How COVID-19 has Impacted Digital Transformation

Views From the Perspective of C-Suite Professionals
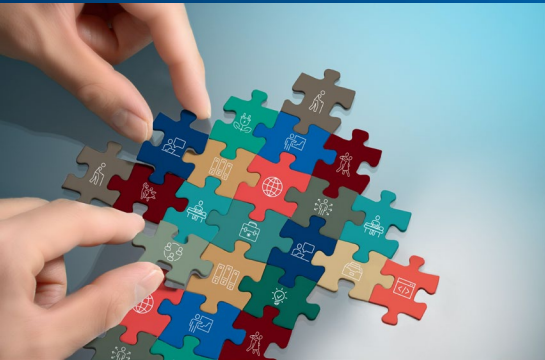
Helmut Schindlwick
19th March 2021

Agenda

- Brief Introduction
  - About the author
  - Problem Statement
  - The Rationale of the Study
  - Research Methods & Objectives

- Results and Analysis
  - Inclination of businesses towards digital transformation – Pre and post-Corona
  - Key drivers and pitfalls – Pre and Post Corona

- Conclusion and Q&A

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Brief Introduction

LinkedIn, ResearchGate, Amazon

- **About the Author:**
  - Helmut Schindlwick, CIO, Experienced Transformation Manager, Enthusiastic Lifelong Learner and Author

- **Problem Statement:**
  - Although extensive research on digital transformation very less research on the impact of COVID-19 concerning the importance of digital transformation.

- **The Rationale of the Study:**
  - Based on qualitative research with in-depth interviews (1h, 12 manager, 5 Countries) and using coding for analysis.
    - SRQ1a: What is the inclination of businesses towards opting specific digital technologies?
    - SRQ1b: What are the key drivers and pitfalls of digital transformation?
    - SRQ1c: How has COVID-19 impacted the digital transformation of businesses?

- **Research Objectives:**
  - Inclination of businesses towards digital transformation - Pre and post-Corona
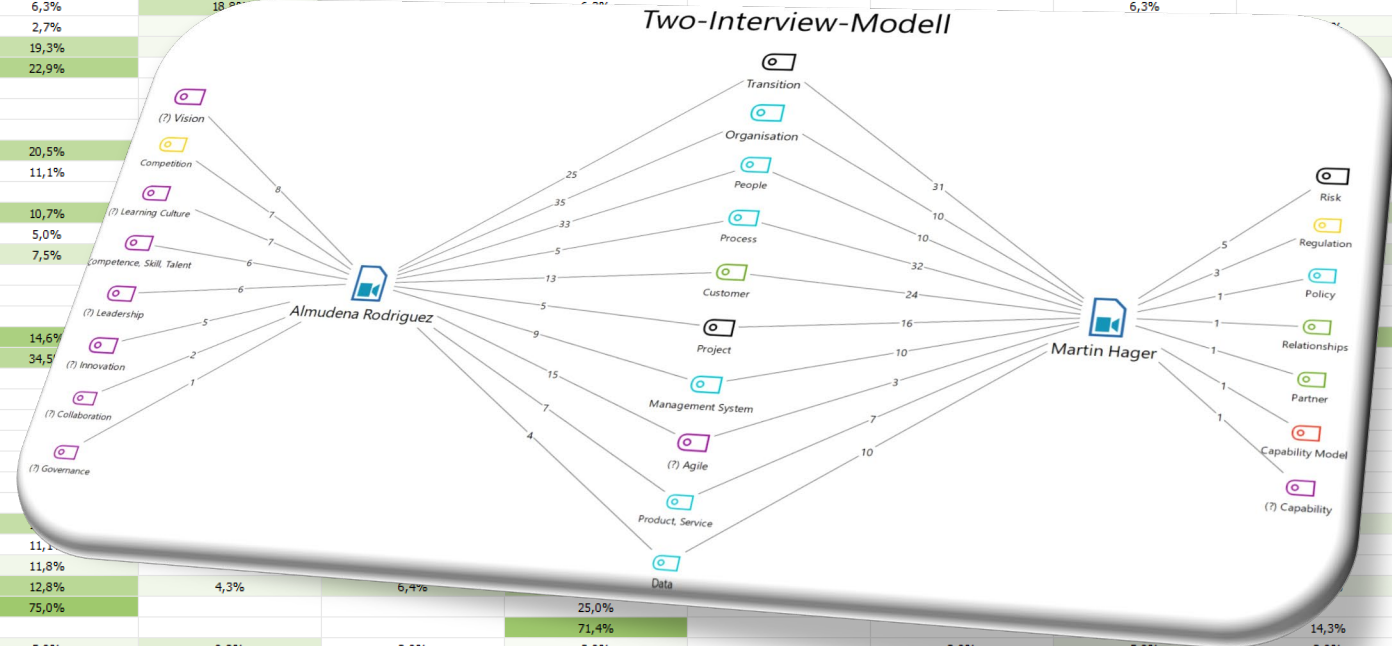 - Key drivers and pitfalls – Pre and Post Corona

