Human Factors Affecting Enterprise Architecture Acceptance

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Discussion

1. Research path: 2009 – 2013
   - EARF
   - People
   - Opportunities

2. Research plan: EA process similarities
   - What? How? (Where?) (Who?) When? Why?

3. My research
   - Idea
   - Course of the research
   - Outcomes

Where did it all start?

EARF

Research – the beginning

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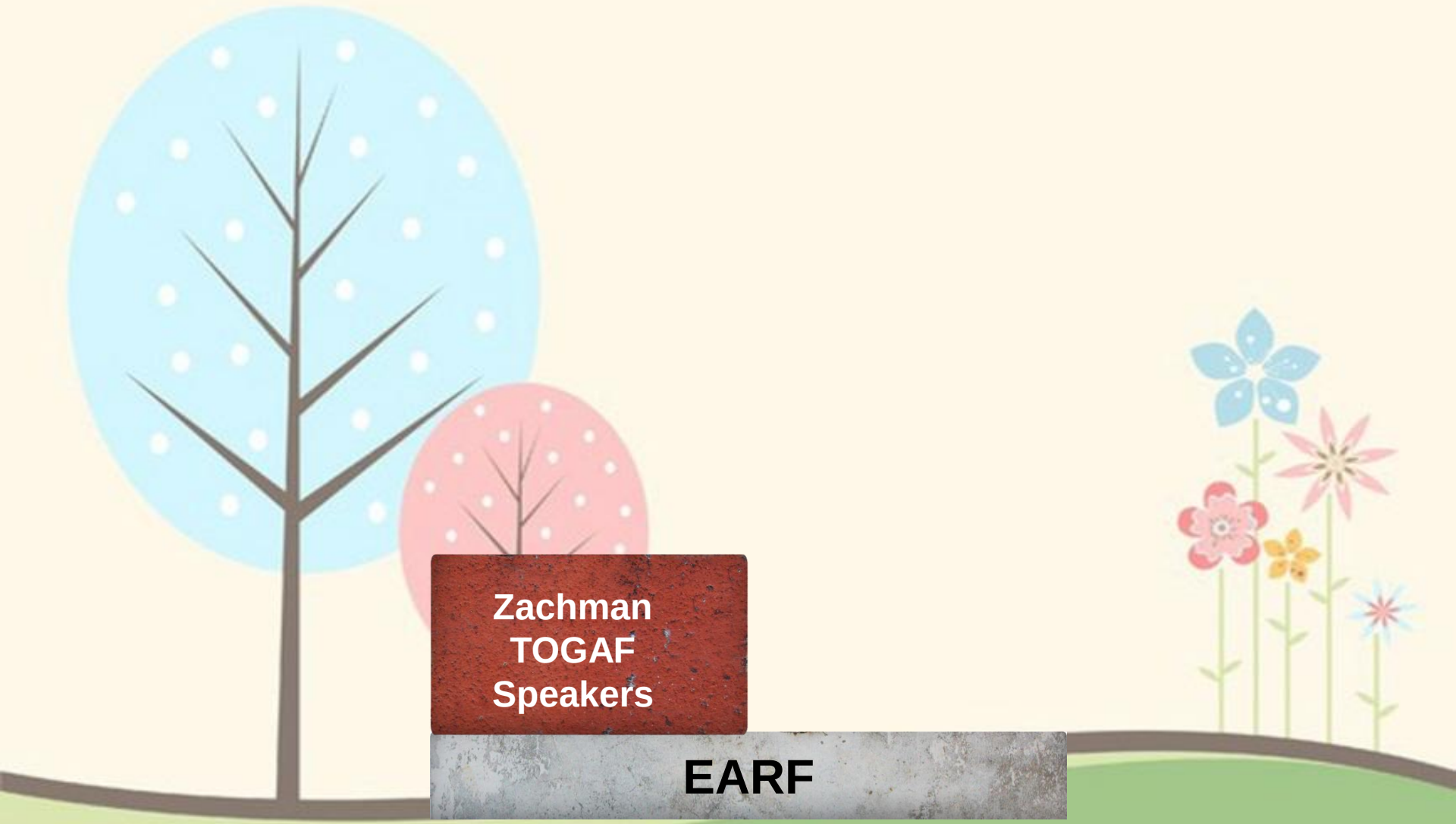
Role of EARF

- Workshop on EA in Sept 2008 – Zachman framework explained
- Compiling of EARF definition of EA
  - "EA is the continuous practice of describing the essential elements of a socio-technical organisation, their relationships to each other and to the environment, in order to understand complexity and manage change"
- Zachman and TOGAF – presentations, discussions and training
- Research training
- Speakers and opportunity for networking

