HAN AUTOMOTIVE RESEARCH

Conflicting Rationalities

Universities of Applied Science & Cooperation with Professional Practice

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Goal for this presentation…

Introduction – In a minute…

Universities of Applied Science & Cooperation with Professional Practice is a multi headed… thing!

First ***What's going on***… and next ***How 'we deal' with this***, from a scientific perspective, in:

"Wetenschappelijk kader lerend werken en innoveren"

"Scientific framework for learning and innovation"

By starting in 1992 and leave you in an ongoing PhD project…

INTRODUCTION

Lejo Buning
1956

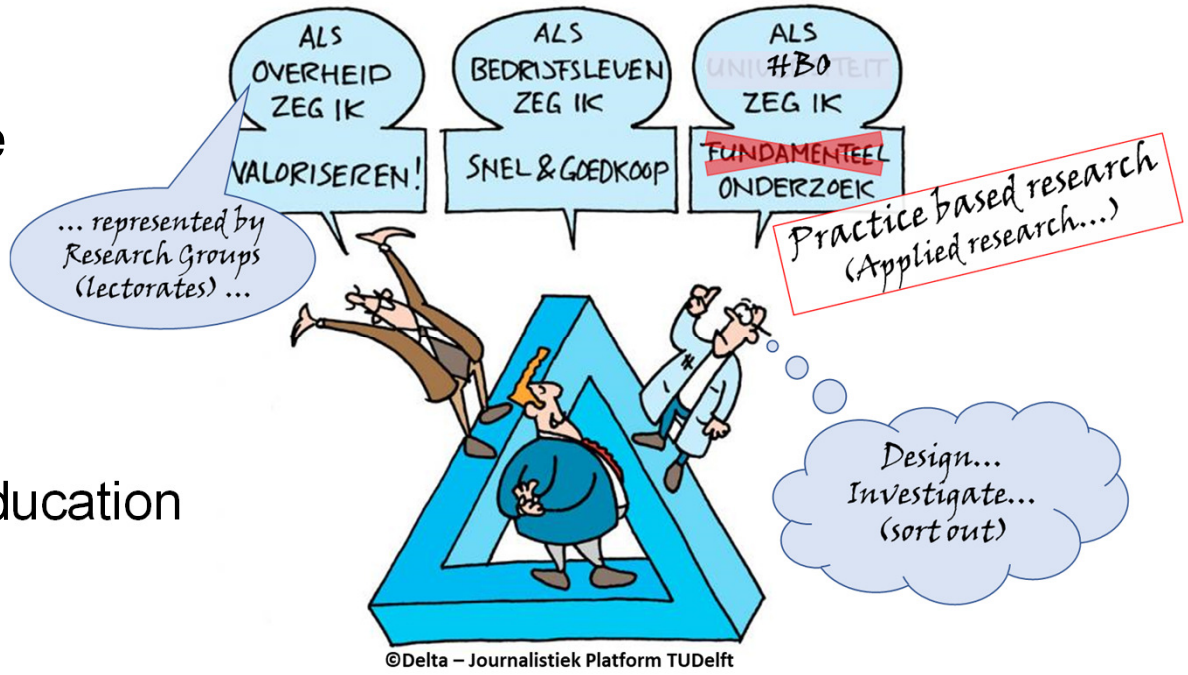
HAN University of Applied Sciences
1980
1992

