

The Digitalization of Local Owner-Operated Retail Outlets: How environmental and organizational factors drive the use of digital tools and applications

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Abstract. The digitalization of the retail industry is a disruptive innovation process which endangers the very existence of Local Owner Operated Retail Outlets (LOOROs). Despite the manifold digital options to regain competitive power, LOOROs struggle in their digital transformation and persist often in their traditional business behaviour. As their customers get more and more used to buying via digital channels, they more and more expect the provision of digital services. This paper and the presented survey among 223 LOORO owners from 26 cities in Germany aim to understand why the LOOROs are so hesitant. Our findings show high insecurity among LOOROs about what to do and where to begin the digitalization route. The owners of LOOROs are often decoupled from their near and far business environment. This leads to a wrong self-assessment and implies the risk that the services provided do neither match the competitive environment nor customer expectations.

Keywords: digitalization, innovation, business transformation, retail outlets.

Introduction

The digital transformation of the retail industry creates enormous challenges for local owner-operated retail outlets (LOOROs), which are characterized by a small-sized store area, a restricted number of employees and a high degree of owner-involvement in the business operations [1]. This kind of “local retail market” enables a personal relationship between the shop owners and their customers and provides along with that a lot of advantages to sustain this relationship compared to online shops.

However, despite these possible advantages LOOROs seem not to be able to make use of it. LOOROs are pressured by the digital development of all their value chain partners (customers and suppliers), as well as by the competitive environment (Big-Box retail outlets, multichannel chain stores and pure online trade). Furthermore, LOOROs have to realize that their most important value chain partner – the customer, is no longer satisfied with the current digital approach in traditional small shops [2]. Customers have already changed their shopping habits and do use more and more digital sales channels and services. For shopping the customers expect the high level of convenience they are used to online also in local shops like those from LOOROs.

Anyway, LOOROs are still hesitant to offer digital services. On the one side, they fail to adopt emerging technology like digital systems due to the high complexity [3]. On the other side, the reason may lie in their limited resources (e.g. lack of time or Know-how regarding

new technology etc.). Being typical micro-enterprises (MEs) [3], their internal structure does not give them much room for manoeuvre. Therefore, implementing digital structures and processes in the daily business operations is hardly possible without external aid. However, as mentioned, LOOROs are not without opportunities in this situation. Digital tools and applications like for example digital inventory management systems, additional online shopping channels, customer relationship management systems (CRM), or also marketing automation tools exist and could help LOOROs to overcome their inherent restrictions [4] and to regain competitive power. Despite the importance of LOOROs for the local economy or the attractiveness of the city centers, research with a clear focus on the technology adoption of LOOROs and small retails is still scarce. A reason could be the high diversity of the retail sector that hinders the study of a sufficient number of retailers to obtain significant results [5].

Therefore, this paper attempts to examine the reasons why LOOROs are hesitant to digitalize their infrastructure and business processes. We are aiming to provide insights to enable LOOROs, municipal leaders and city governments to identify opportunities for action on how to help local retail to grow digitally and transform into multi-channel local commerce. Accordingly, the following research question shall be answered:

RQ: How do environmental factors influence the adoption of digital tools and applications by owners of LOOROs?

The remainder of this paper is organized as follows: Section 2 discusses the theoretical background. The research model for the survey is developed in section 3 and analyzed in section 4. The paper closes with a discussion of the results, the managerial implications and future research in section 5.

Theoretical Background

SME Retail in Research

To discuss the theoretical background a structured literature review was conducted. The reviewed papers and studies in the literature review were mainly identified through a keyword search with focus on the term "SME retail" as research on "ME" retailers is scarce. Most of the identified studies have classified "SME retailers" along the number of employees as a size indicator, like, e.g. a range from three to 80 employees [6], [7], [8], as part of SME retail chains [5] and others had a focus on single-location outlets [8], [9].