TESy vs Interview coding

https://tesy-framework.com/

	Daniel Lambert	Thiagarajan Venkatramaini	Almudena Rodriguez	Jürgen Horak	Chantal Paquin	Peter Bergmann GERMAN	Mathias Traugott	Thomas Pränger GERMAN	Lars Wentorp	Martin Hager	Fernando Scheps	Christoph Pirringer	Total
TESy Framework	18,4%	9,2%	11,8%	5,3%	9,2%	15,8%	2,6%	9,2%	6,6%	2,6%	6,6%	2,6%	100,0%
External Factors				20,0%					40,0%			40,0%	100,0%
Competition			63,6%	27,3%			9,1%						100,0%
Requirements		10,0%		20,0%	20,0%		30,0%				10,0%	10,0%	100,0%
Disaster	2,8%	16,7%	11,1%	2,8%	11,1%	8,3%	16,7%	8,3%		2,8%	5,6%	13,9%	100,0%
Trends									100,0%				100,0%
Regulation										100,0%			100,0%
Technology (Ex)	9,1%	1,8%	5,5%	5,5%	3,6%		5,5%		21,8%	12,7%	30,9%	3,6%	100,0%
Organisation	7,5%	2,5%	17,6%	15,6%	4,0%	1,0%	9,5%	2,5%	16,1%	5,0%	13,1%	5,5%	100,0%
Technology (Org)	10,9%		6,5%	4,3%	4,3%		6,5%	2,2%	13,0%	10,9%	34,8%	6,5%	100,0%
People	8,3%	9,4%	18,2%	4,4%	8,3%		20,4%		13,3%	5,5%	6,6%	5,5%	100,0%
Process	3,1%	5,2%	5,2%	7,3%	4,2%		13,5%		10,4%	33,3%	15,6%	2,1%	100,0%
Knowledge		6,3%	25,0%	6,3%	18,8%					6,3%		31,3%	100,0%
Management System	17,3%	10,7%	12,0%	2,7%								2,7%	100,0%
Product, Service	3,7%	6,4%	6,4%	19,3%								1,8%	100,0%
Data	14,3%		11,4%	22,9%									100,0%
Information	11,1%	5,6%	33,3%									5,6%	100,0%
Policy	28,6%	42,9%										14,3%	100,0%
Relationships												66,7%	100,0%
Customer	10,3%	5,1%	16,7%	20,5%									100,0%
Partner		11,1%		11,1%								33,3%	100,0%
Vendor													100,0%
Transition	4,4%	6,3%	9,2%	10,7%								5,2%	100,0%
Strategy	60,0%		10,0%	5,0%									100,0%
Management	5,7%	15,1%	18,9%	7,5%								1,9%	100,0%
Board			11,1%										100,0%
Goal			30,8%									23,1%	100,0%
Risk												25,0%	100,0%
Project	13,5%	3,1%	5,2%	14,6%								5,2%	100,0%
Enterprise Architecture	50,0%		1,7%	34,5%								3,4%	100,0%
Process Model													100,0%
Organisational Model													100,0%
GRC Model			11,1%									11,1%	100,0%
Capability Model											50,0%		100,0%
Topology Model													
(?) Learning Culture	4,0%	20,0%	28,0%									8,0%	100,0%
(?) Design Thinking													100,0%
(?) Culture		7,1%	21,4%									2,4%	100,0%
(?) Competence, Skill, Talent			66,7%	11,1%								22,2%	100,0%
(?) Innovation			29,4%	11,8%									100,0%
(?) Method, Tool	12,8%	10,6%	2,1%	12,8%	4,3%		6,4%					12,8%	100,0%
(?) Maturity				75,0%			25,0%						100,0%
(?) Governance			14,3%				71,4%				14,3%		100,0%
(?) Agile	15,7%	21,6%	29,4%	5,9%	9,8%	2,0%	3,9%		2,0%	5,9%	2,0%	2,0%	100,0%
(?) Leadership		25,6%	15,4%	17,9%			23,1%			2,6%	7,7%	7,7%	100,0%
(?) Vision		18,2%	36,4%	9,1%			36,4%						100,0%
(?) KPI			37,5%	25,0%					12,5%	25,0%			100,0%
(?) Collaboration		33,3%	22,2%		33,3%						11,1%		100,0%
(?) Capability			50,0%								50,0%		100,0%
∑ SUMME	9,2%	7,1%	13,4%	11,1%	6,4%	2,9%	10,8%	6,3%	8,4%	10,8%	8,4%	5,2%	100,0%
# N = Dokumente	1 (8,3%)	1 (8,3%)	1 (8,3%)	1 (8,3%)	1 (8,3%)	1 (8,3%)	1 (8,3%)	1 (8,3%)	1 (8,3%)	1 (8,3%)	1 (8,3%)	1 (8,3%)	12 (100,0%)

