Quality of information in (business) network modelling
from an evolutionary perspective
prof. dr. ir. Jos J.M. Trienekens
DEKRA
Open Universiteit

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MGI-report (2016): Digital Globalization: The new area of global flows:
"exploding digital flows in a deeply connected world"
- cross-border bandwith 45 times larger since 2005 (next five years: additional 9 times)
- 86% of tech-based start-ups have some cross-border activity

--> ***New challenges for business network and information modelling***

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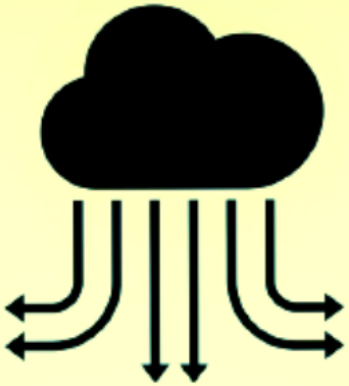
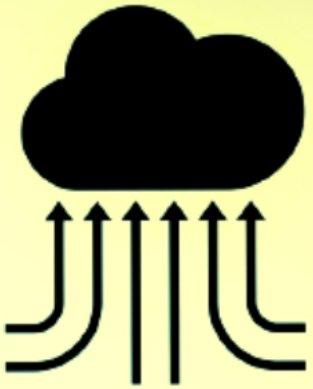
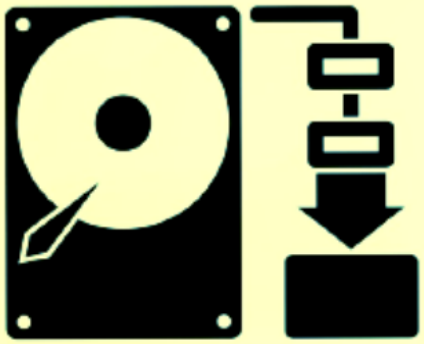
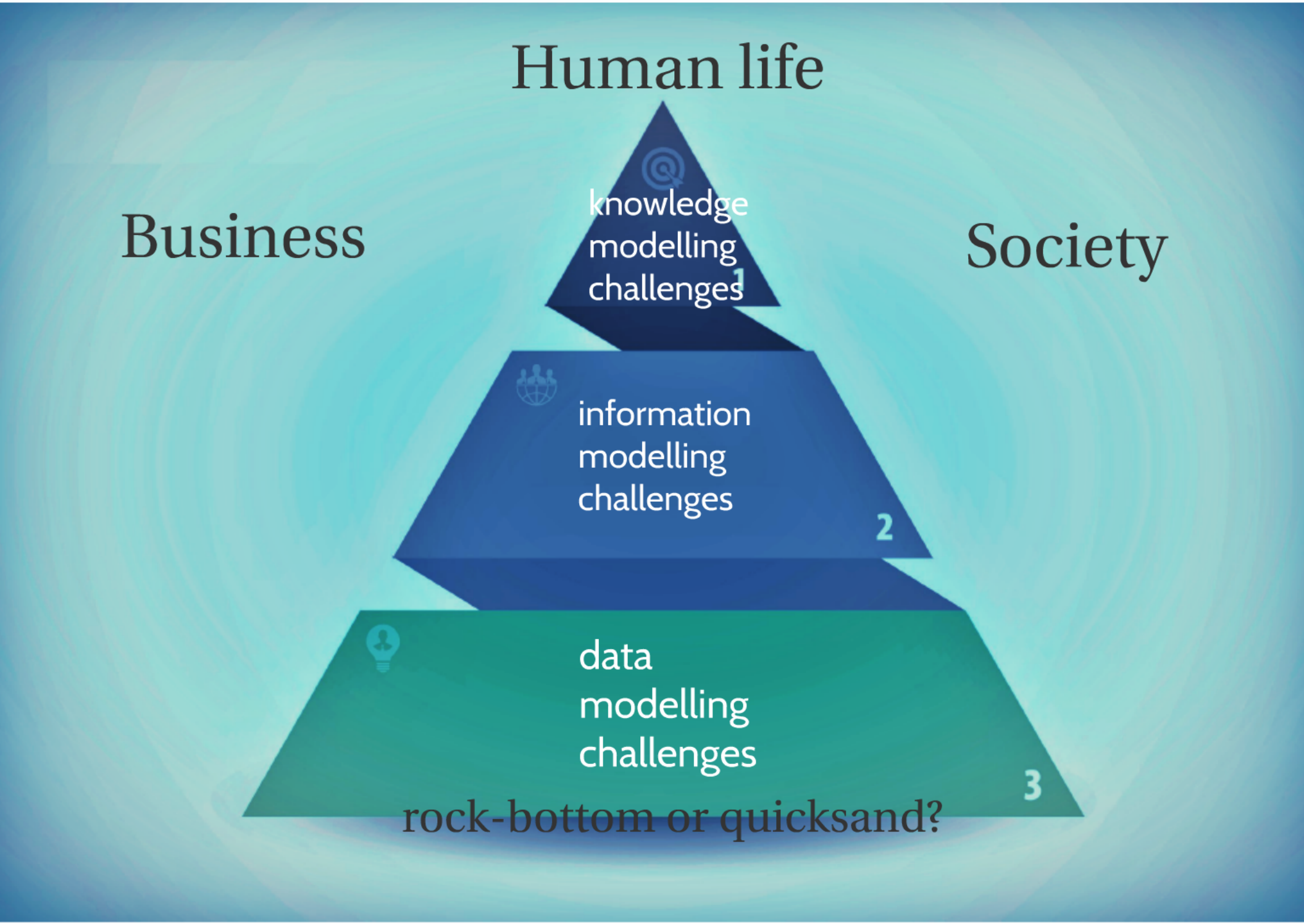
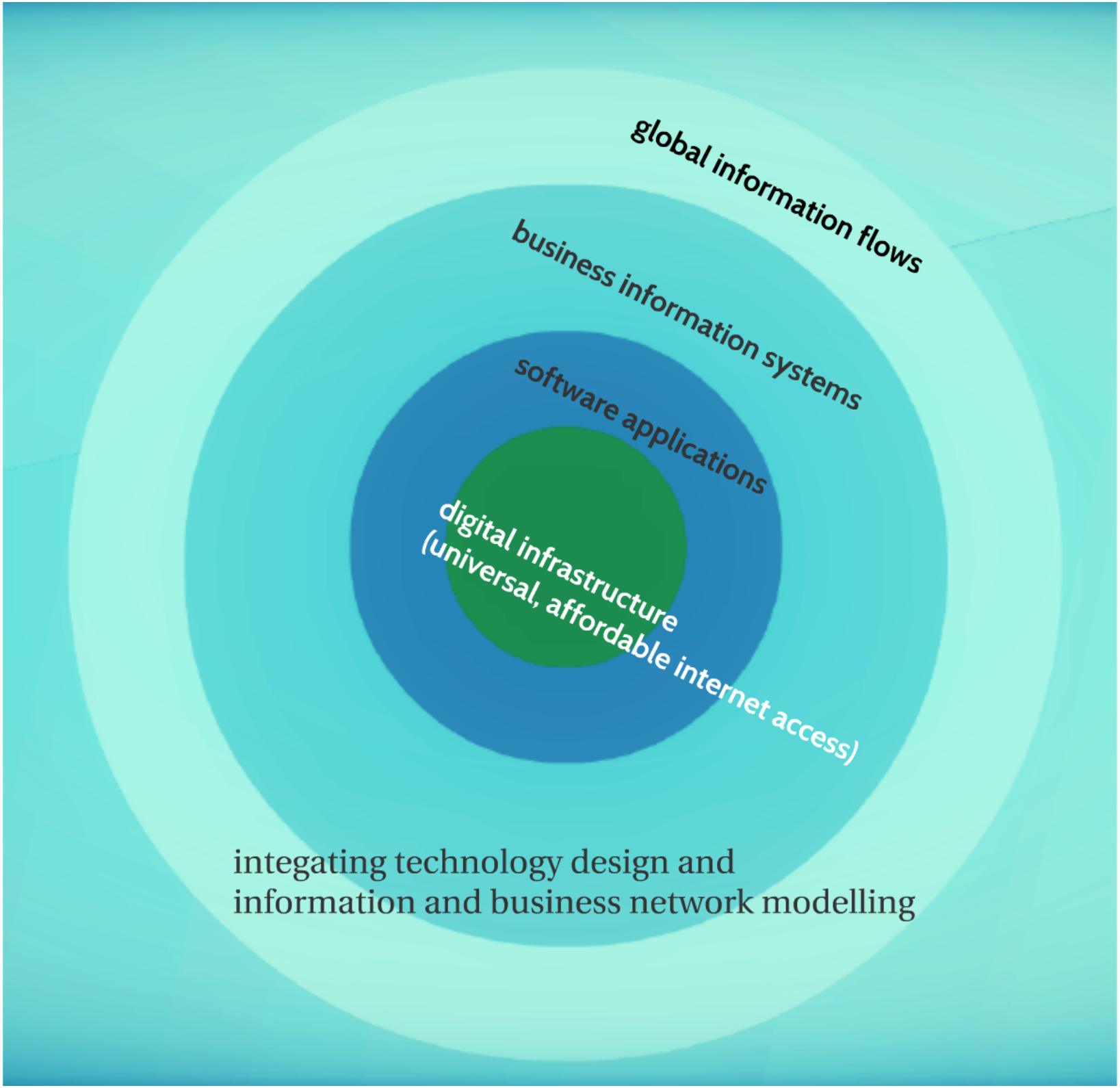