Research building blocks

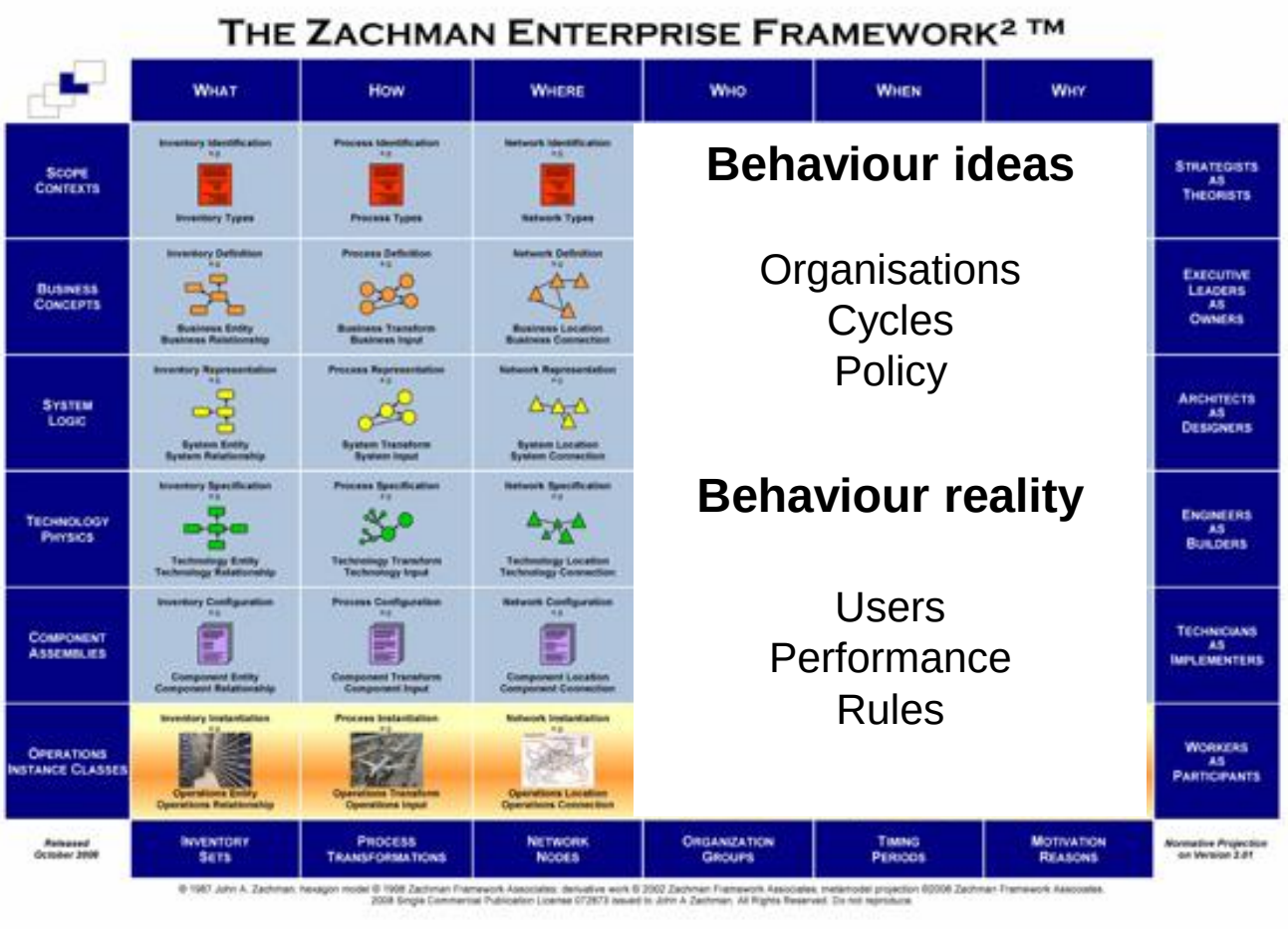


Research – idea

EARF SPEAKERS

- Zachman – Feb 2010 and Des 2010

Perspective work roles



Research – human factors

All rows of the Zachman Framework for EA

Who column (Zachman framework)

- Roles in Organization and
- Work in Groups are
- Allocated to achieve Performance by
- Managing through Accountability

When column (Zachman framework)

- Timing and
- Response times and
- Coordination and Synchronization

Why column (Zachman framework)

- Motivation
- Reasons
- Purpose

Research Idea

"Any organization in any culture depends on the performance of people" (Hofstede & Hofstede ,2005:272)

SPEAKERS and NETWORKING

- Mauritz Klopper – King III
- Howard Hamilton – The value of a system's architect
- Len de Villiers – CIO, technology strategies and enterprise architecture
- Chris van Zyl – Casewise and Modeling the enterprise
- Fellow students – Marianne, Jan, Louw, Elize, Marné, Hanlie, Dina, others
- Willie Needham – GWEA
- Jorg Lalk, Duarte Goncalves – Systems thinking and EA

Research Idea

The success of organisations - dependent on humans

Success of EA in organisations – dependent on human

Human element in EA adoption and acceptance

FOCUS: Humans in organisations

LITERATURE - THE HUMAN VIEW IN:

Organisations as social systems – cybernetics from 1930's

- Quote Beer/Wiener

Organisational design, culture, operations, management, behaviour, change – past, present

- Quote Senge, Robbins, Brooks, Argyris, Kotter

Systems Engineering and IS in organisations

- Quote Checkland, Mingers, Dietz, Walsham

Enterprise Engineering – Hoogervorst, Dietz

EA and EA frameworks - Zachman, TOGAF, GERAM, others

Explain: Adoption and Acceptance

Both terms are used – strategic decision to change to / implement / use "new" method, system (choosing, approving, following)

For the purpose of study - necessary to theoretically differentiate:

Adoption: Strategic decision to change to / implement / use "new" system

Acceptance: Individual / group endeavour and response which occur after a method, plan or strategy has been adopted

Although adoption of Enterprise Systems had to be reviewed, the *focus of my research* was not on economic and technical impact on enterprises of such systems but on the *social* (human in organisation) impact.