Two-Interview-Modell

Almudena Rodriguez — Martin Hager

Node labels: Transition, Organisation, People, Process, Customer, Project, Management System, (?) Agile, Product, Service, Data, (?) Vision, Competition, (?) Learning Culture, Competence, Skill, Talent, (?) Leadership, (?) Innovation, (?) Collaboration, (?) Governance, Risk, Regulation, Policy, Relationships, Partner, Capability Model, (?) Capability

- Results of the study highlighted the fact that although a large number of businesses were opting for digitized solutions before the occurrence of the pandemic, the prevalence of COVID-19 **increased the pace of digital adoption** and subsequently **authenticated the validity of digital transformation** of businesses when considering their industrial **competitiveness and sustainability** in the market. Cloud computing, artificial intelligence, and machine learning were identified to be the **critical transformational constructs**.

- Considering the impact of COVID-19, the concept of digital transformation was categorized as an **evolution of businesses** revealing that the transformation is not confined to merely technical change, but also includes **altering the thought patterns and business structures**, while ensuring the **training and development of employees** to capacitate them to master new technological interventions.

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Results and Analysis: Key drivers and pitfalls – Pre and Post Corona

- The influence of **customers**, changing industrial **trends**, **cost efficiency**, and **competition** were identified as the **generic drivers**, whereas **COVID-19** was identified as the **primary influencer, leaving a direct impact** on production capacity, operational efficacy, success, and the **competitive advantage** of a business to a great extent.

- Although the participants were **convinced on the effectiveness of digital transformation** facilitating virtual working environments, another stance that was quite evident from the research results was that **developing the coherence of people to work from home** added to the existing operational struggles of both employees and managers.

- In addition to that, the study results confirmed that digital transformation **required the integration of technology with people and society**.

Conclusion and Q&A

- COVID-19 has, **undoubtedly, had a significant impact** on the digital transformation of businesses.

- Despite an increasing interest of businesses towards implementing digital technologies into several business units, the prevalence of COVID-19 has changed the working environment's dynamic, **mandating digital transformation** as a **contributor to the success, competitive advantage, and sustainability of businesses**.