towards new information areas

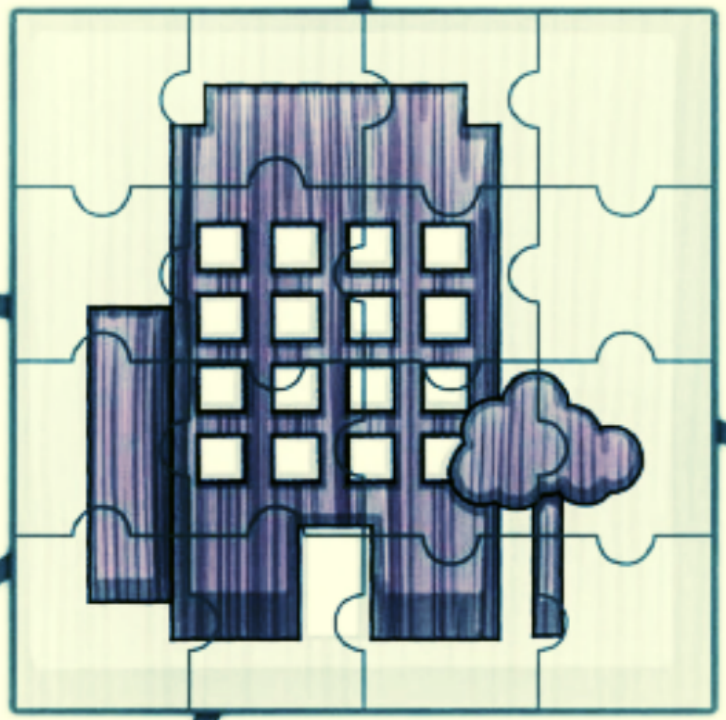


accelerating and soaring flows of cross-border data, information, ideas, innovation

