



PhD Scientific Day



Work-in-progress

Don't let them down: managerial perceptions shaping Industry 4.0-oriented strategic choices of SMEs

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Paper 2 (work-in-progress)

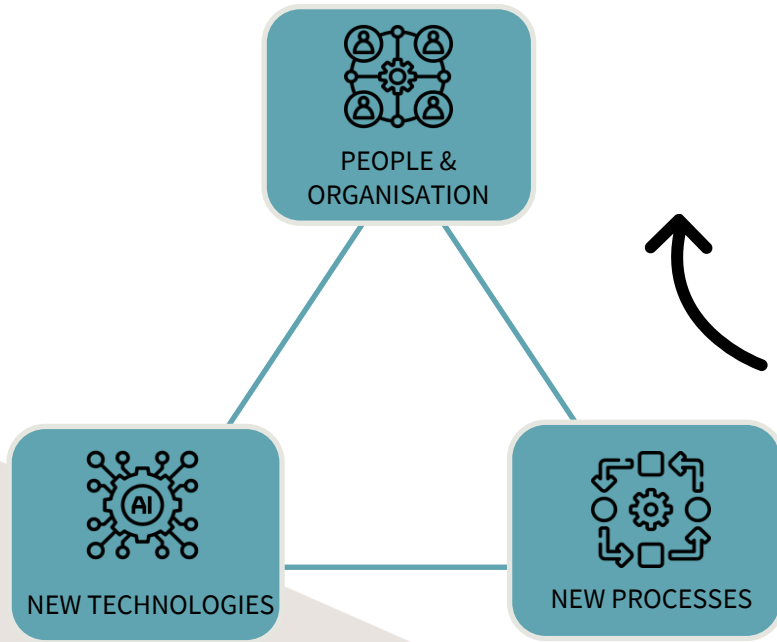
Don't let them down: managerial perceptions shaping
Industry 4.0-oriented strategic choices of SMEs



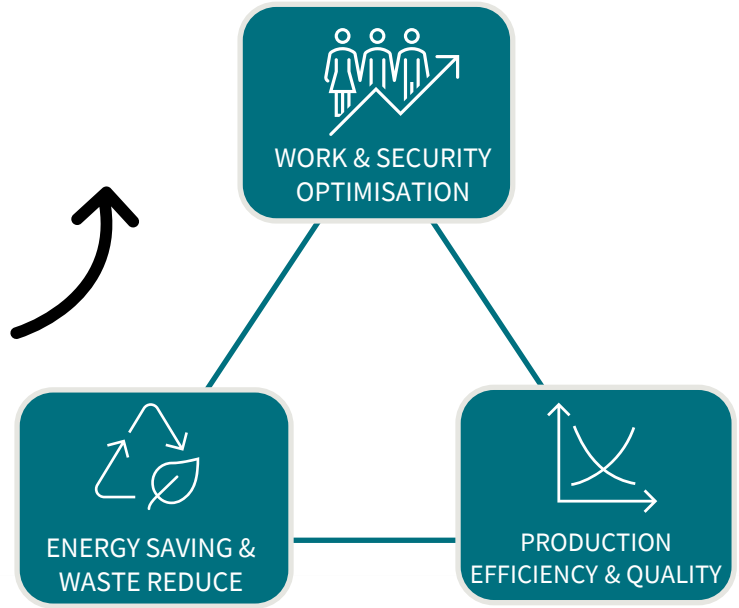
Theoretical background Industry 4.0 & SMEs

INDUSTRY 4.0 – an approach to reshape the organisations

Key changes



Key outcomes

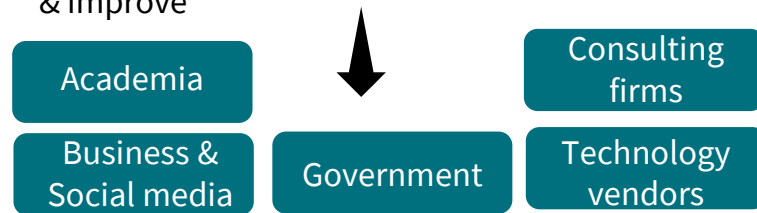


Diniz et al. (2022); Klingenberg et al. (2019); Zheng et al. (2020);
Machado, Scavarda et al. (2021); Margherita & Braccini (2020)

...or a fashionable management concept?