- The study results have also identified COVID-19 as the **most significant challenging factor** for the transformation of businesses where **lack of coherence among employees** and **people's inability to adapt** to the technological interventions **might demotivate them and cause disrupted operational activities**.

- The study's results also suggested the **benefits of focusing on the training and development of employees** to capacitate them to adapt to the new normal working environment.
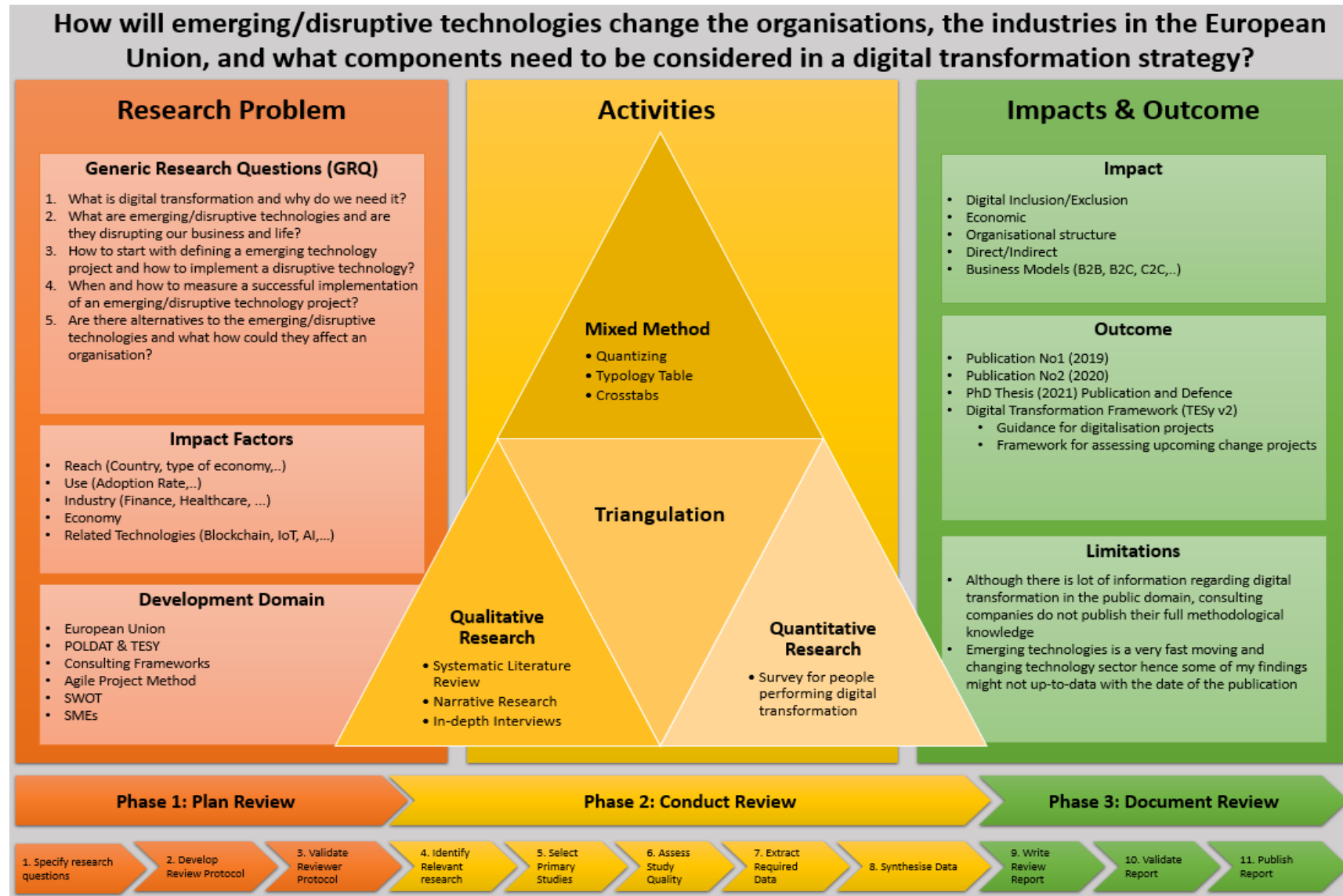
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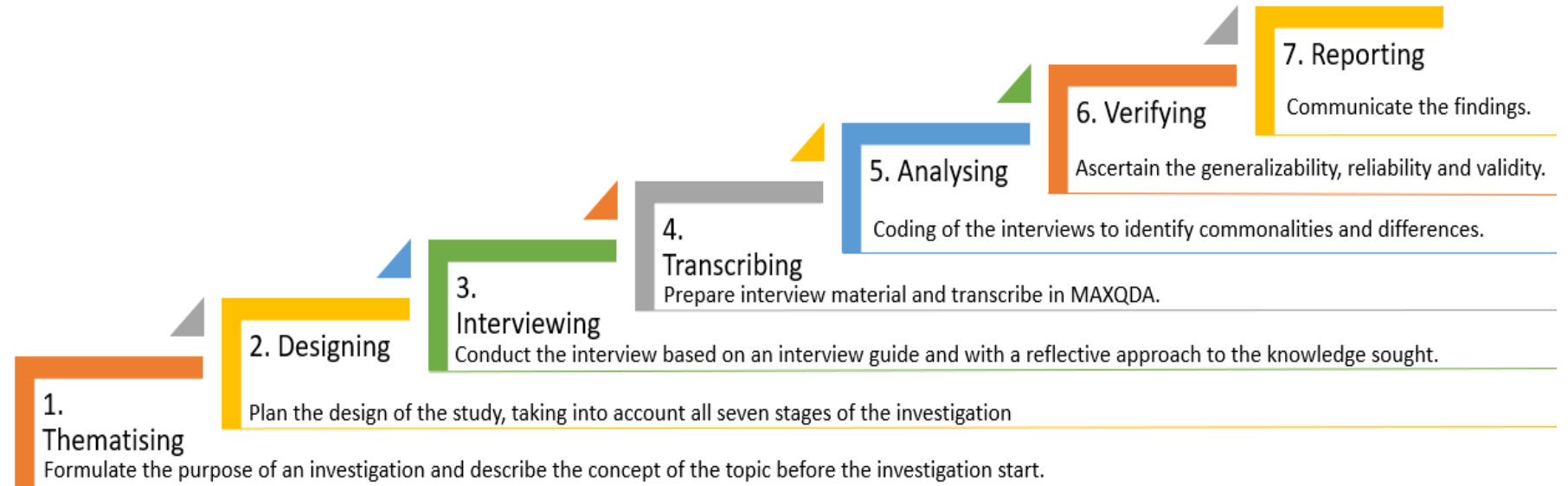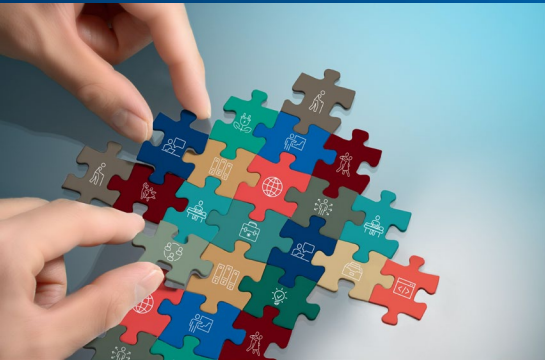The overall Research Framework for the Thesis