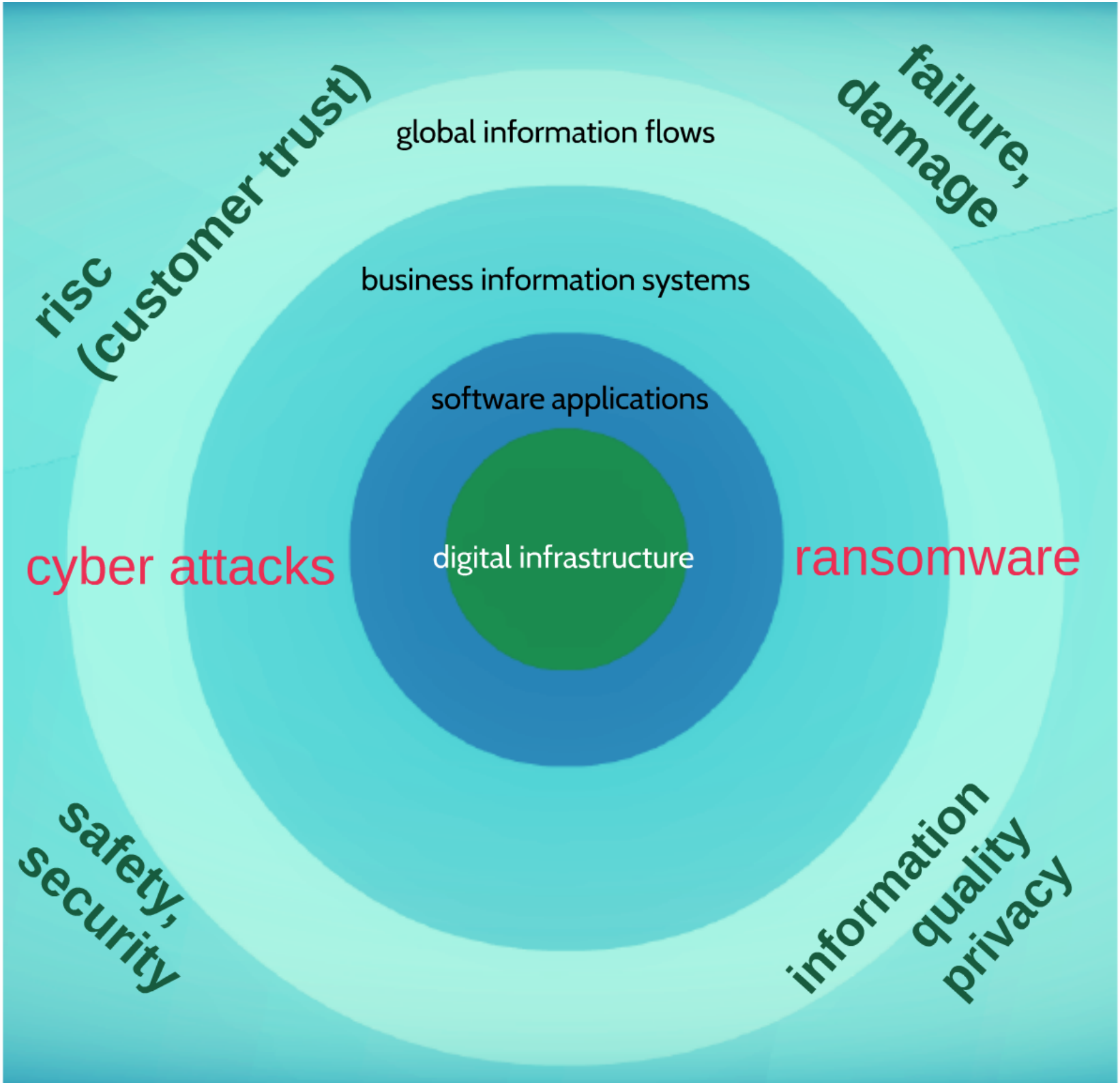

Human life
Business
Society
knowledge
modelling
challenges
1
information
modelling
challenges
2
data
modelling
challenges
3
rock-bottom or quicksand?


global information flows
business information systems
software applications
digital infrastructure
(universal, affordable internet access)
integating technology design and
information and business network modelling

towards Gardens of Eden, or



Temples of doom?


risc
(customer trust)
global information flows
failure,
damage
business information systems
software applications
digital infrastructure
cyber attacks
ransomware
safety,
security
information
quality
privacy

DEKRA

Safety, security, privacy in (business) networks in Automotive, Industry4.0, Smart Cities (CPS, IoT)

on the road

at work

at home

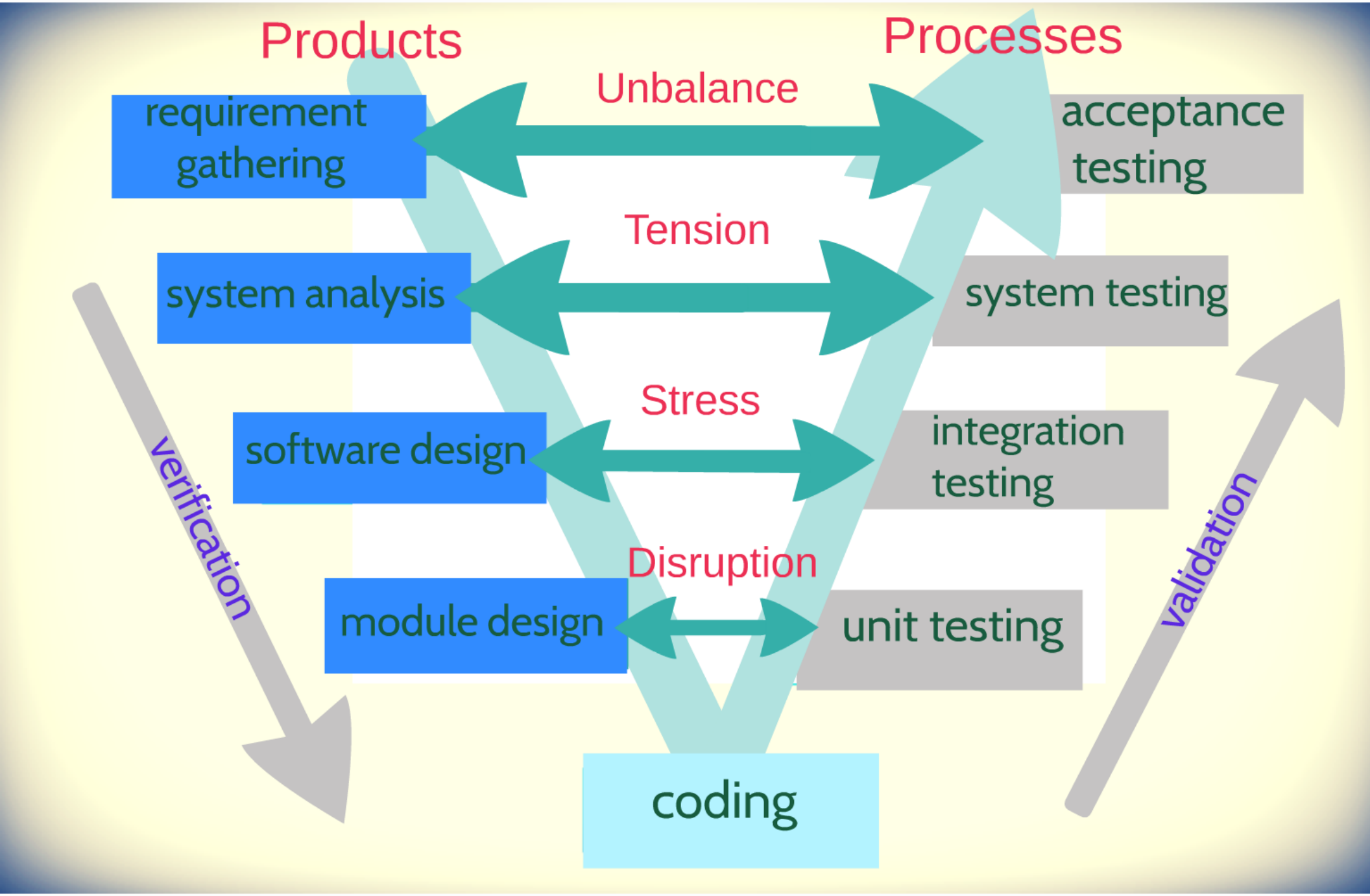
DEKRA
accreditation institutes
branche organisations
information technology providers
criteria management
examination institutes
content providers
certified persons
educational institutes
international standaardisation institutes
security and privacy in (business) network and information modelling

focussing on quality needs in business network and information modelling

targeting for Safety in Business & Human Life

(business) network and information modelling in IoT Healthcare (AT4wireless/DEKRA)