The reviewed studies had one feature in common: the unique role of owners / managers of the SME retailers. SMEs like LOOROs are mainly owned and operated in personal union. Subsequently, in SMEs a strategic decision is highly dependent on the owners. A positive attitude of the owners towards change creates an organizational environment that is open to innovation [9]. The structural lack of internal and external resources is another hallmark of SME retailers like LOOROs [7]. Reluctant implementation of new retail technologies also relies on scarce financial capital and the lack of technical know-how [3]. Moreover, many non-adopter SMEs do not have the requisite infrastructure and procedures to implement new technologies [5], [8].

Internal and external influence factors

Innovation and technology acceptance processes' driving factors are mainly divided into two types: 1) internal and 2) external factors. The decision of a company to implement emerging innovations is greatly affected by internal and external variables based on innovation attributes: perceived benefits, organizational readiness and external pressure [6].

Previous studies examined further internal effects like the risk perception, advantages of IT use, the owner's perspective, the attitude and internal demand of the retailer but also external effects like competition, government or the society as factor for the adoption of new technologies [2], [3], [5].

Research Framework and Conceptual Model

Unlike big corporations, the owner is the primary decision-maker in ME like LOOROs, who decides on strategic issues alone. Hence, organizational factors can be seen – to a certain extent – as external factors. As a result, this paper focuses on an owner-centric examination on the individual level [10]. Therefore, this study research design will be based on the Stimulus-Organism-Response Model (S-O-R Model) [5], [8]. Mehrabian and Russell's (1974) [11] Stimulus-Organism-Response Model comes from the field of environmental psychology [12]. The S-O-R model shows how environmental processes and changes, called stimuli (S), are perceived by an organism (O) and instigate (emotional) reactions of the organism called behavioural response (R) (see Figure 1).

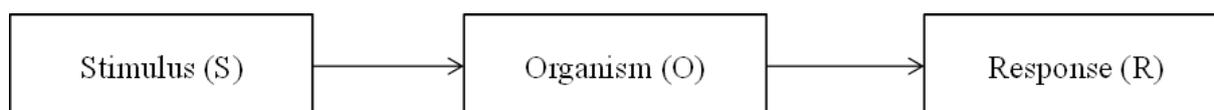


Figure 1. S-O-R Model

Based on the environmental psychology, three central aspects of emotional responses to the perception of the encountered environments are used: pleasure, arousal and dominance (the PAD-Scale). Thereby, pleasure is described purely in terms of positive or negative feelings, arousal as a feeling state that concerns mental activity, and dominance as a feeling of control and behaviour restrictions caused by physical or social barriers [11].

However, the S-O-R framework is often criticized for its bipolar measurement when using the PAD-Scale [13], as it allows the joint occurrence of pleasant and unpleasant states [14]. Thus, the current study uses a unipolar view linking the three dimensions to one joint model that is more suitable [14], [15]. Pleasure, arousal, and dominance can be seen as affective (feeling), cognitive (thinking), and conative (acting) responses. Then, these responses can be unified as one joint measure for the organism [15].

Conceptual Model

In the Literature there seems to be two streams that can be distinguished: technology-centered theories focus on the characteristics of the technology itself and the diffusion of technology through different channels [16]. These theories are mainly used for understanding the technology adoption on an organizational level. In contrast, decision maker centered theories concentrate on the individual level to analyze human behaviour as well as its impact on the decision-making process regarding technology adoption and use [17], [18].

Looking deeper into the decision maker centered theories, the Theory of Reasoned Action (TRA) [19] and its successor, the Theory of Planned Behavior (TPB) [17] state that attitudes, control beliefs, and subjective norms influence behavioural intention, which in turn influences actual behaviour. Davis et al. (1989) [18] applied TRA/TPB to the individual level of technology adoption behaviour in the well-known Technology Adoption Model (TAM).

The organism, namely the owner as the decision maker in LOOROs, is thus captured as the attitude towards a technology by the TRA/TPB concept and influences the intention to use it [15]. This thought process is triggered by internal and external stimuli. We assume that the perception of organizational resource availability and the perception of external pressures can both be seen as such environmental stimuli leading to the organism's emotional reactions [20]. Finally, the usage of the technology is the stimulated organism's emotional response.