How will emerging/disruptive technologies change the organisations, the industries in the European Union, and what components need to be considered in a digital transformation strategy?

Research Problem

Generic Research Questions (GRQ)

1. What is digital transformation and why do we need it?
2. What are emerging/disruptive technologies and are they disrupting our business and life?
3. How to start with defining a emerging technology project and how to implement a disruptive technology?
4. When and how to measure a successful implementation of an emerging/disruptive technology project?
5. Are there alternatives to the emerging/disruptive technologies and what how could they affect an organisation?

Impact Factors

- Reach (Country, type of economy,..)
- Use (Adoption Rate,..)
- Industry (Finance, Healthcare, ...)
- Economy
- Related Technologies (Blockchain, IoT, AI,...)

Development Domain

- European Union
- POLDAT & TESY
- Consulting Frameworks
- Agile Project Method
- SWOT
- SMEs

Activities

Mixed Method
- Quantizing
- Typology Table
- Crosstabs

Triangulation

Qualitative Research
- Systematic Literature Review
- Narrative Research
- In-depth Interviews

Quantitative Research
- Survey for people performing digital transformation

Impacts & Outcome

Impact
- Digital Inclusion/Exclusion
- Economic
- Organisational structure
- Direct/Indirect
- Business Models (B2B, B2C, C2C,..)

Outcome
- Publication No1 (2019)
- Publication No2 (2020)
- PhD Thesis (2021) Publication and Defence
- Digital Transformation Framework (TESy v2)
  - Guidance for digitalisation projects
  - Framework for assessing upcoming change projects

Limitations
- Although there is lot of information regarding digital transformation in the public domain, consulting companies do not publish their full methodological knowledge
- Emerging technologies is a very fast moving and changing technology sector hence some of my findings might not up-to-data with the date of the publication

Phase 1: Plan Review   **Phase 2: Conduct Review**   **Phase 3: Document Review**

1. Specify research questions
2. Develop Review Protocol
3. Validate Reviewer Protocol
4. Identify Relevant research
5. Select Primary Studies
6. Assess Study Quality
7. Extract Required Data
8. Synthesise Data
9. Write Review Report
10. Validate Report
11. Publish Report

Research Framework for the thesis, where the presented qualitative research and the in-depth interview is shown.

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7. Reporting
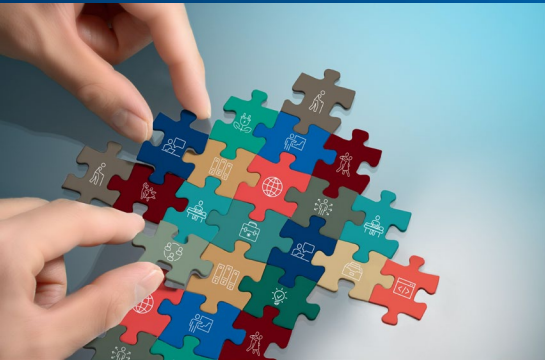Communicate the findings.

6. Verifying
Ascertain the generalizability, reliability and validity.

5. Analysing
Coding of the interviews to identify commonalities and differences.

4. Transcribing
Prepare interview material and transcribe in MAXQDA.

3. Interviewing
Conduct the interview based on an interview guide and with a reflective approach to the knowledge sought.

2. Designing
Plan the design of the study, taking into account all seven stages of the investigation

1. Thematising
Formulate the purpose of an investigation and describe the concept of the topic before the investigation start.

The seven stages of an interview investigation (Kvale 1996) used in this research for managing the in-depth interview process.

Interview Partner for this study. Many thanks for their contribution!