(business) network and information modelling: bridging gaps and assuring safety


Products
Processes
Unbalance
requirement gathering
acceptance testing
Tension
system analysis
system testing
Stress
software design
integration testing
Disruption
module design
unit testing
coding
verification
validation

consolidate

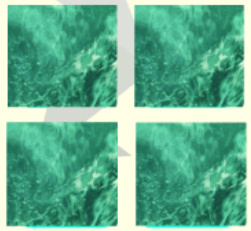
product

process

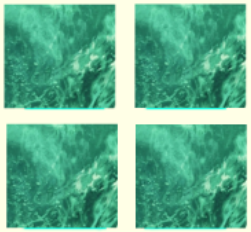
improve

network modelling level
information exchange

organisation modelling level
information supply



technology modelling level
data and information production



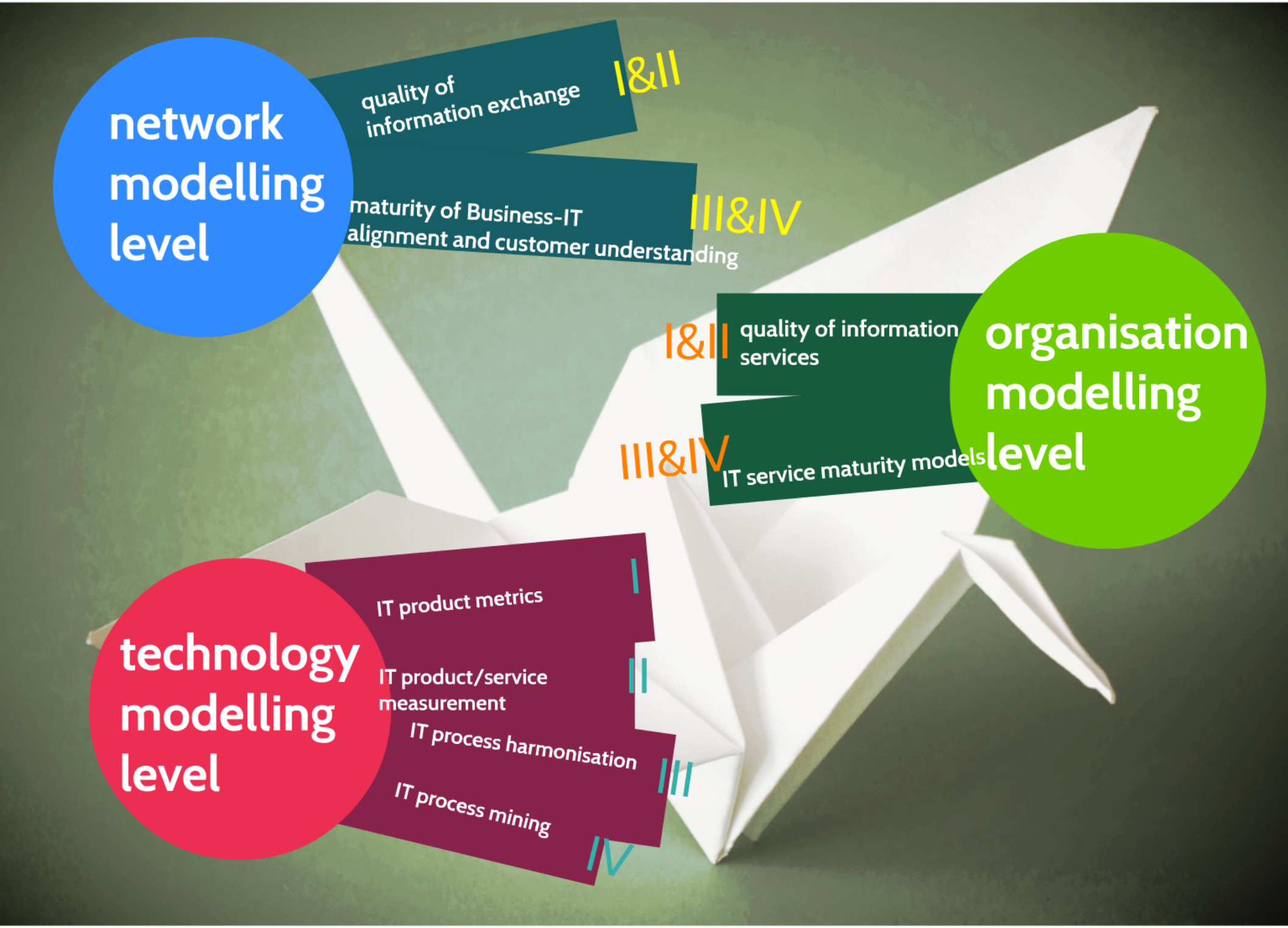
research challenges in (business) network and information modelling