For a better understanding, we interpret digitalization as the use of digital tools and applications in one of the two following areas:

(1) Front-end sales channels: all digitalization efforts with direct customer touch points [21].

(2) Administrative back-end: all digitalization efforts are invisible to the customer [21], [22].

Figure 2 shows how the digital tools and applications integrate into customer service delivery. Digital services and digital sales are front-office activities and exceed to the line of interaction, while digital marketing exceeds to the line of visibility. Digital administration comprises back office activities and exceeds to the line of internal interaction.

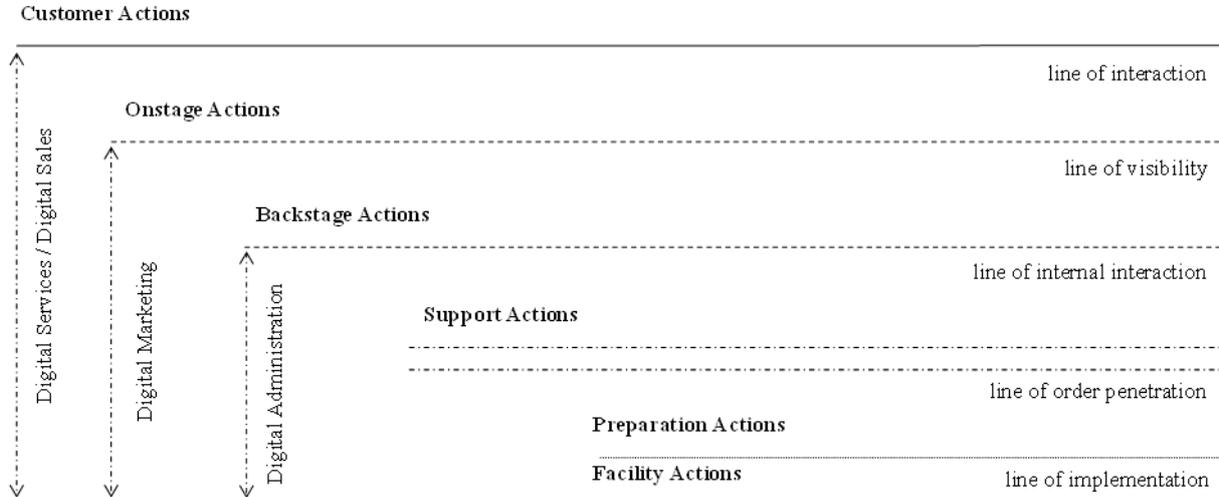


Figure 2. Service Blueprint including digital tools and applications [21]

Hypotheses Development

Stimulus (S) to Organism (O): companies with restricted access to capital and inadequate infrastructure are hesitant to invest in digital tools and applications that could have a competitive edge [23]. Resources can be categorized into tangible and intangible resources [23]. The availability of tangible organizational infrastructure is embodied in the availability of general resources, required capability and the IT infrastructure. Without the first two resources, emerging innovations are becoming increasingly difficult for companies like LOOROs to implement. [24].

This is particularly relevant for the IT infrastructure when digital tools and applications are adopted. We hypothesize the effect of the available infrastructure on the emotional reactions of an organism (O) (attitudes towards digitalization) as follow:

H1a: The availability of infrastructure has a positive influence on the attitude towards the digitalization.

The availability of intangible organizational human capital is reflected by employee expertise and motivation, which have been found to be the most influential success factors [24]. Also, the innovative strength of employees plays an important role [9]. Hence, we hypothesize:

H1b: The availability of human resources has a positive influence on the attitude towards the digitalization.

