THE INTERPLAY OF DIGITALISATION AND ORGANISATIONAL RESILIENCE IN SMALL-SCALE RETAIL SETTINGS

NEW DESIGN UNIVERSITY
PRIVATUNIVERSITÄT ST. PÖLTEN

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Beate Cesinger [1], Eva Lienbacher[1][2]
Christine Vallaster[2], Thomas Niemand[3]
[1] New Design University, St. Pölten (AT) [2] Salzburg University of Applied Sciences, Puch/Salzburg (AT)
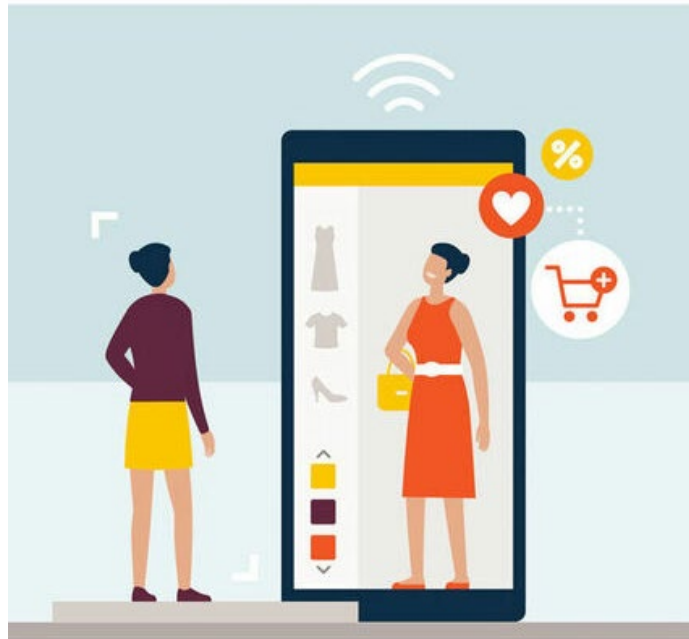[3] TU Clausthal, Clausthal (D)

FH Salzburg

WIFI WKO NÖ
WIRTSCHAFTSKAMMER NIEDERÖSTERREICH

✉ Eva.Lienbacher@ndu.ac.at

Digital transformation

… improve communication and/or collaboration for better firm performance (e.g., Matt et al., 2015),
… ensure survival (e.g., Sørensen and Landau, 2015)
… improve efficiency (Kane et al., 2018), effectiveness (e.g., Matt et al., 2015),
… and user experience (e.g., Kane et al., 2018)

Digital technologies have **high uncertainties and require high investments in human capital and/or of financial resources** (e.g., Dehning et al., 2003)

Organizational resilience, the ability to adapt to change and sustain operations under new, more complex, and uncertain conditions (Lengnick-Hall et al., 2011; Potrich et al., 2022) is key in company survival (Schulte et al., 2016) because resilient enterprises **"[...] thrive and become better in part because they faced and overcame serious challenges"** (Lengnick-Hall et al., 2011, p. 243).