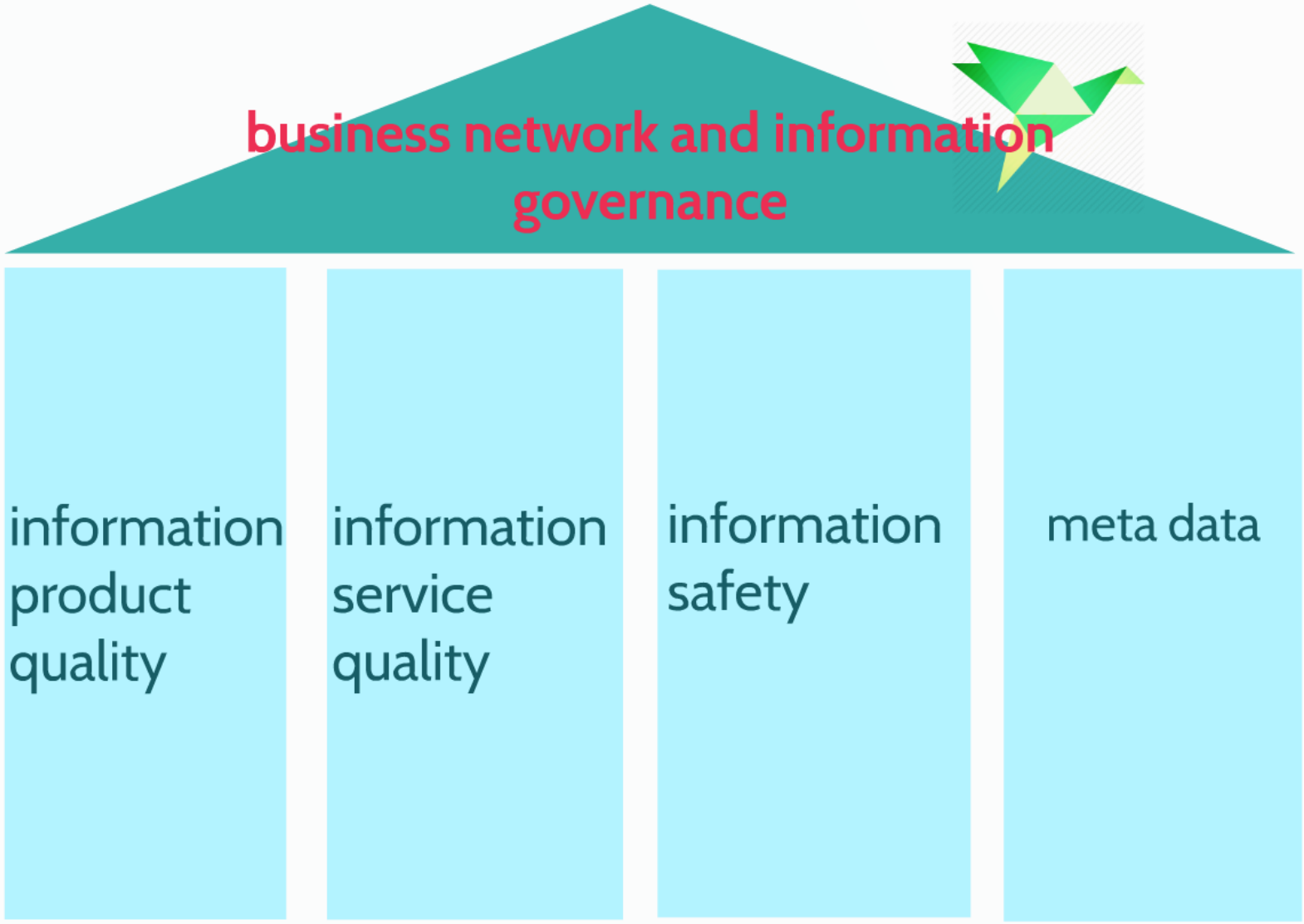
I
IT product consoli-
dation

II
continuous IT
product
improvement

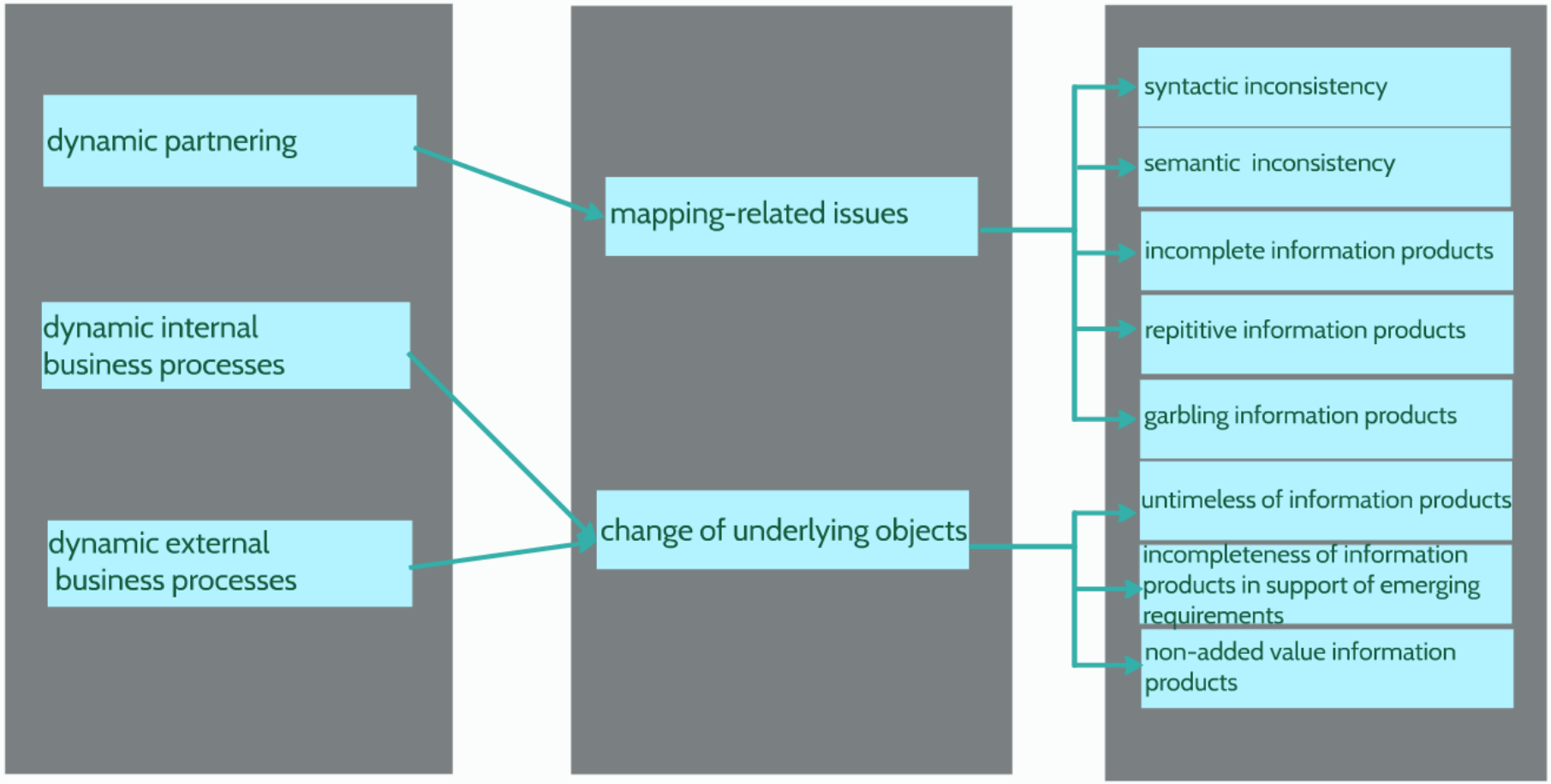
III
consolidation of
IT process quality

IV
continuous IT
process
improvement


network modelling level
quality of information exchange
I&II
maturity of Business-IT alignment and customer understanding
III&IV
organisation modelling level
I&II
quality of information services
III&IV
IT service maturity models
technology modelling level
IT product metrics
I
IT product/service measurement
II
IT process harmonisation
III
IT process mining
IV