FOCUS: Human acceptance

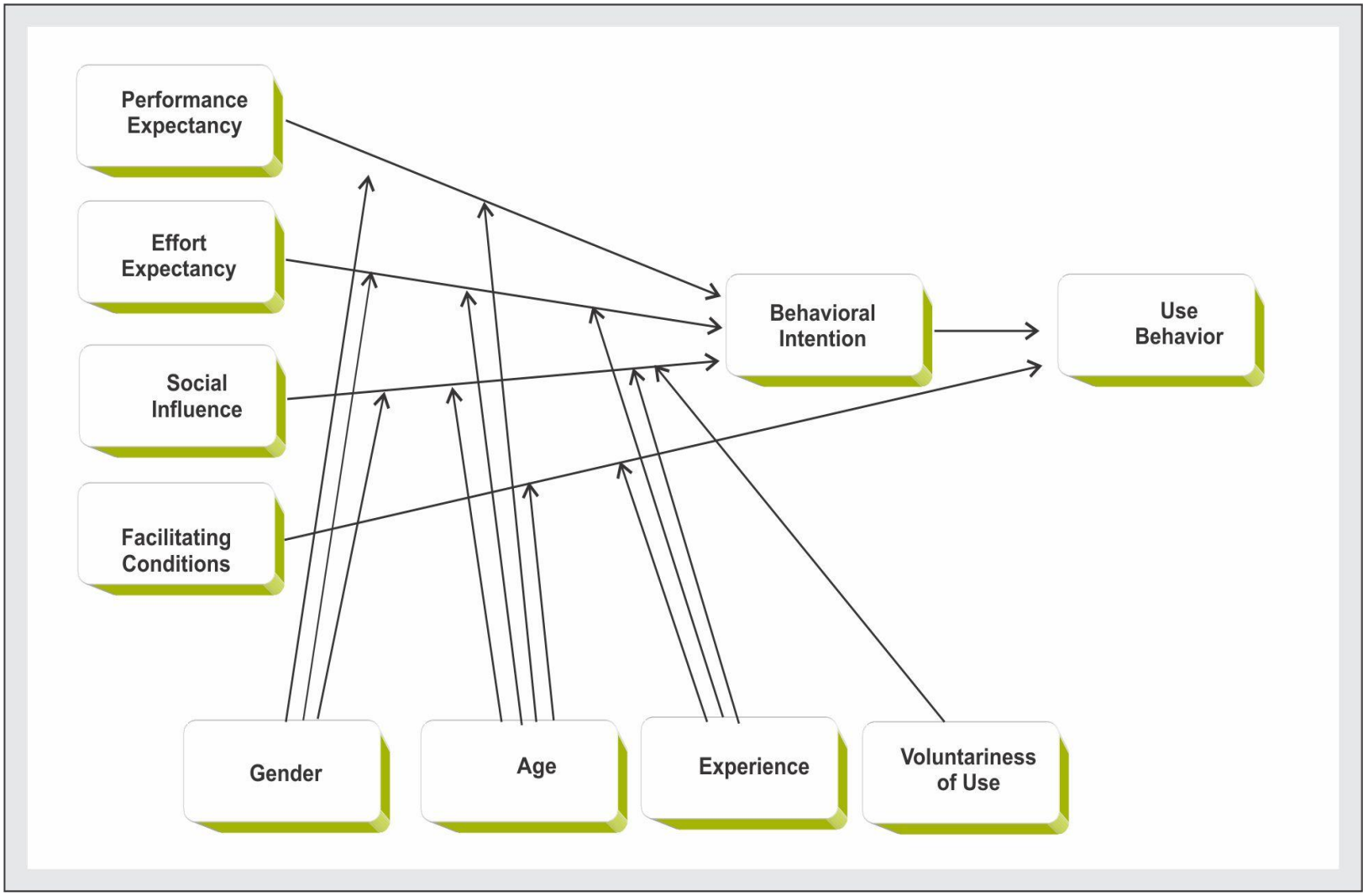
Human acceptance of “new” things

- Three basic theories of resistance – human factors of people, poor system design and non-correlation of system design and organisational intentional use – Markus (1983)
- “The human element adds to the difficulty, complexity and uncertainty of EA practice within organizations” - Zachman (2010)

Technology acceptance - models, theories, frameworks

- TAM – Venkatesh, Davis
- Unified Theory of Acceptance and Use of Technology – (UTAUT) - Venkatesh et al.
- Actor-Network Theory (ANT) – Callon & Latour
- Structuration theory (ST) – Lee et al.