- ✓ **Labeled** in a short, “buzzword” way
- ✓ A **broad interpretive space** to fit into organization-specific needs
- ✓ **High expectations** of improvements & **threat** of being left behind
- ✓ **Universal applicability:** HRM 4.0, Education 4.0, Society 4.0

- ✓ Highly **normative nature**
- ✓ **Clear recommendations** about how to change & improve



No consensus on a **common definition**



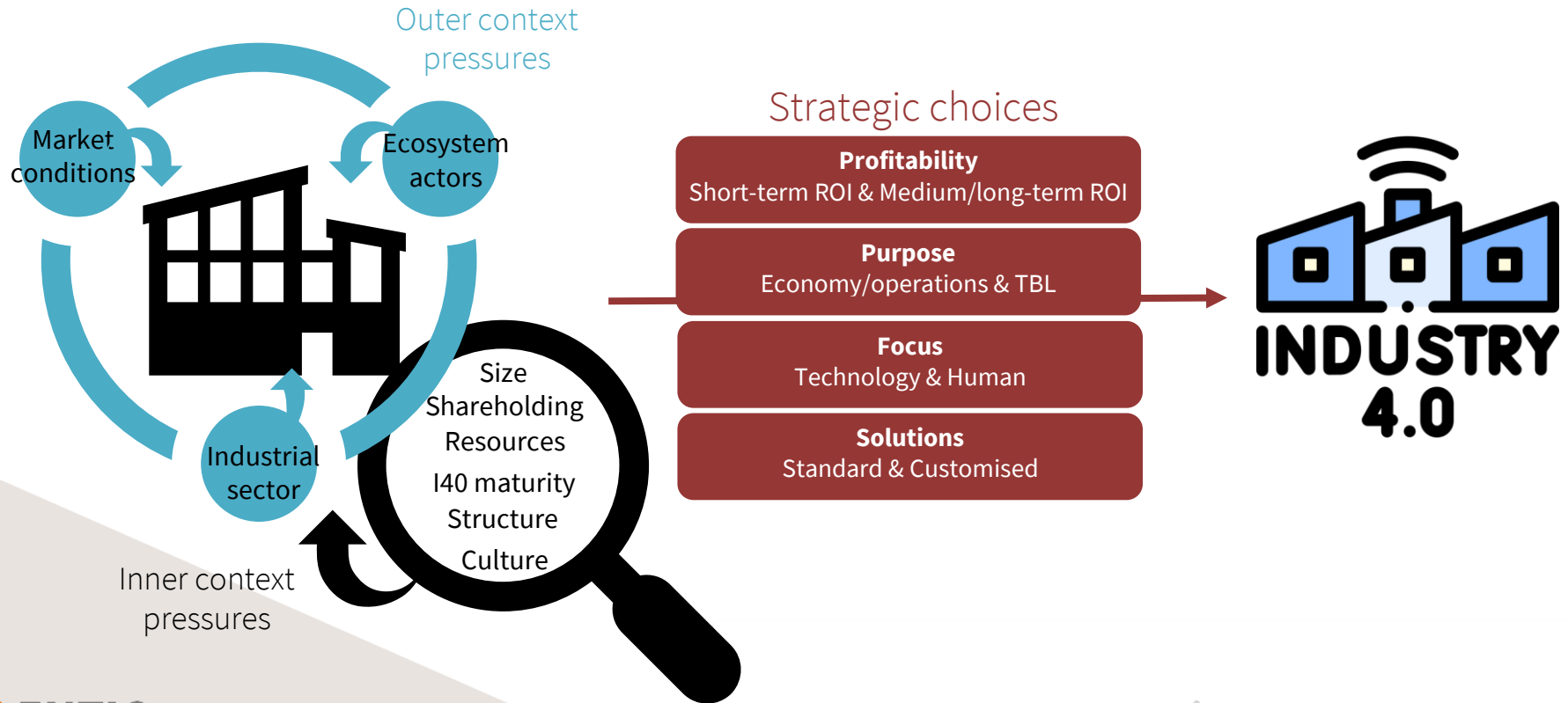
around 100 versions in academia & still confusing for many managers