2002
2018

Experiences in Different Worlds

Contract Research

- Surprise…
- Resignation
- Follow my own route



Applied Research

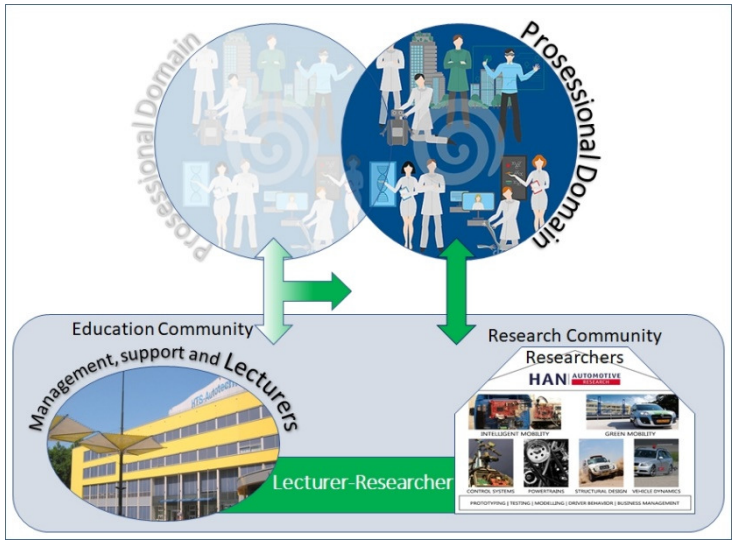
Practice Research & Education

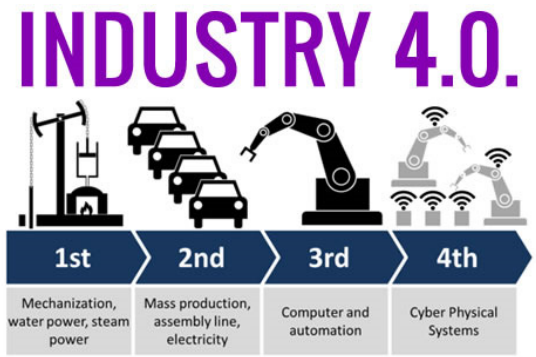
- ➢ Success
- ➢ Failure

What makes the World Different

The gap with State-of-the-Art

- Disruptive Innovations (Schwab, 2015, 2016)
- 4TH Industrial revolution
- Moore's Law





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Urgency

CEO "… plastic from the 'soup' that floats in the oceans, to start re-using in its cars"

Engineers - "Nice! Recycled plastic…

But we can't give it any shape and appearance..."

CEO:

- **"Fine, you only use it in places where you don't see it …"**
- **And btw, "A quarter of the sold Audi's must be electric in 2025 …"**

Bas Schot, CEO Audi (@VK - 3/7/2019)

Observations so-far…

Initiatives

Solo to Multi professional (De Vijlder, 2015)

Professional Id's (Winkel, 2017)

Flexible Expertise (Birney, 2012)

University-Industry partnerships (lots and lots…)

Hybrid Learning Configurations (Cremers 2016, 2017)

Cross Functional Integration (Baunsgaard, 2013)

Boundary Crossing (see table) (Bakker&Akkerman, 2014)

PUBLIC ORGANISATIONS	PRIVATE ORGANISATIONS
Focus on the 'HOW'; mogelijkheden en beperkingen control the result	Focus on the 'WHY'; the result is dictated by the 'HOW'
Process focused	Result focused
Supply driven	Demand is leading
Inside out	Outside in
Limitations are leading	Opportunity driven
Controlled (cautious, careful)	80/20 approach, time is essential
Permission at front is better than sorry afterwards	Sorry afterwards is better than permission at front

©Korstanje & Moerman (2015). *Handboek Publiek Privaat Innoveren: Succesvolle samenwerking bedrijfsleven & beroepsonderwijs*. Platform Betatechniek

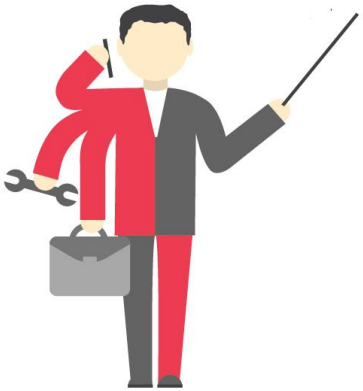
Problem

2010 – 2014 BBA&MBA/MSc

Hybridity[1)]

Different Worlds

Colliding rationalities[2)]



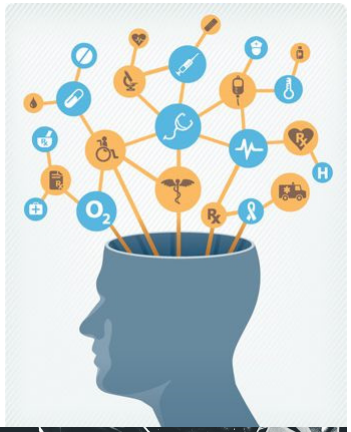
1) (Karre & Veld, 2007)

2) (Kruiter & Veld, 2014; Veld, Kruiter, & Hensema, 2018)