UTAUT


Performance Expectancy
Effort Expectancy
Social Influence
Facilitating Conditions
Behavioral Intention
Use Behavior
Gender
Age
Experience
Voluntariness of Use

ANT and ST

ANT

- "Actor" = human, non-human, both (workspace, technology, person)
- Network = organisational structure

Research connection with EA

- Enterprise, architecture, IT solutions are all examples of AN's
- EA is "integrated and transparent representation of aligned interests"

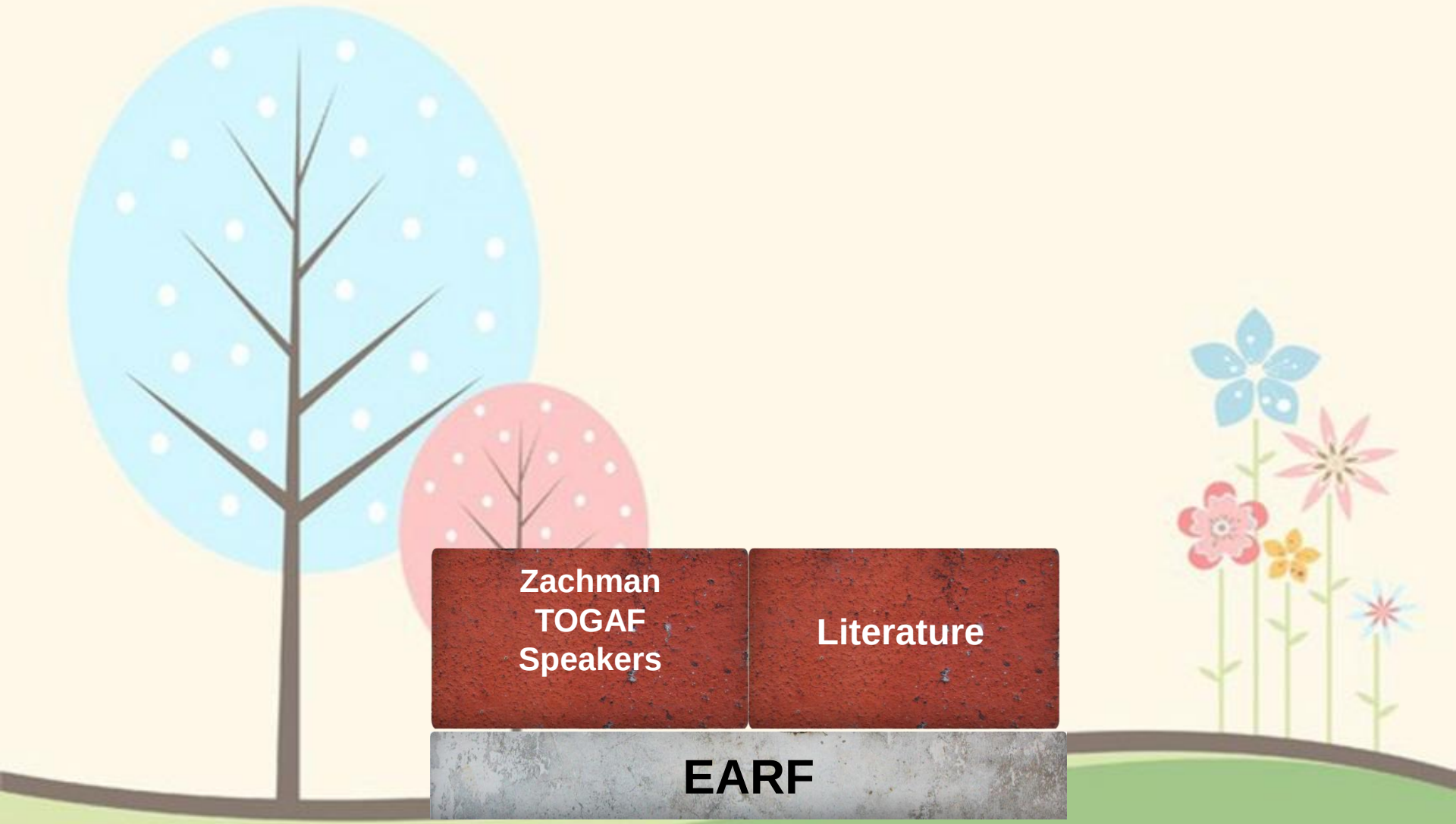
ST

- Demonstration of the impact of human action and interaction at different social levels in an organisation

Research connection with EA

- Describe organisational context (time and space)
- Gathering of useful information (tacit knowledge) and reporting
- Human position within organisation (work role, motives, expectations)