« I don't really know what Industry 4.0 is or where it's going, but I do know that we have to get there... and fast! »

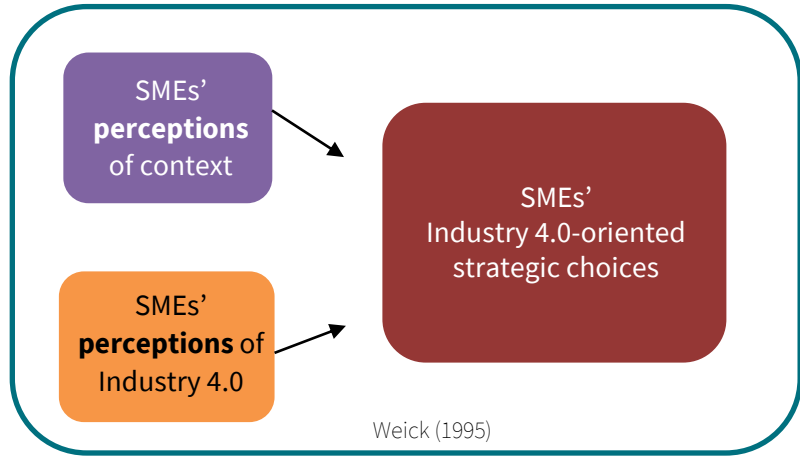
Kohler & Weisz (2021)

Industry 4.0 & SMEs' challenges



Moeuf et al. (2018); Müller et al. (2018b); Agostini & Filippini (2019); Horváth & Szabó (2019); Masood & Sonntag (2020); Mittal et al. (2020); Pessot et al. (2020); Estensoro et al. (2021); letto et al. (2021); Ricci et al. (2021)

Research model



Key research gaps

Lack of empirical evidence regarding

Strategic choices of SMEs facing Industry 4.0 implementation

SMEs' **sensemaking of Industry 4.0** and **its influence** on their strategic choices

Influence of SMEs' context on their Industry 4.0 strategic choices

Meyer (2019); Müller et al. (2020); Amaral & Peças (2021); Ghobakhloo & Iranmanesh (2021); Estensoro et al., 2021; Stentoft et al., (2021)

RQ

★ **P1: How the perceptions of Industry 4.0 influence the strategic choices of SMEs?**

P2: Do contextual aspects influence Industry 4.0-related strategic choices of SMEs?

Methodology

Quantitative study

1

Survey design

(Groves et al., 2011)

qualtrics^{XM}

4-point & 5-point Likert scale

General characteristics

Industry 4.0

Outer context of SMEs

Inner context of SMEs

Authorisation to contact

Definition

Maturity

Strategic choices

2

Survey validation

(Groves et al., 2011)

Collaboration with Industry 4.0 & data analysis experts

8 in-person meetings with the CEOs of Walloon SMEs

Size



- 0 - 9 people
- 10 - 49 people
- 50 - 249 people

Industry 4.0 maturity



- Craft manufacturers
- Planners
- Beginners
- Users

Economic activity



- Manufacture of food products
- Manufacture of beverages
- Manufacture of chemicals
- Manufacture of electronic products
- Manufacture of machinery and equipment
- Specialised construction activities

3

Data collection

(Easterby-Smith et al., 2012).