Rationality

In my PhD-research

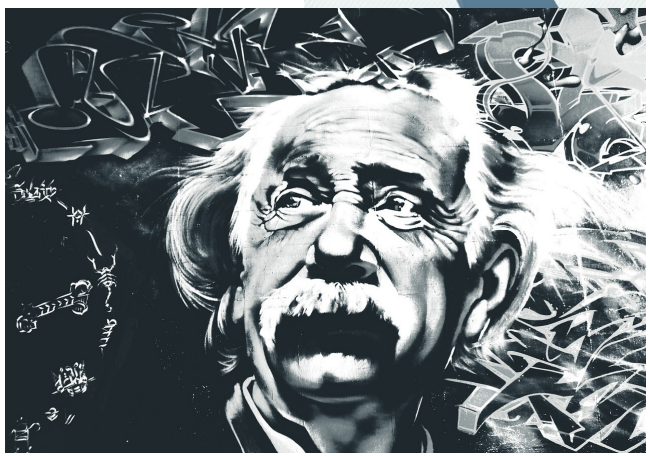
"In the context of the actor, rationality is the coherent combination of beliefs (values), wishes, one's perception of procedures (prevailing rules) and the acting."



Institutional (Weber[1)], Mannheim[1)])

Individual Weber[1)], Wilson(Wilson, 2002)

(practical, formal, theoretical, and material rationality)



1) (Kalberg, 1980, 1990), (Tromp, 2001), (Frankema, 2000)

PhD Research project

The UAS is in search for answers

"… on using the rationalities of professionals as a new perspective to shape the cooperation between education, research and professional practice"

Main Research Question

How can universities of applied sciences enhance research and innovation in their education by the understanding rationalities of professionals of the interacting communities in an adaptive learning triangle

Where did I and do I get my data…

Case Study Driving Innovation (Semester 6)

Connecting to State-of-the-art themes

Co-creation

(Efficiency of knowledge transfer –Kolster, 2019)

21 century skills
(Binkley, 2012), (Meesters, et al., 2017)

*ICA Institute only projects

Research attitude

Not New:

- Health care – Spark centers

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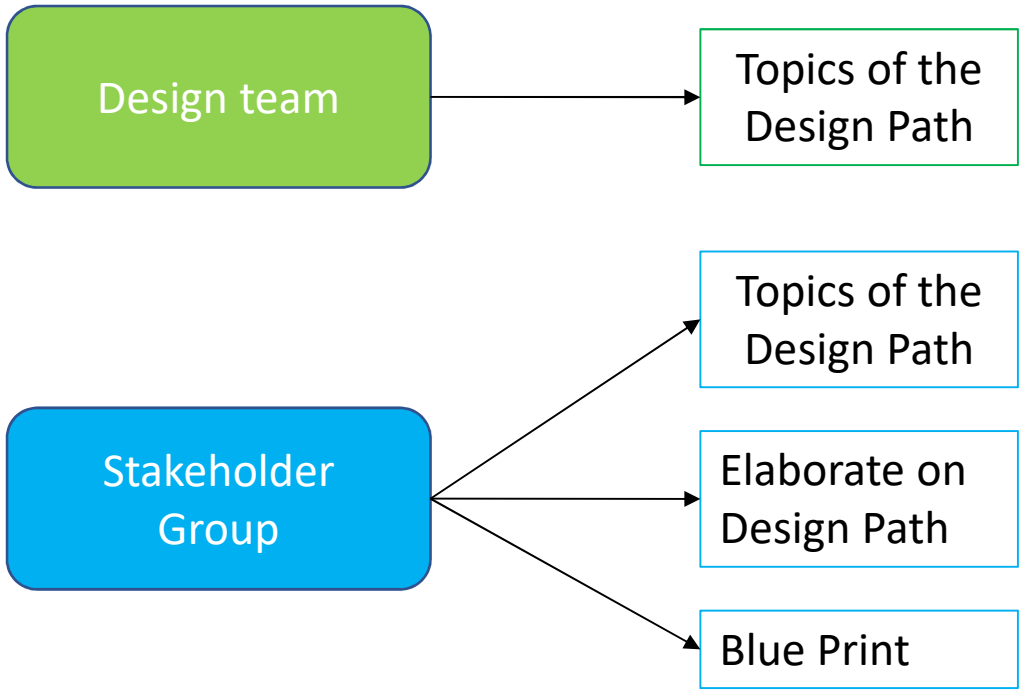
Method – Design Rationale

#	Description
1	The members of the design group
2	Professionals of the education and research community – not being a member of the design group
3	Professionals from the professional practice
4	Students from Institute Automotive from different cohorts
5	And, invited, not always available, members of the research and education management teams