Figure: https://www.handelsjournal.de/mit-digitalen-loesungen-begeistern.html

Despite their importance, research has largely neglected **how SMEs in brick-and-mortar retail** meet the challenges of the digital transformation (e.g., Grewal et al., 2020; Lienbacher et al., 2020; Lorente-Martínez et al., 2020).
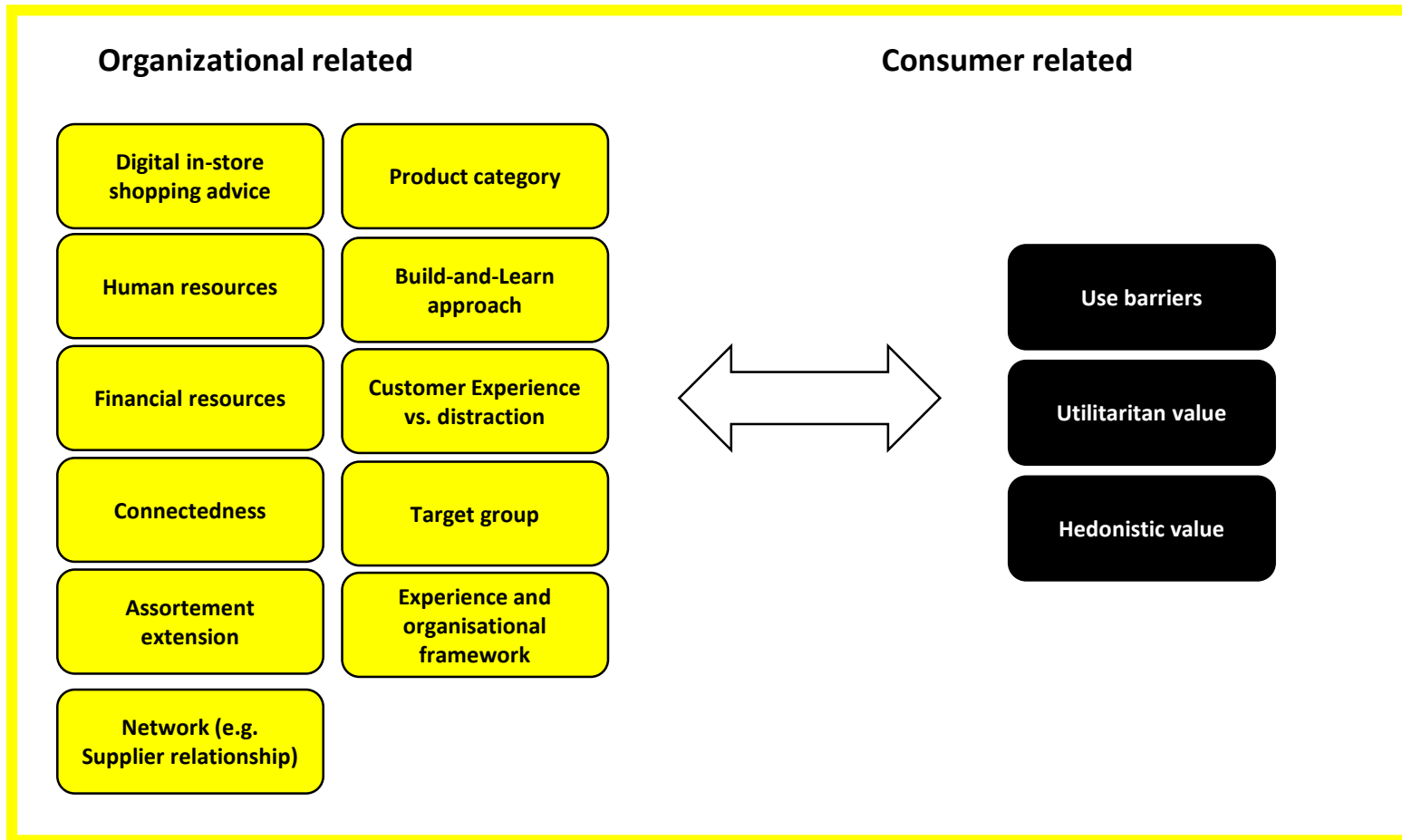
Study 1: Identification of the **overall chances and risks of advanced digital technologies (AR / VR)** for SME store based retailers.

Study 2: Identify **strategy patterns** that lead to a high degree of digitization of small-scale store based retailers.

Organizational related

Consumer related

Digital in-store shopping advice	Product category
Human resources	Build-and-Learn approach
Financial resources	Customer Experience vs. distraction
Connectedness	Target group
Assortement extension	Experience and organisational framework
Network (e.g. Supplier relationship)	

- Use barriers
- Utilitaritan value
- Hedonistic value

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Hedonic value	Shopping experience

Utilitarian value	Imaginative power	Sales room orientation
	Further information	Time saving

Quelle: LIENBACHER, E., CESINGER, B. & VALLASTER, C. 2020. Stand der Forschung zum Einsatz von Augmented Reality und Virtual Reality im stationären Einzelhandel und Implikationen für KMU. Zeitschrift für KMU & Entrepreneurship (ZfKE), 68 (3/4), 259-284.