CEOs or managers

SMEs < 250 people

Industrial sector

Wallonia

Walloon Public Service Databank



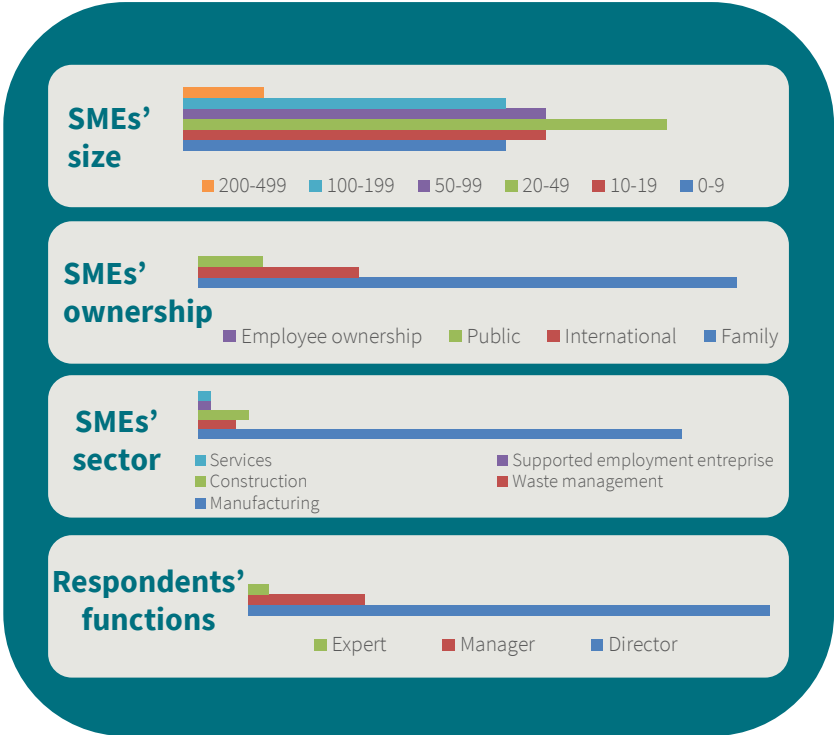
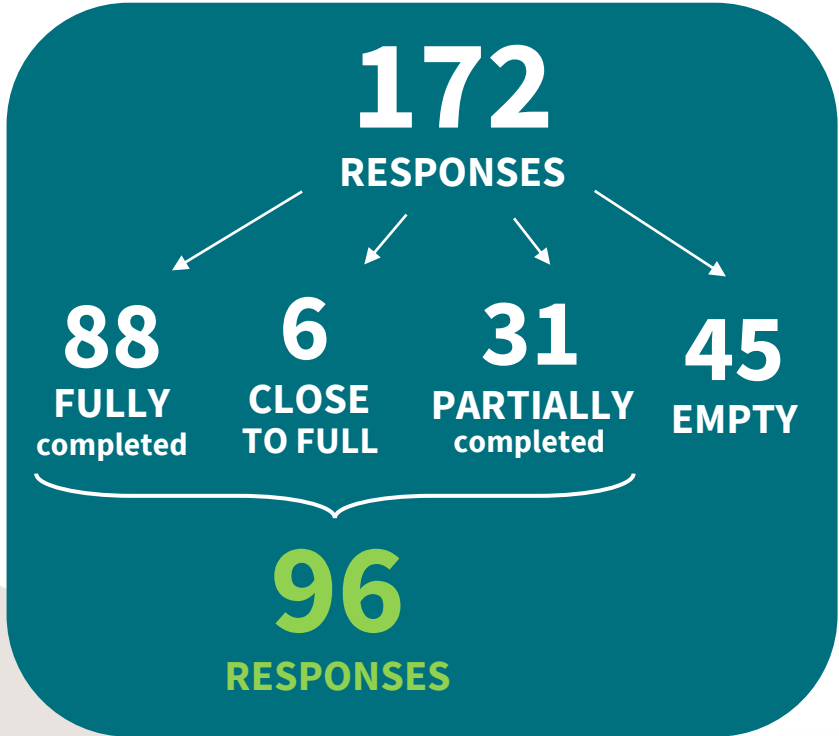
13 weeks

