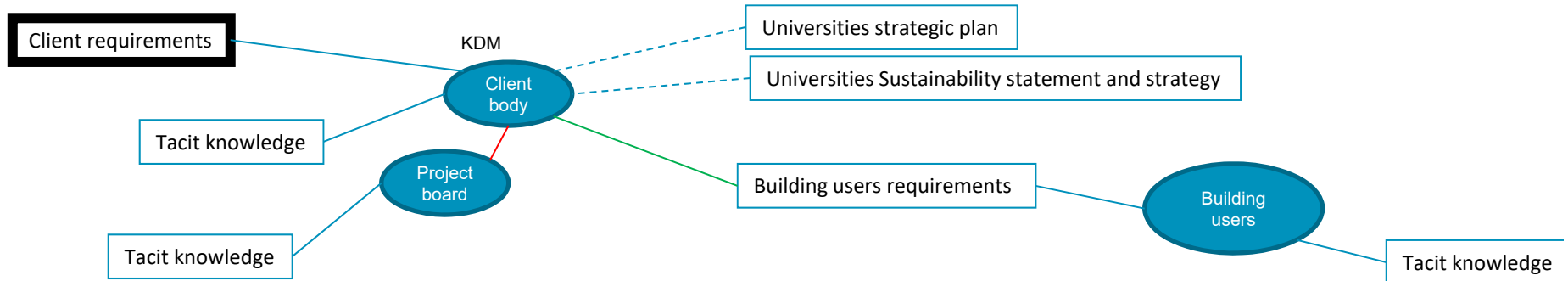


## Knowledge classification

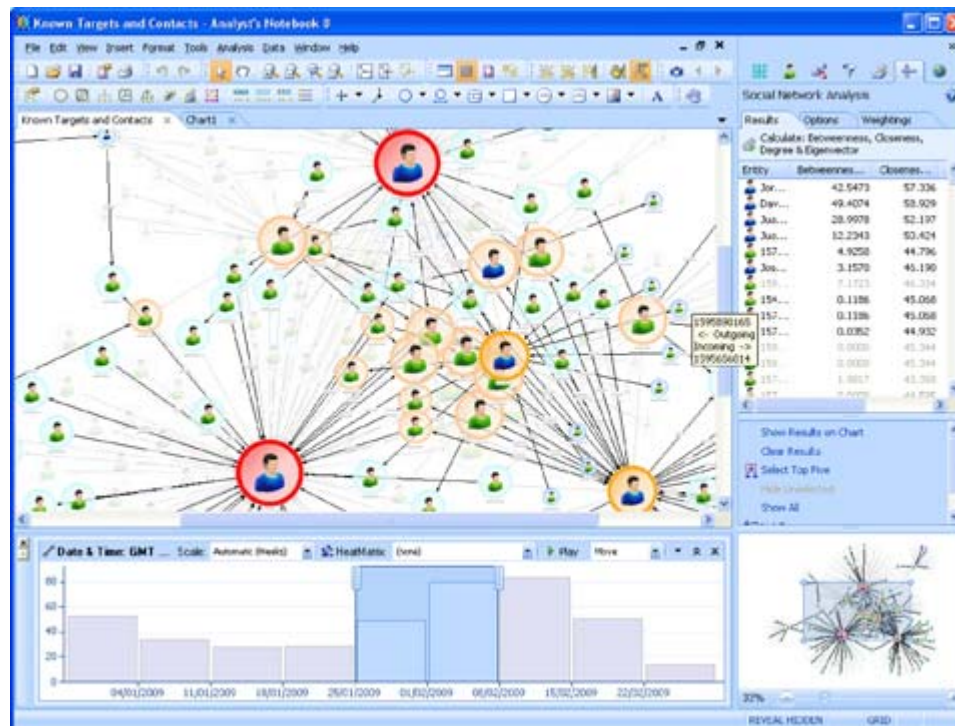


# Knowledge mapping

Visual around decisions



Visual around people  
(Social network analysis)



# Thank you and any questions

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