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Hedonic value	Shopping experience	*...Retail experience* AR/VR applications convey fun, excitement, entertainment, surprise, etc.	Pantano und Servidio (2012); Brynjolfsson et al. (2013); Olsson et al. (2013); Poncin und Mimoun (2014); Spreer und Kallweit (2014); Scholz und Smith (2016); Dacko (2017); Bonetti et al. (2018); Hilken et al. (2018); Moorhouse et al. (2018); Bonetti et al. (2019); Caboni und Hagberg (2019): Chopra (2019); Cowan und Ketron (2019); de Regt and Barnes (2019); Farah et al. (2019); Pizzi et al. (2019); Grewal et al. (2020)
		...Connectedness AR applications promote and support the exchange with others (e.g. social networks).	Olsson et al. (2013); Hilken et al. (2018); Moorhouse et al. (2018); Javornik (2016); Scholz and Smith (2016); Grewal et al. (2020)
		...Visualization of personalized product AR/VR applications enable the visualization of personalized products (e.g. new combination of product elements and color variants). VR can also be used to address other senses.	Parise et al. (2016); Bonetti et al. (2018); Hilken et al. (2018); Caboni und Hagberg (2019); Cowan und Ketron (2019); de Regt and Barnes (2019); Heller et al. (2019); Grewal et al. (2020)

Utilitarian value	Imaginative power	Sales room orientation
	Further information	Time saving

Lienbacher et al. (2020)

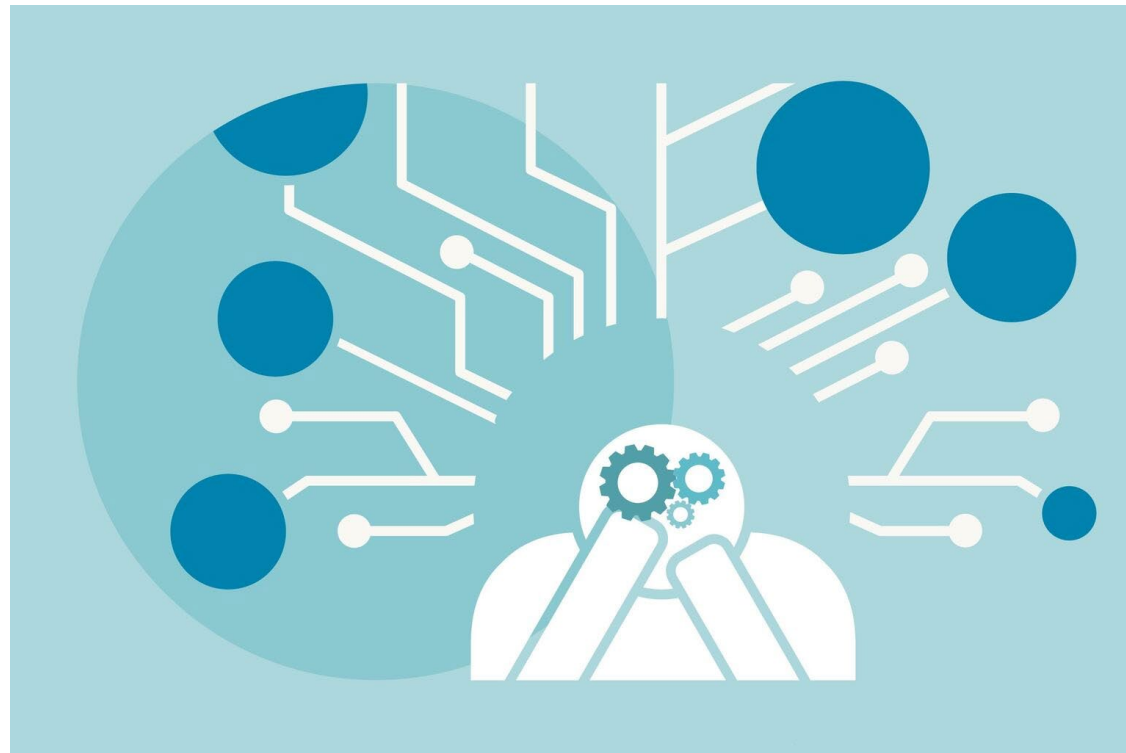**NEW DESIGN UNIVERSITY**
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Use barriers

Lack of prerequisites on the part of consumers.