Previous studies have shown that external environmental pressures have an impact on the adaption of technology among companies [5], [9]. Correspondingly, external pressures comprise influences from the near and far environment. The near (specific) environment is formed by influences of competitors and customers that exert a direct impact on the examined organization. The perceived pressure of the competitors is demonstrated by the perception of own development relative to the development of the competitors, the perception of the need for own development to remain competitive and the perception of external pressure to remain competitive in digitalization. [25]. Hence, we hypothesize:

H2a: Perceived pressure from competitors towards digitalization has a positive influence on the attitude towards digitalization.

The perceived pressure of the customers for LOOROs is represented by the perception of customer actions, the perception of customer pressure, the perception of customer expectations [25]. We hypothesize:

H2b: Perceived pressure from customers towards digitalization has a positive influence on the attitude towards digitalization.

Government and socio-political situations characterize a far environment [26]. The perceived pressure of society is thus reflected by the perception of the general relevance of digitalization, political pressure, and social expectations. [25]. We hypothesize:

H2c: Perceived pressure from politics and society towards digitalization has a positive influence on the attitude towards digitalization.

Organism (O) to Response (R): Attitudes as well as control beliefs and subjective norms do not directly influence actual behavior, but rather influence behavioral intention (intention to use), which in turn influences actual behavior (current use) [17], [18].

We then use "Digitalization Attitude" and "Intention to use Digitalization." In accordance with the TRA/TPB/TAM theory, the Digitalization Assessment, the ease of learning and the expected effectiveness of digitalization [17] are considered for the measurement of the construct.

H3: A positive attitude towards digitalization has a positive influence on the intention to use digitalization.

Behavioural intentions are said to influence actual behaviour and therefore to have direct impact on the current use of digital tools and applications [17], [18]. Hence, we hypothesize:

H4: A high intention to use digitalization has a positive influence on its current use.

We distinguish the back-end from the front-end operations to frame the umbrella term digitalization into an operational interpretation [22]. All activities without consumer contact points reflect the back-end operations of retailers. For the consumer, these activities are unseen. We focus on front-end operations for customer contact points since the retail industry's digitalisation is very consumer-oriented.

These activities are noticeable to consumers and differ only in terms of their level of customer interaction [21], [22]. In detail, the following four areas are investigated [22]:

1. Digital administration includes all back-end operations, such as inbound and out-bound distribution or human resource management, without customer contact points and engagement.
2. Digital marketing covers all front-end marketing activities with customer touchpoints but without direct customer interaction.
3. Digital sales channels cover all front-end sales activities with customer touchpoints and low customer interaction.
4. Digital services cover all digital front-end services with customer touch points and high customer interaction.

We then divide the (behavioural) intentions ("Intention to Use") and the actual behaviour ("Current Use") towards digitalization into the four dimensions administration, marketing, sales, and services. Thus, we extend the above stated hypotheses 3 and 4 as follows:

H3a: A positive attitude towards digitalization has a positive influence on the intention to use digital administration.

H3b: A positive attitude towards digitalization has a positive influence on the intention to use digital marketing.

H3c: A positive attitude towards digitalization has a positive influence on the intention to use digital sales channels and provide them to customers

H3d: A positive attitude towards digitalization has a positive influence on the intention to use digital services

H4a: A high intention to use digital administration has a positive influence on the current use of digital administration tools and applications.

H4b: A high intention to use digital marketing has a positive influence on the current use of digital marketing.

H4c: A high intention to use digital sales channels has a positive influence on the current use of digital sales channels and their provision to customers.

H4d: A high intention to use digital services has a positive influence on the current use of digital services.

The concentration on attitude, behavioural intention, and use alone is inadequate because it does not fully capture the mechanism of adoption in organizations. Prior knowledge and inexperience are major influences affecting the use of technology [20], [27]. This is consistent with several IS studies on technology adoption which show that perceived benefits of already used technologies are a main factor for the implementation of new technologies [3], [28].

We therefore postulate that prior experience with digital administration in the back-end will have a positive impact on use of digital marketing and on the front-end areas of digital sales channels and digital services. Subsequently, we state the following hypotheses:

H5a: A high prior use of digital administration has a positive influence on current use of digital marketing.