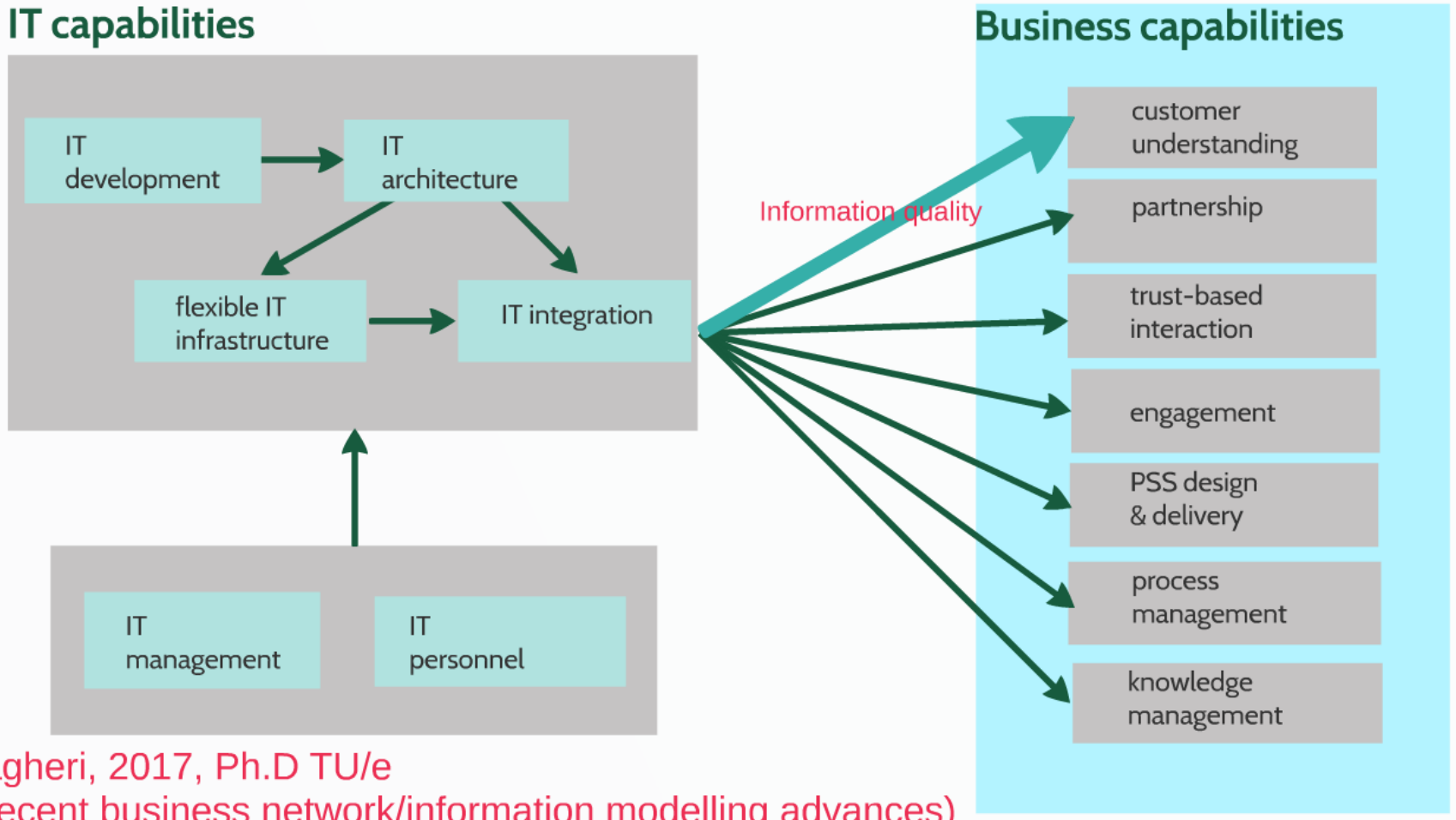


challenges on the network governance level

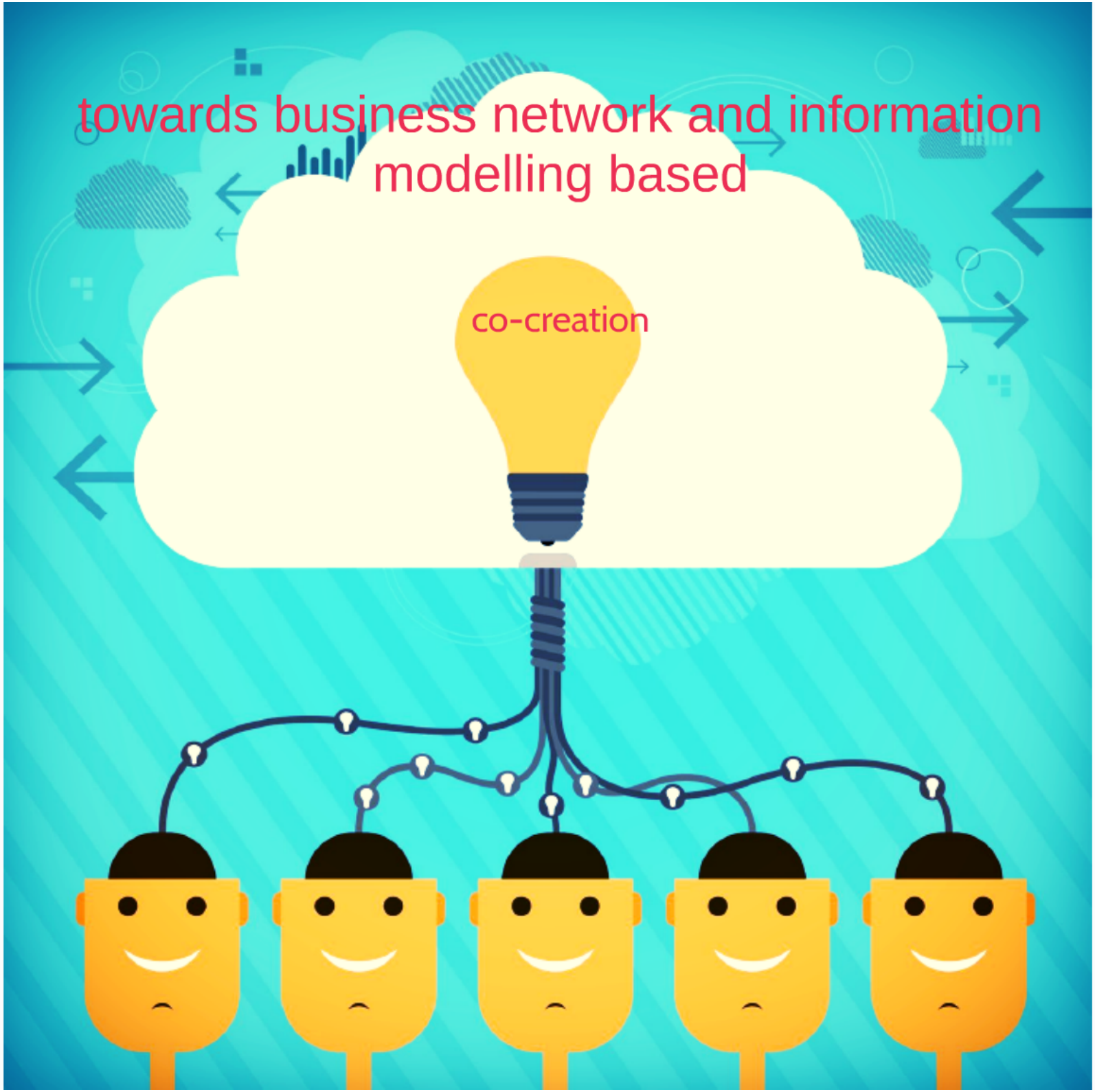


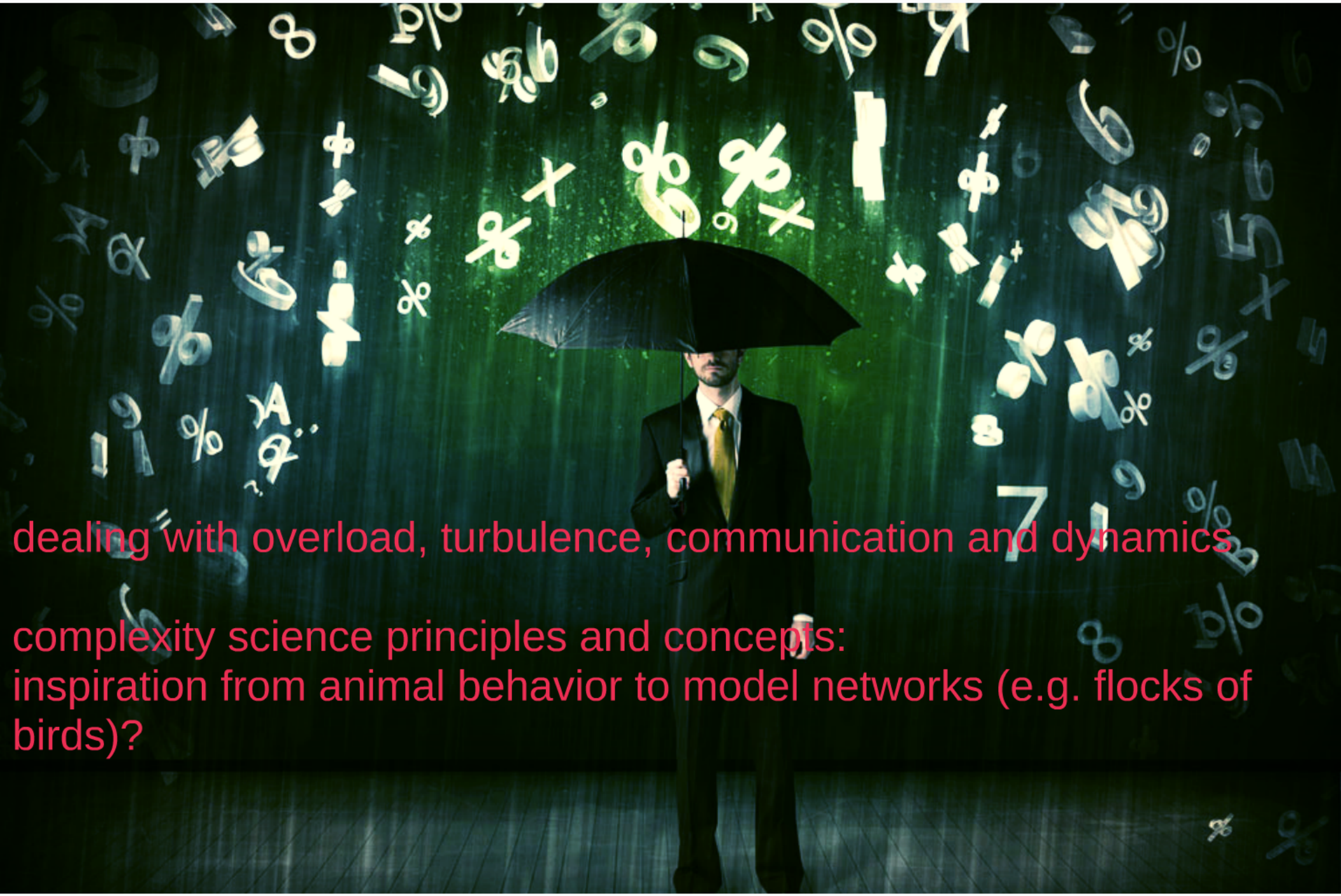
dynamic networked processes → sources of information product quality issues → information product quality issues

Rasouli, 2016, Ph.D TU/e (Recent business network/information modelling advances)