Handling not user-friendly

Privacy and data protection

Low added value from the consumer's point of view

Lienbacher et al. (2020)

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Use barriers		

Lack of prerequisites on the part of consumers.	**Lack of technical know-how** → Applications can be challenging, especially for technology-averse consumers.	Poncin und Mimoun (2014); Bonetti et al. (2018); Moorhouse et al. (2018); Bonetti et al. (2019); Farah et al. (2019); van Esch et al. (2019); Grewal et al. (2020)
Handling not user-friendly	**Mental model type** Information is processed differently. AR/VR is not suitable for all consumers to process information and/or support the imagination.	Javornik (2016); Bonetti et al. (2018); Heller et al. (2019); Grewal et al. (2020)
Privacy and data protection	**Lack of equipment** Applications are installed on the private end device. Not all consumers have a suitable device.	Spreer und Kallweit (2014); Bonetti et al. (2018); Cowan und Ketron (2019)
Low added value from the consumer's point of view		

Lienbacher et al. (2020)
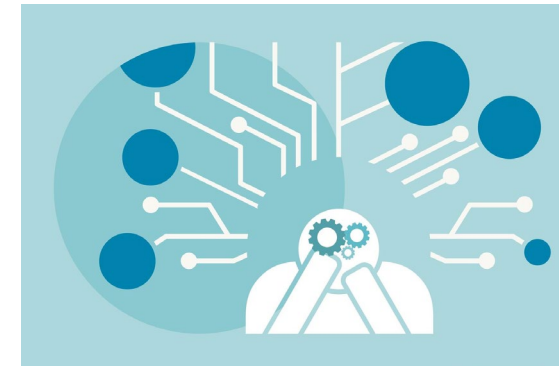
METHODOLOGY (STUDY 1)

Research goal Identification of the opportunities and risks of advanced technologies implementation (VR / AR) for small-scale stationary retail.

Survey period Autumn 2019; Lower Austria & Salzburg

Sample 24 participants from the small-scale retail sector; five workshops/focus groups; owners and/or employees in managerial positions;