- Meeting 1
- Meeting 2
- Meeting 3
- Meeting 4



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Institutional Rationality…

Reasons for Acting / Rationalities	Education	Research	Professional practice
Economic perspective	Costs coverage annual reports	Costs coverage monthly reports	Shareholder value, Return on Investment
Research paradigm	Research attitude, designing, realization, services, …	Applied, Practical research	IP focused, USP
Primary process - time perspective	A four-year curriculum, containing eight semesters	Continuously driven by state-of-the-art themes from the professional practice	Continuously driven by innovation and market

Wat we willen
Momenten
Van Helderheid
Of beter nog: van grote
Klaarheid (Martin Bril)

Lejo Buning (lejo.buning@han.nl)

Disruptive Innovations…

Industry 1.0

- approx. 1760 - 1867
  - UK, James Watt
  - Steam, iron

Industry 2.0

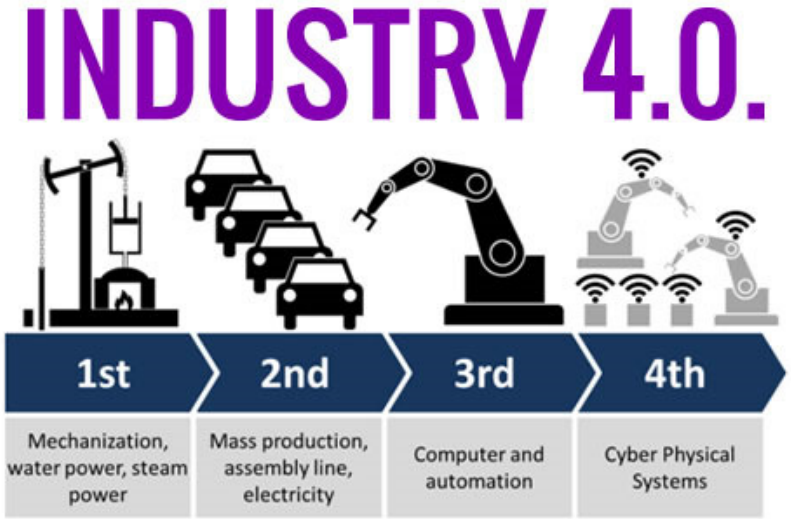
- approx. 1876 – 1914
  - Electricity, Steal

Industry 3.0

- ≤ 1945
  - 20TH century – Communication
  - Computers, Internet

Industry 4.0

- Now
  - IoT, Robotics



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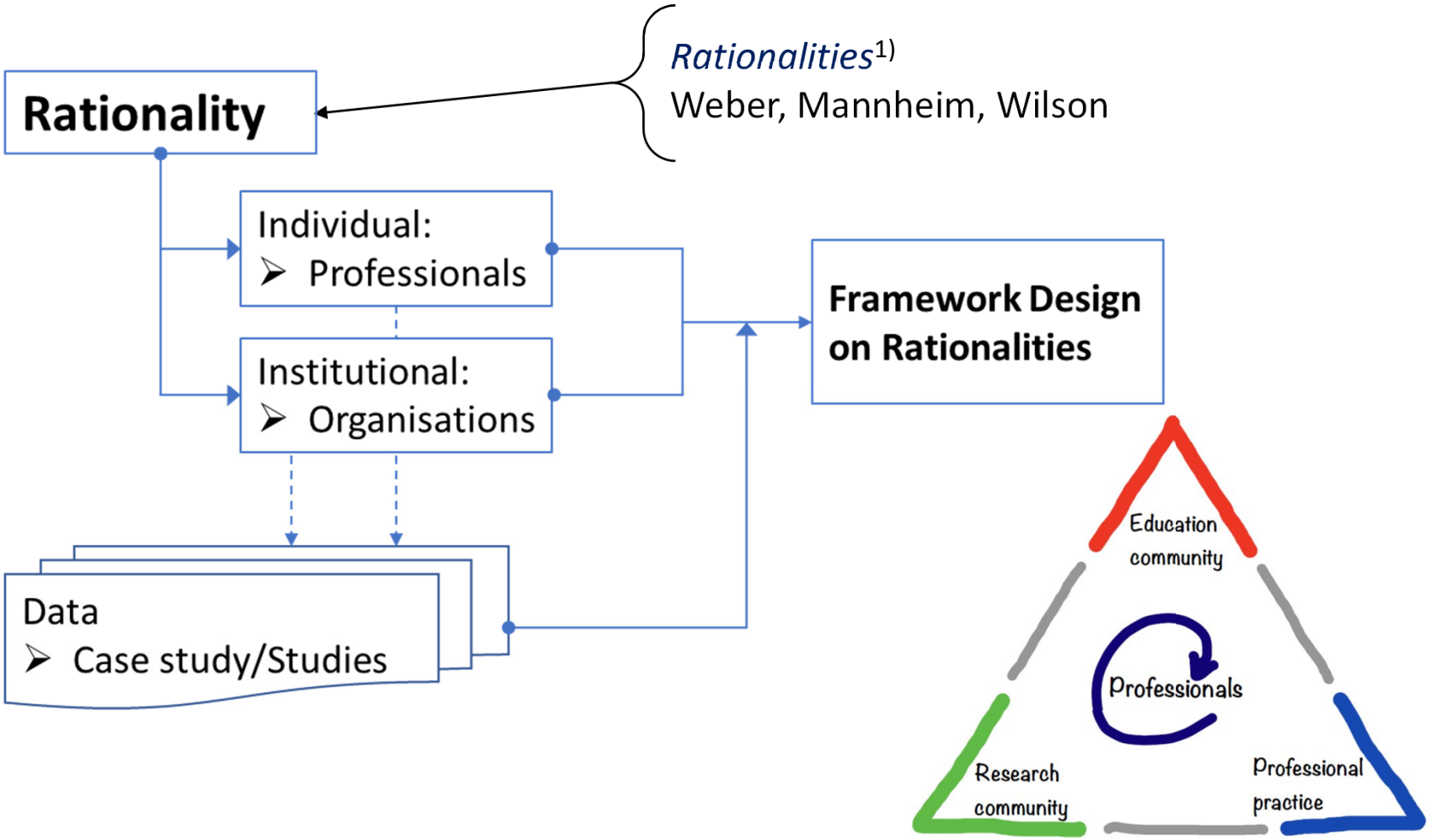
Method