Research building blocks

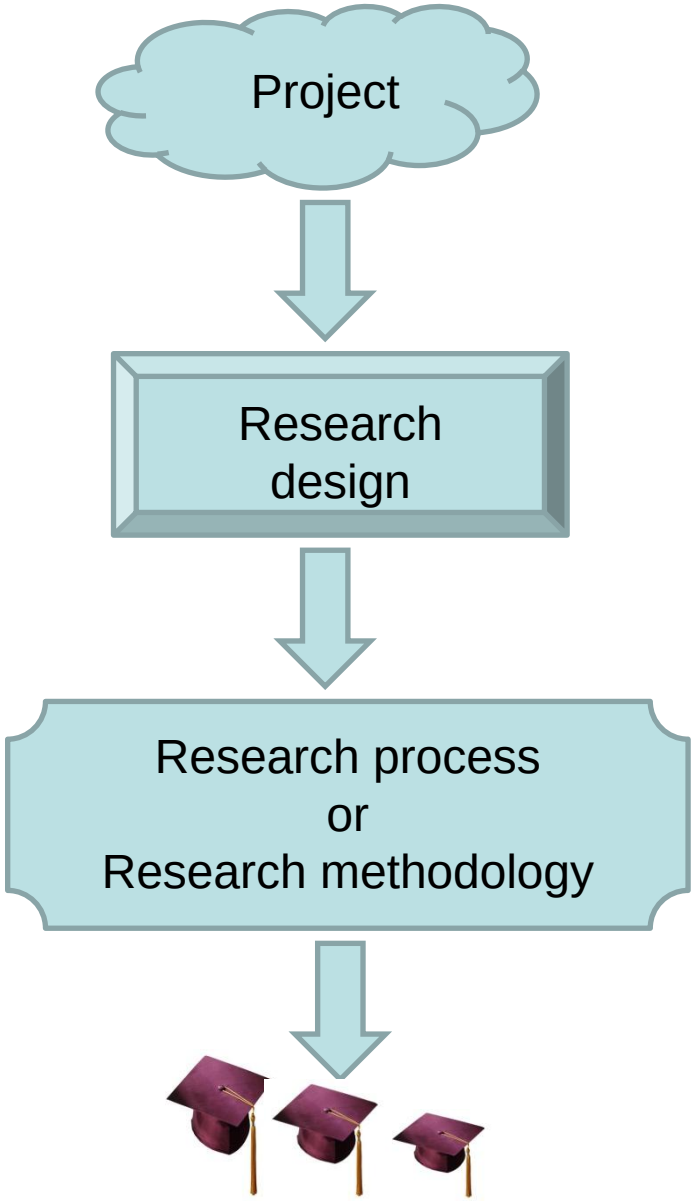


Research Objectives

1. Identify the human factors affecting EA acceptance in organisations

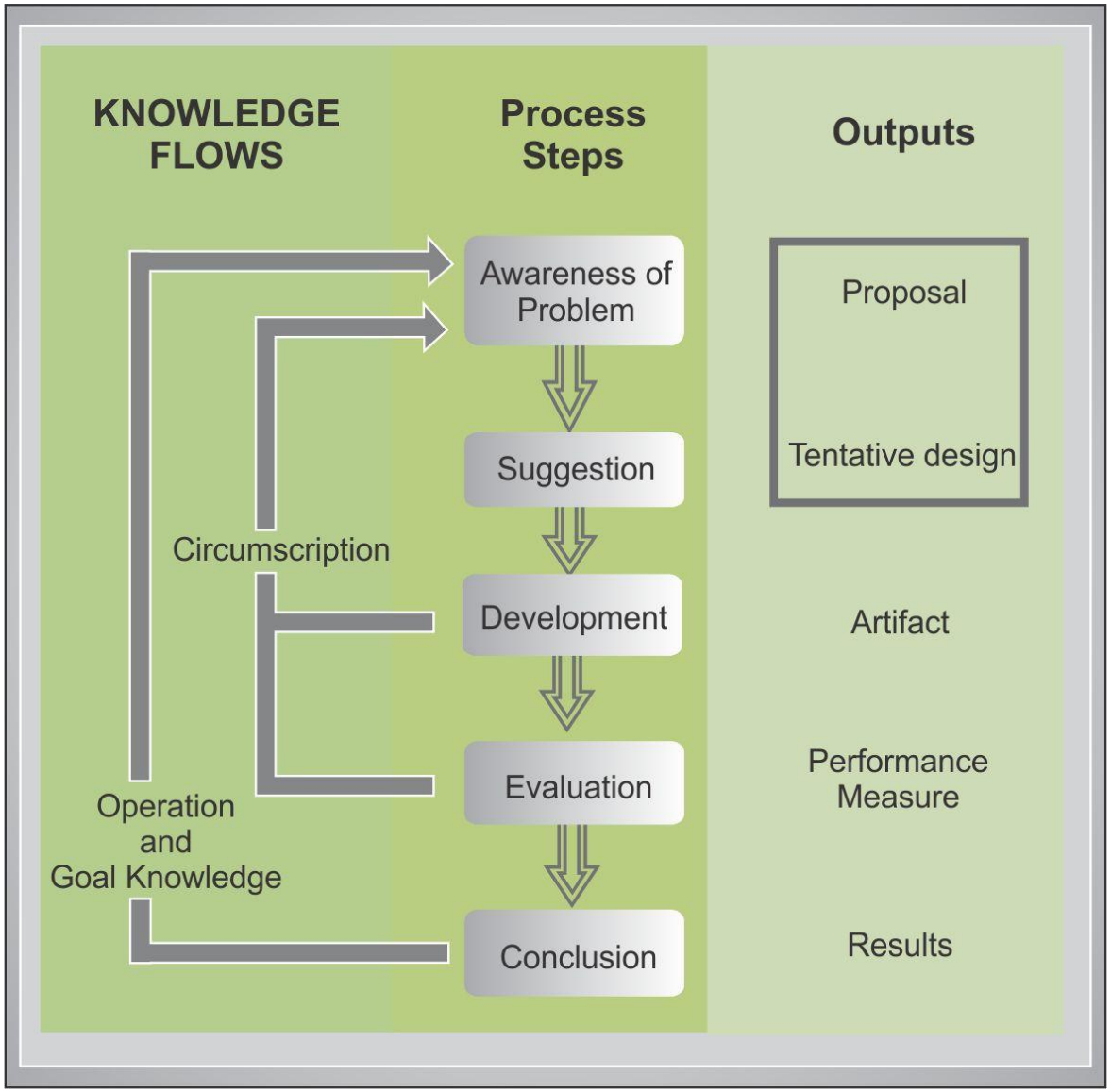
- Case study
- Human factors – literature
- Combined list
- Classification scheme