Industries: Apparel, furniture and accessories, optics, watches and jewelry, book retailing; average age: 43 years; 13 women / 11 men; additional 3 expert interviews.
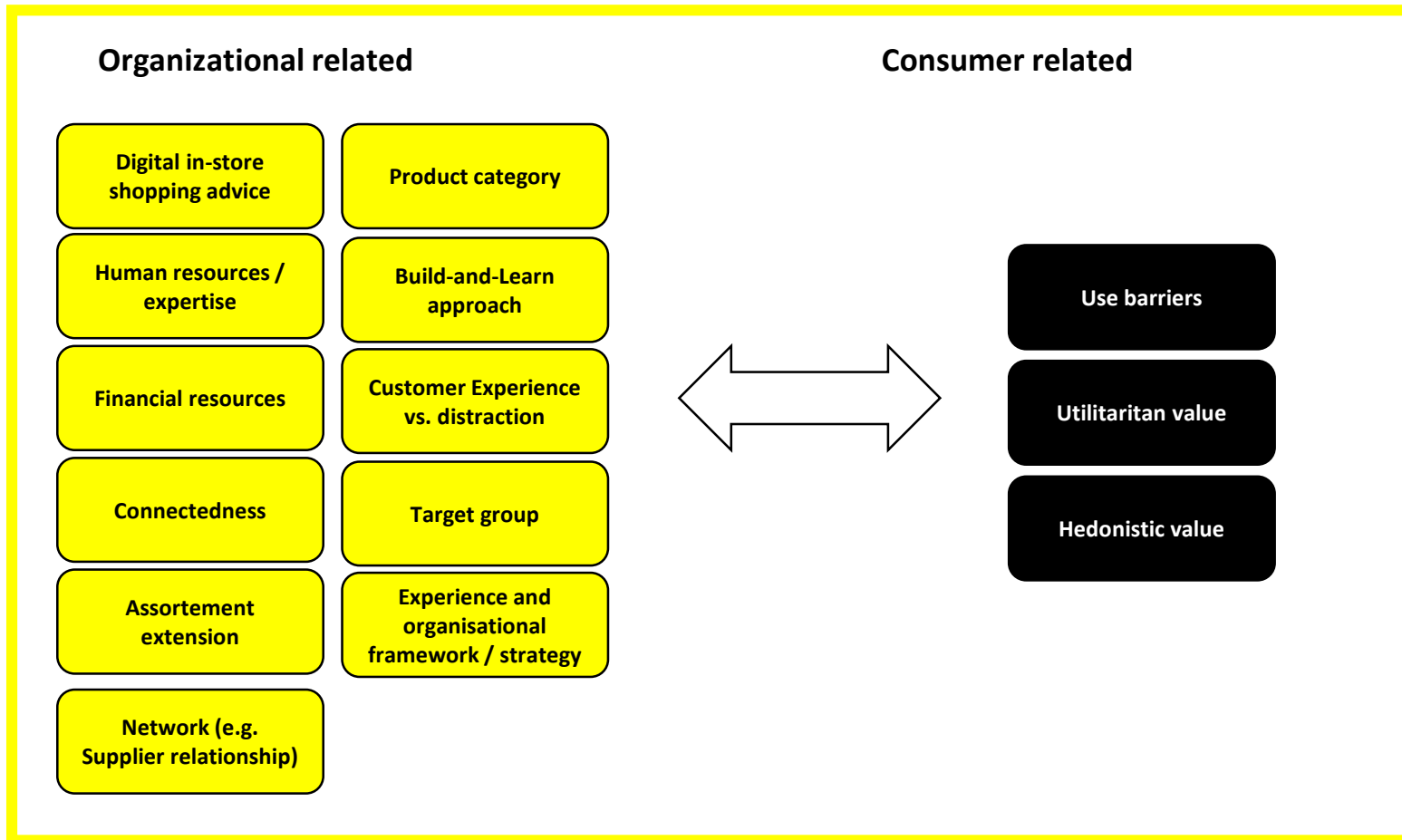
Procedure (1) Impulse lecture on VR / AR in retail; (2) Stations to try VR / AR; (3) Discussion of experiences in the round.

Analysis Content analysis by Mayring; deductive categories based on literature review

Abb. 4 & 5: Einkaufsstraße in Baden
NDU / FH Salzburg, 2021.

Organizational related

Consumer related

Digital in-store shopping advice

Product category

Human resources / expertise

Build-and-Learn approach

Use barriers

Financial resources

Customer Experience vs. distraction

Utilitaritan value

Connectedness

Target group

Hedonistic value

Assortement extension

Experience and organisational framework / strategy

Network (e.g. Supplier relationship)

Organisational related

Customer related

Digital in-store shopping advice

Art des Produktes

Personelle Ressou...

Finan... Resso...

Erweiterte... sozialen...

Erweiter... Sorti...

Netzwe... Beziehu... Markenh...

"But that you go there with your cell phone and click on something and then you get the background information. Now I would find that interesting again, because with me, for example, there is the "quality from soybean", almost no one knows it, and that's just a story that you tell. If I'm just engaged with a customer now and they know there's stuff to click on, then maybe that would be interesting."
(Shop owner, SME retail, clothing, Salzburg, women, 46 years)