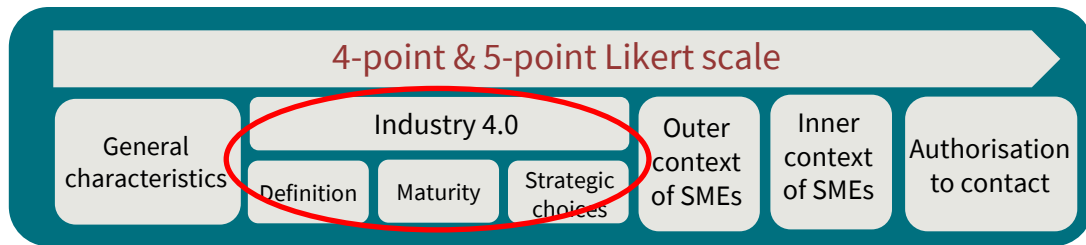
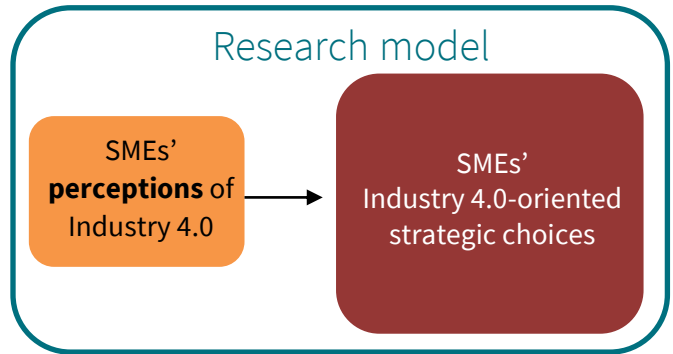
172 out of 648 SMEs

Data Analysis

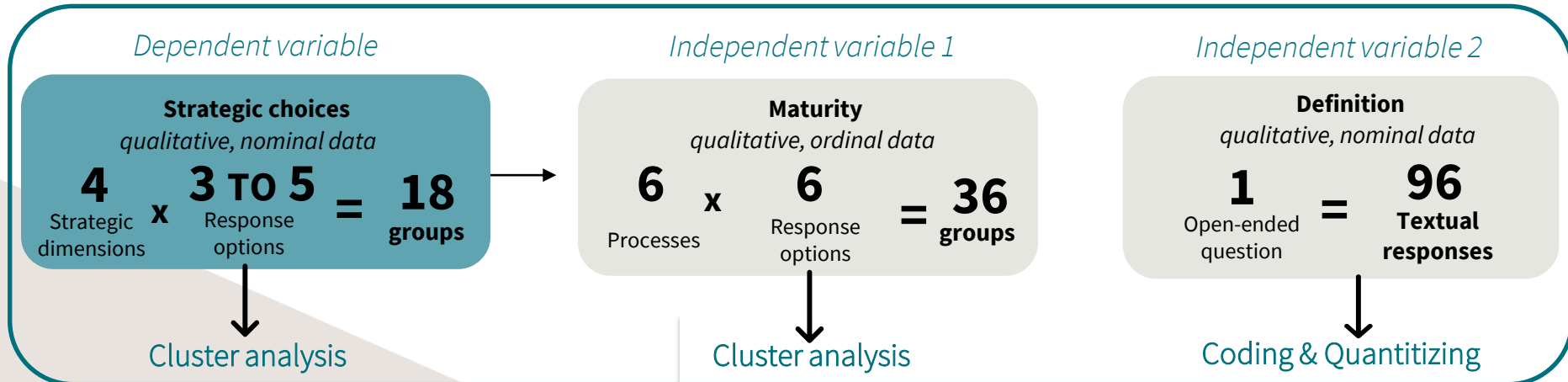
Intuition of method

Sample Description





Multinomial logistic regression



The ongoing coding process & its first results



Tech Tunnel Visionary

“integration of digital technologies into existing company processes”

Data-Driven Strategist

“intelligent management of large quantities of data to optimize processes”

Productivity Enthusiast

“automated and semi-automated industry for greater production, efficiency and speed in the execution of work to be carried out”

People-Centered Innovator

“Return added value to humans by automating/digitizing low-value tasks”

Transformer

“It's a project that integrates the notions of productivity, automation, digitalization, interaction (man-machine), organization and safety.”

Critic

“This project is aimed at the disappearance of SMEs, the strengthening of large companies and the dehumanization of businesses.”

Not concerned

“I didn't know about the concept before your study.”

Potential contributions



Establish the patterns between SMEs' perceptions of Industry 4.0 and their strategic choices



Capture different realities of SMEs according to their sense-making of Industry 4.0



Enrich the existing classifications of SMEs' position towards Industry 4.0

To be continued...
Thank you for your
attention!



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