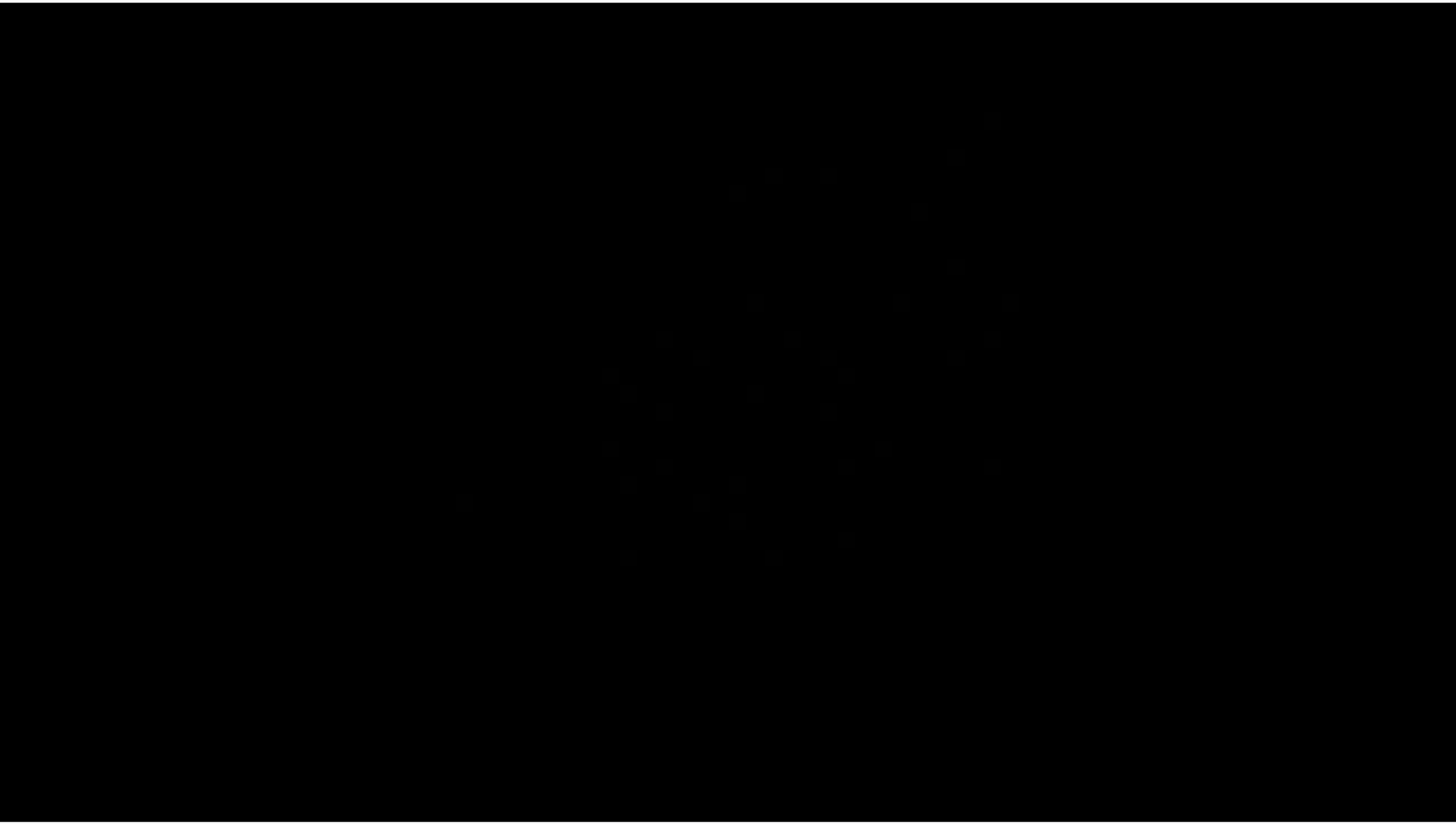
Bagheri, 2017, Ph.D TU/e
(Recent business network/information modelling advances)


towards business network and information modelling based
co-creation



dealing with overload, turbulence, communication and dynamics

complexity science principles and concepts:
inspiration from animal behavior to model networks (e.g. flocks of birds)?

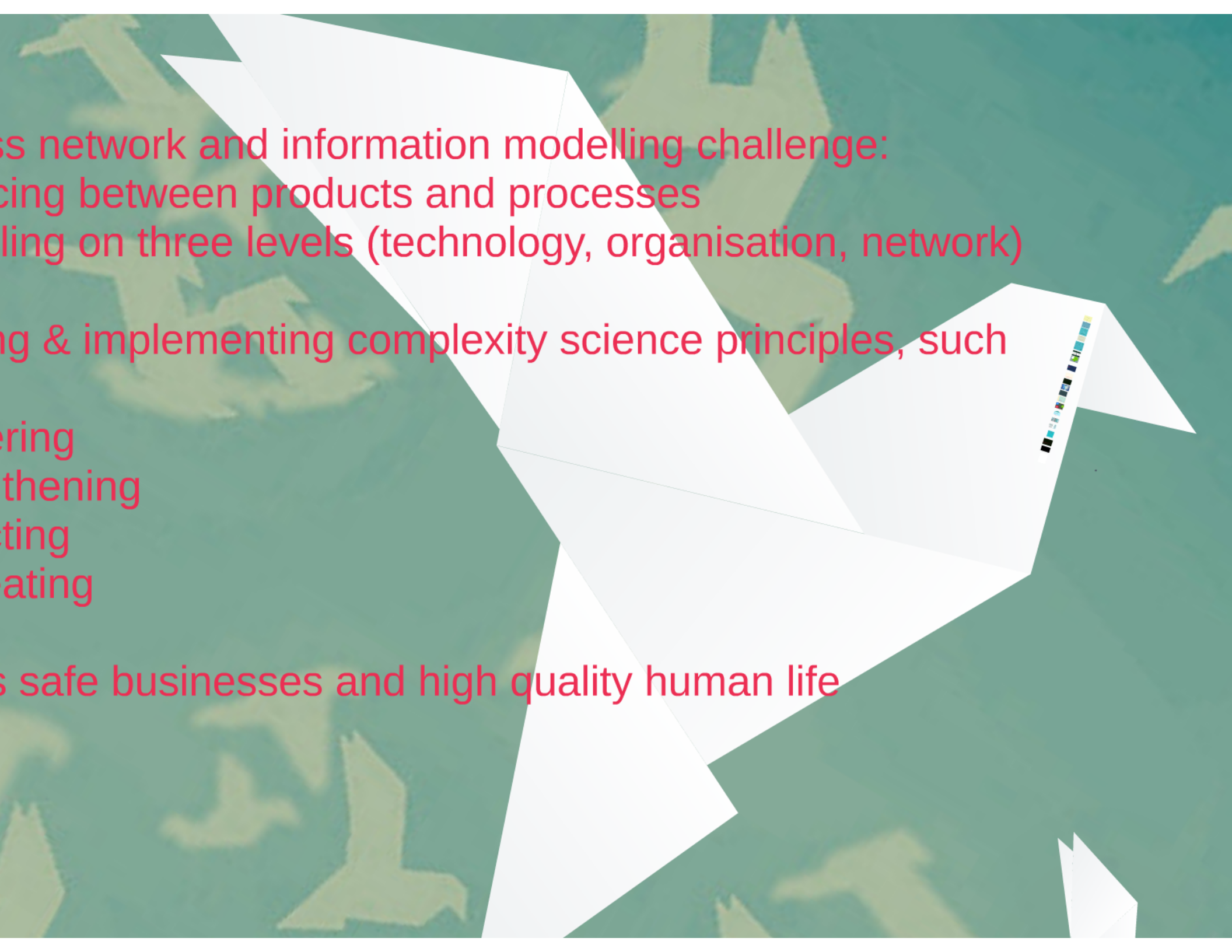


ss network and information modelling challenge:
cing between products and processes
ling on three levels (technology, organisation, network)

ng & implementing complexity science principles, such

ering
thening
cting
ating

s safe businesses and high quality human life



1925–2015
THE DEKRA STORY
ANNIVERSARY ISSUE
90 YEARS
OF SAFETY
DEKRA

'written ideas are paper birds
flocking together...
creating progress'

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