Organisational related

Customer related

Digital in-store shopping advice

Art des Produktes

Personelle Ressourcen

Finanzielle Ressourcen
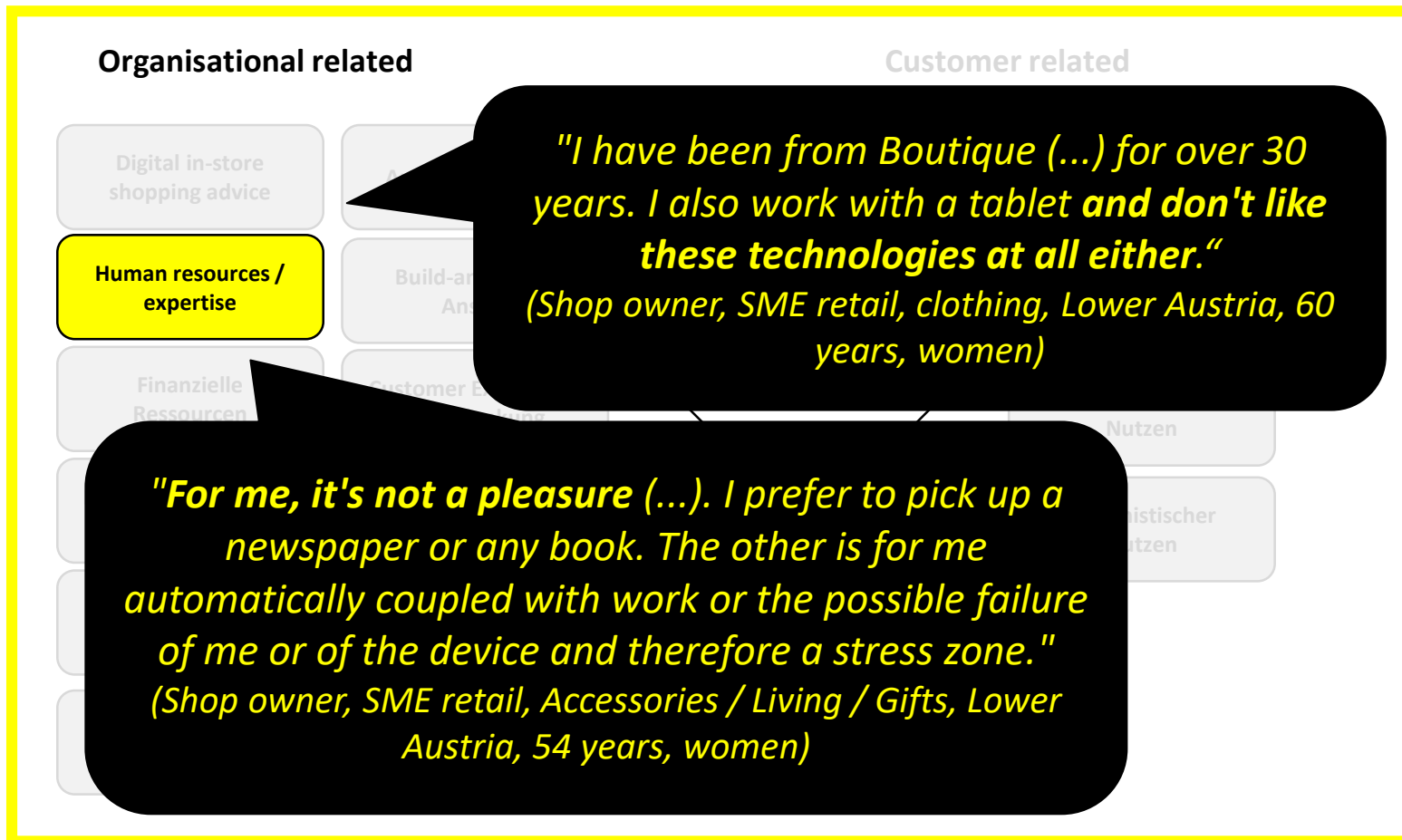
Erweiterte sozialen

Erweiterte Sortiment

Netzwerk Beziehungen Markenhersteller

"It's a tool I can use when talking to customers. Where I can say, you look together on the Ipad. But I can't and I don't want to leave him alone, with any tool. That's where customers don't know, we don't know."
(Shop owner, SME retail Accessories / Living / Gifts, Salzburg, 51 years, women)

CONTRIBUTION, LIMITATIONS & IMPLICATIONS (STUDY 1)

Results

- High relevance of digitization for small-scale retail – **Advanced Technologies (VR / AR), however, have not (yet) arrived on the sales floor.**
- Experts and workshop participants see future potential when technologies are mature (AR / VR) and devices are available on the mass market
- **Current challenges mainly include 'basic technologies'** (own website, online store, social media presence, etc.)