Research project – Mouton (2001)



DSR – Vaishnavi & Kuechler (2004, 2008)

- DSR paradigm
- "Knowledge building through making"
- Artefact design
- Relevant problem
- Research rigor
- Evaluation



Strategy – began with case study

Aim:

Identify human factors affecting EA acceptance

Data gathering methods:

Interviews and focus group in one organisation

Type of data gathered:

Qualitative data

Outcome:

List of human factors

Human factors - defined

Jeyarah distinguish five areas of human factors:

- Individual
- Structural
- Technological
- Task-related
- Environmental

Human factors = any human element/quality of a human participant impacting on action or interaction

Individual

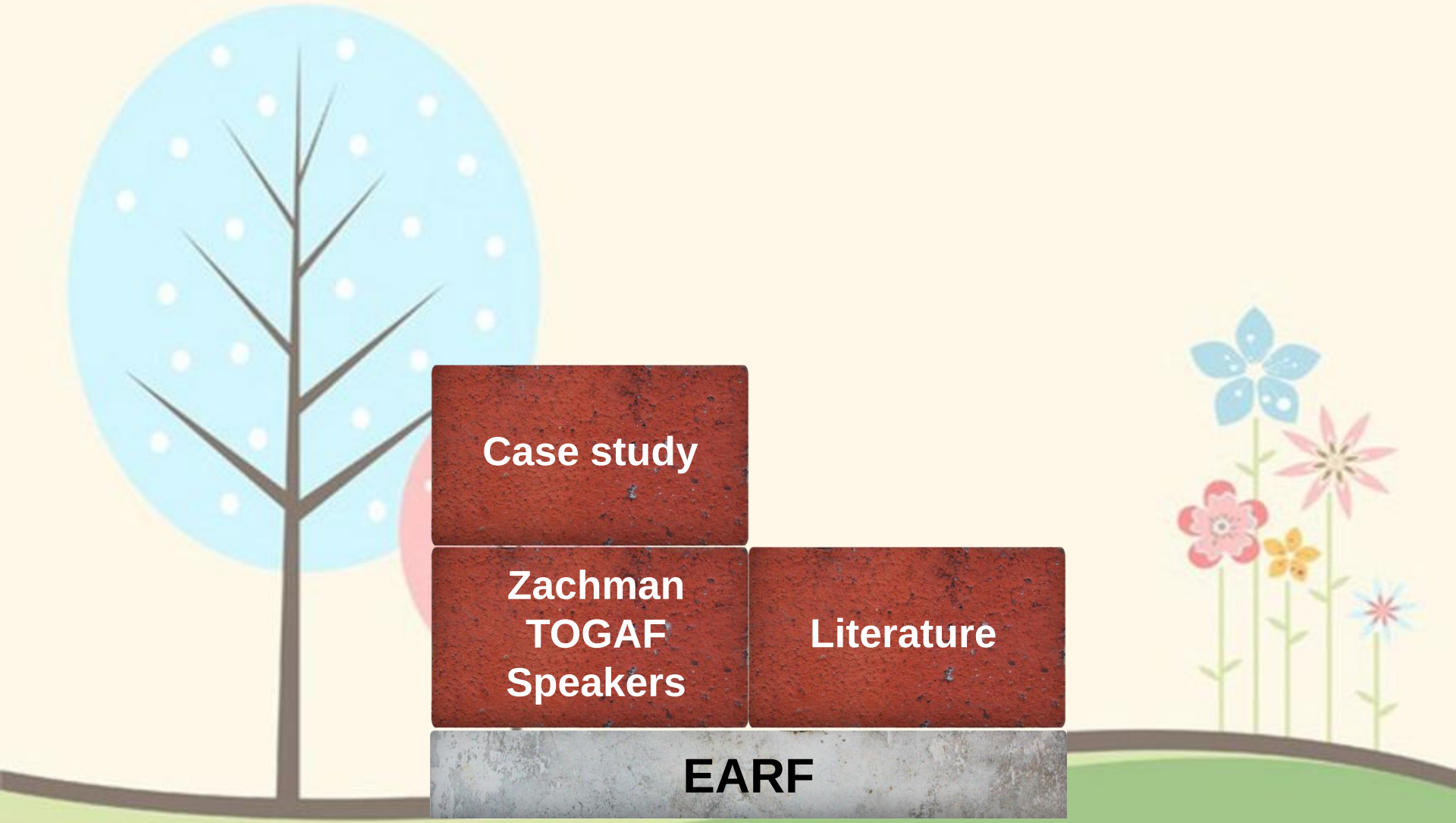
Structural (informal, networking, formal, functional)