Rationality
Rationalities[1)]
Weber, Mannheim, Wilson
Individual:
➢ Professionals
Institutional:
➢ Organisations
Framework Design on Rationalities
Data
➢ Case study/Studies
Education community
Professionals
Research community
Professional practice

Individual Rationality

Type	Identifier	Description	Validity	Scientific reference(s)
Nurture	Belbin	Team role assessment generating 9 roles, informative instrument, aid to analysis and reflection.	Limited	(Furnham, Steele, & Pendleton, 1993) (Shi & Tang)
Nature	Big Five of Personality	An emerging mode of personality assessment. Topics addressed are: ➢ Neuroticism ➢ Extraversion ➢ Openness ➢ Altruism ➢ Conscientiousness	Good	(Bozionelos, 2004)
Professionals	Images of Professionals – Ethical images	Ideal typical characteristics: 1) Normative professional 2) Attendance professional 3) Creative professional 4) Democratic professional 5) Critical practitioner/professional	Good	(Jonge, 2015, pp. 197-245)

21ST Century Skills - Attitude isn't the Holy Grail

21ST Century Skills

Ways of Thinking

1. Creativity and innovation
2. Critical thinking, problem solving, decision making
3. Learning to learn, Metacognition

Ways of Working

4. Communication
5. Collaboration (teamwork)

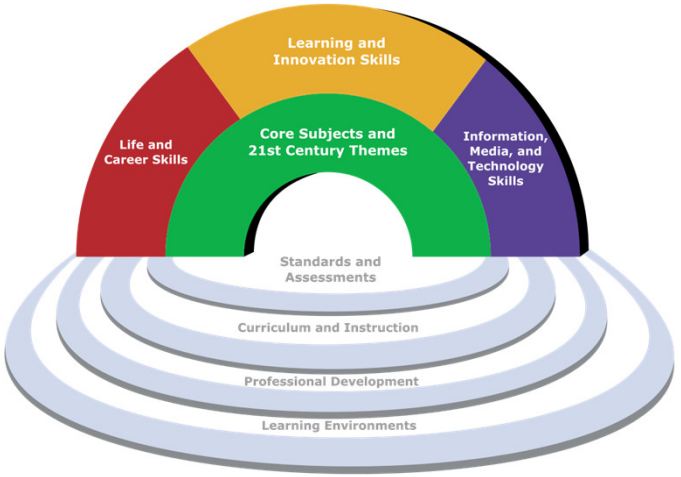
Tools for Working

6. Information literacy
7. ICT literacy

Attitude isn't the Holy Grail

Living in the World

8. Citizenship – local and global
9. Life and career
10. Personal and social responsibility (including cultural awareness and competence)



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