As all participants signed the GDPR consent to use their personal data and publicly release the interview content, below are their details to express gratitude for participating in this research.
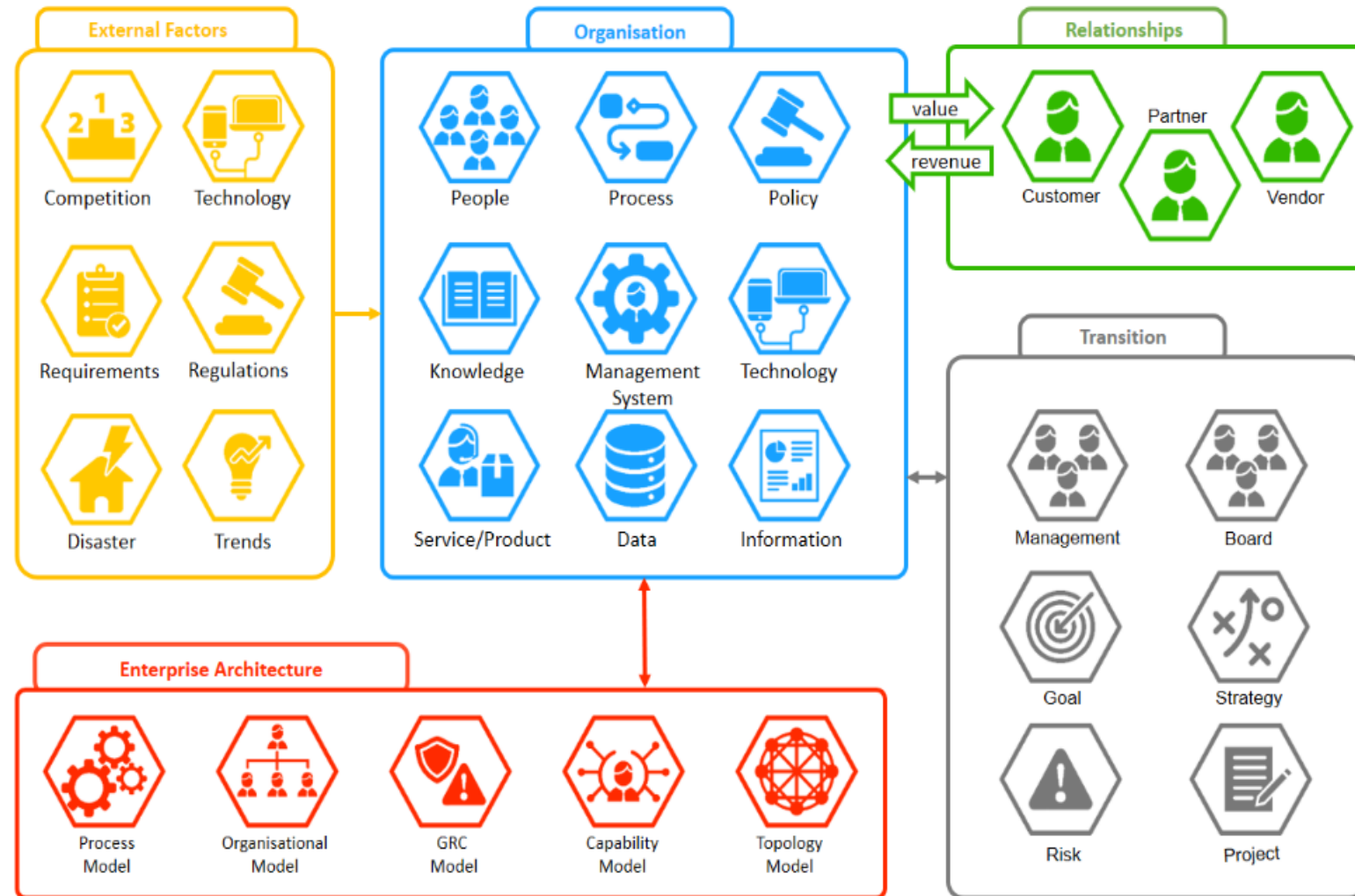
First/Second Name	LinkedIn Profile
Daniel Lambert	https://www.linkedin.com/in/daniellambert1962/
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Almudena Rodriguez	https://www.linkedin.com/in/almrodrpardo/
Jürgen Horak	https://www.linkedin.com/in/juergenhorak/
Chantal Paquin	https://www.linkedin.com/in/chantal-paquin-b2153213/
Peter Bergmann	https://www.linkedin.com/in/peter-bergmann-180b4215/
Matthias Traugott	https://www.linkedin.com/in/mathias-traugott-a0368160/
Thomas Pränger	https://www.linkedin.com/in/thomas-pr%C3%A4nger-40a1705/
Lars Wentorp	https://www.linkedin.com/in/larswentorp/
Martin Hager	https://www.linkedin.com/in/hagermartin/
Fernando Scheps	https://www.linkedin.com/in/fscheps/
Christoph Pirringer	https://www.linkedin.com/in/christophpirringer/

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Word Cloud across the whole Interview content for all 12 in-depth interviews

Transformation Eco System – TESy Framework v 1.0

https://tesy-framework.com/

Transformation Eco System (TESy)

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