Technological (compatibility, complexity)

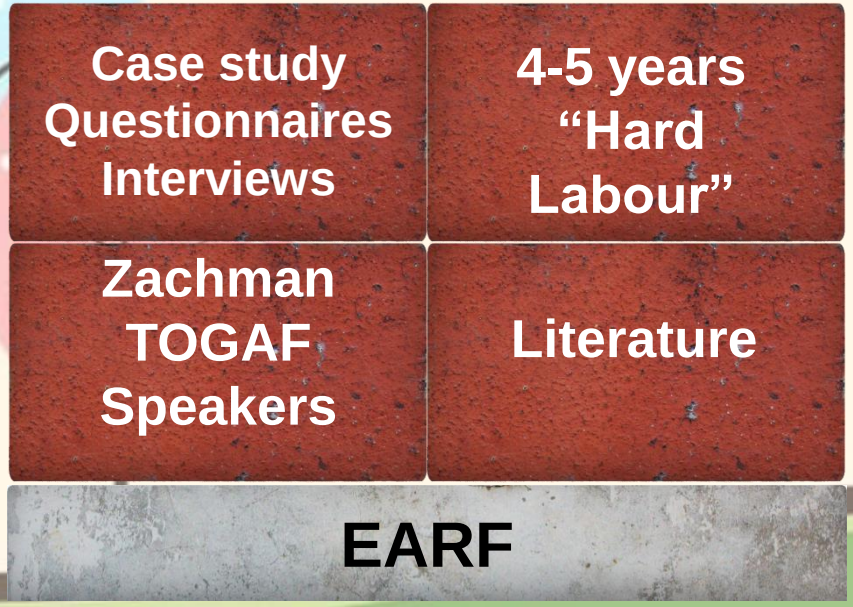
Task-related (autonomy, responsibility, feedback)

Environmental (inter-organisational dependence, uncertainty)

Research building blocks



Research building blocks



Research building blocks

PhD - GAP

What I have learned

What I have learned from Zachman about dealing with complexity and change in organisations:

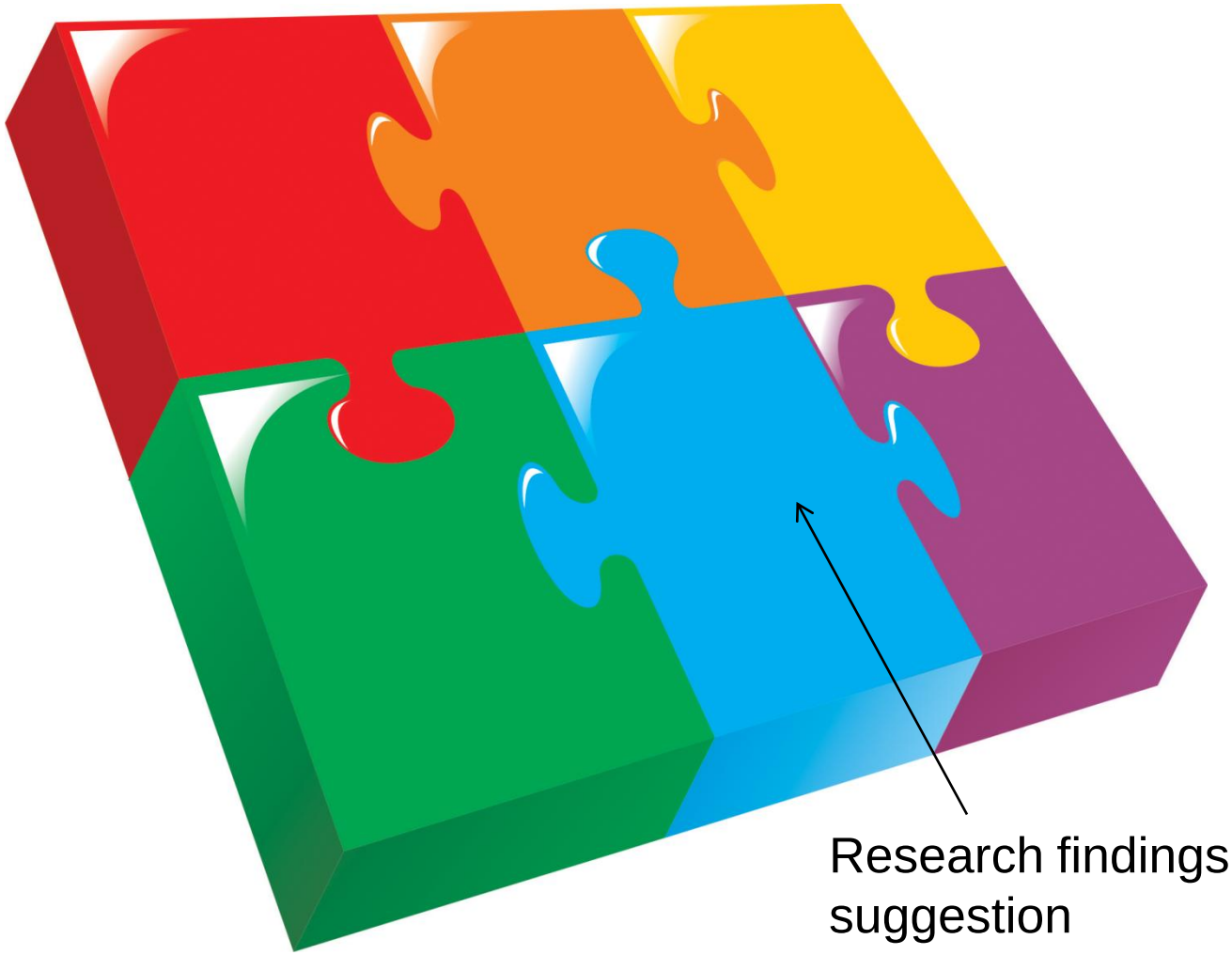
- One thing to say “Yes – it can be done!” or “No problem – we’ll do it!” and then figure out afterwards what to do and how to deliver!!
- But - it is another story (leading to success) when an enterprise uses EA , understands complexity and plans for change/development/ expansion/growth/cost reduction/etc.