Limitations

- Explorative results (qualitative approach); Austria

Further research related to SME & in-store technologies

- **Network and strategy**
  Strategic digital orientation (e.g., Kinderman et al. 2020), *Organisational resilience* (e.g., Schulte et al. 2016), *Cooperation / Networks*

- **Individual resources**
  Human resources – e.g. digital competence (e.g., Ferrari & Purie 2013), *Digital stress in networks*

METHODOLOGY (STUDY 2)

Study objective To identify strategy patterns that contribute to a high level of digitization in small-structured retail companies.

Survey period and location August 2020; Salzburg / Linz / Baden (AT)

Sample 102 owners or employees of small-structured retail businesses in urban areas;
Sectors: Clothing, art objects, etc., watches and jewelry, food, furniture, opticians, books and stationery; average age: 46 years; 64 women / 38 men; 72.5% family-owned businesses

Empirical design & method computer-assisted personal interviews (CAPI methodology); fuzzy-set qualitative comparative analysis (fsQCA)

Strategic digital orientation (Kinderman et al., 2020)

The digital strategic orientation of a company shows how strongly the corporate strategy is geared to technological changes such as social networks, mobile applications and digitized processes. (e.g., "We consistently look for new digital business ideas.")

Organisational resilience (Schulte et al., 2016)

Digital competence (Ferrari & Purie, 2013)

Digital competence consists of knowledge, skills, attitudes, abilities, strategies and awareness that are required, among other things, when information and communication technologies and digital media are used in tasks, problem solving, communication or collaboration. (e.g., "My digital expertise helps me in my work.").

Digital stress in networks (Steele et al, 2020)

Digital stress describes the stress and anxiety associated with notifications from and use of information and communication technologies enabled by mobile and social media. (e.g., "Digital experts don't understand what I need to do my job.").

Level of digitization / project score

The so-called project score is the sum of the digitization projects implemented to date and thus an expression of the degree of digitization of the companies we surveyed.

Digitization success

Digitization success describes the extent to which digitization efforts and projects in companies contribute to the company's success. (e.g., "Our digitization efforts influence the success of the company in terms of a better competitive position").

Variable	(1)	(2)	(3)	(4)	(5)	(6)
Organisational resilience	don't care	don't care	low	high	don't care	low
Strategic digital orientation	high	don't care	don't care	high	high	high
Digital competence	don't care	high	don't care	don't care	high	low
Cooperation	yes	yes	yes	don't care	don't care	don't care
Digital stress in networks	don't care	don't care	low	high	high	low
Sample size	102					
Consistency	0,776	0,746	0,856	0,746	0,800	0,799
Coverage	0,427	0,406	0,200	0,233	0,255	0,126
Unique coverage	0,105	0,044	0,013	0,023	0,005	0,034
Solution consistency	0,732					
Solution coverage	0,672					

Variable	…improved competitive situation (1)	…higher market share (1)	…more efficient / effective processes (1)
Level of digitization / project score	High	high	high
Organisational resilience	High	high	high
Sample size	102	102	102
Consistency	0.924	0.857	0.868
Coverage	0.391	0.376	0.378
Unique coverage	-	-	-
Solution consistency	0.924	0.857	0.868
Solution coverage	0.391	0.376	0.378

Results

- **Organizational resilience** is a factor for both a higher degree of digitization and digitization success.
- With regard to the **very different strategies** that independent and small-structured retail companies are taking to be digitally successful and achieve a high level of digitization, it is crucial to find a **good fit for your own company**.

Limitations

- Explorative results (qca); Austria

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