- Need for architecture = “engineering” and implementation = “manufacturing”

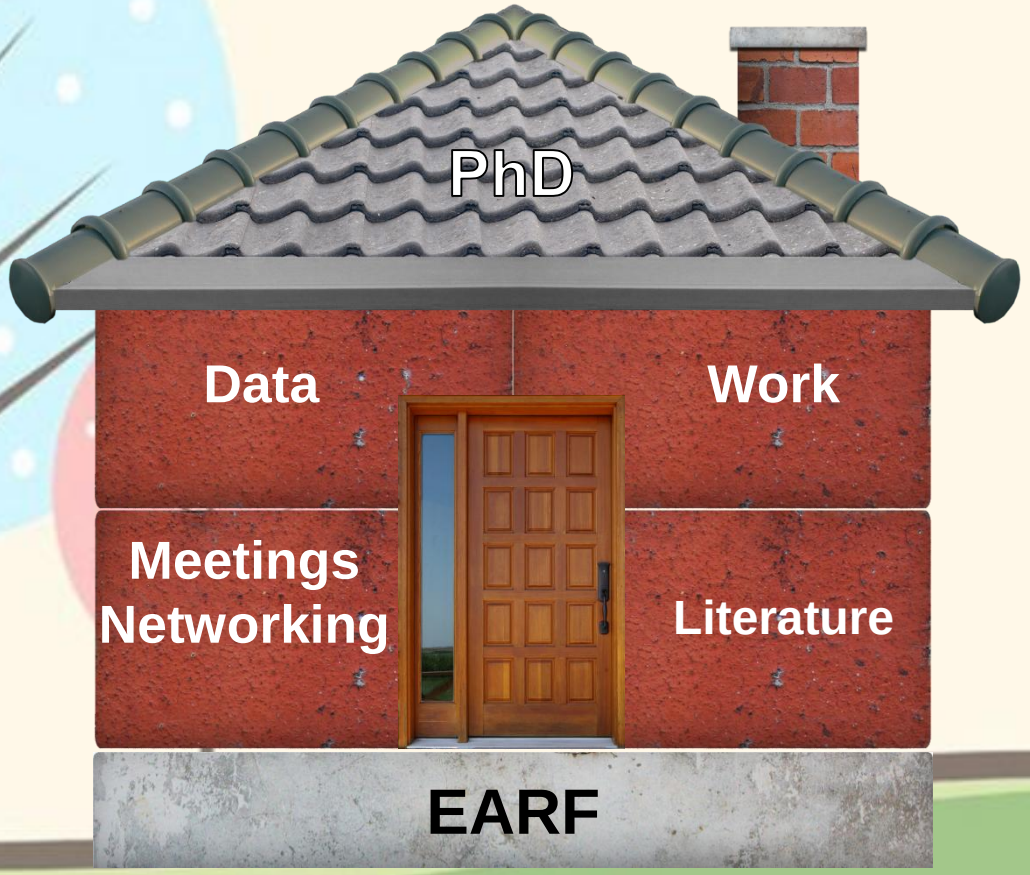
- “Total knowledge base” of an enterprise refers

- People are involved – “resistance to change”

Findings and suggestion



Usable – humans in organisations



Thank you

It all starts here

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Literature

- In EA – socio-technical process theory (Zachman, 2010; Kappelman, 2010)

  "The human element adds to the difficulty, complexity and uncertainty of EA practice within organizations"

  "EA as seen through actor-network theory"
- In SE – P-CMM = framework, people capability maturity model (McGovern *et al.*, 2004; SEI, Carnegie Mellon Univ)
- In IT – programmer, The mythical man-month (Brooks,1995; Weinberg, 1971;)
- In organizational behaviour – (Beer, 1972, 1975; Senge, 1994; Argyris, 1990, 2008; Robbins, 2005)
- In organizational architecture – change management, power, anxiety, control, motivation, constructive behaviour, culture, values, beliefs, norms (Nadler & Tushman, 1997)
- In human resources and social systems (Latour, 2005)
- De Marco & Lister, 1987, Peopleware: Productive projects and Teams