H5b: A high prior use of digital marketing has a positive influence on current use of digital sales channels.

H5c: A high prior use of digital sales channels has a positive influence on current use of digital services.

H6a: A high prior use of digital administration has a positive influence on current use of digital services.

H6b: A high prior use of digital administration has a positive influence on current use of digital sales channels.

H6c: A high prior use of digital marketing has a positive influence on current use of digital services.

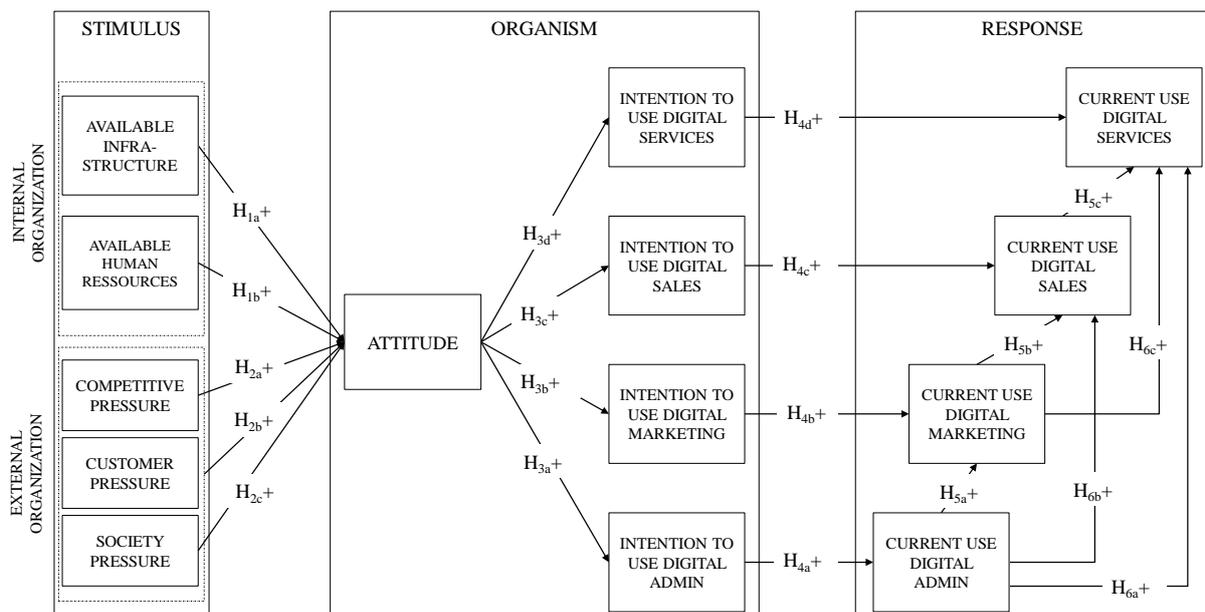


Figure 3. Conceptual model

Analysis

Data Collection

We surveyed shop owners of LOOROs in 26 cities in the area of South Westphalia in Germany between May and July 2016. Two opening questions and 34 individual questions were included in the questionnaire. Via an online form, 124 participants replied and 119 participants replied on paper. In total, the questionnaires of 243 companies were received, including 223 questionnaires with full data sets.

The descriptive analysis shows that 25% of the respondents sell clothing, fashion and shoes. Other important groups of retailers in this study are jewellers, stationery and office suppliers, each with a share of 9%. Drugstores, electronic shops, toys and art shops, curtains and photographic supply shops with each around 5%. Finally, the remaining 16% of the examined retailers that do not belong to any of the above-mentioned categories can be summarized as "other". For the analysis of the collected data and the evaluation of the research model, we used SmartPLS. Bootstrapping was done with 5,000 samples and 223 cases, determining the significance of weights, loadings and path coefficients.

Measurement Model

The research model has one reflective construct ('Attitude towards Digitalization'). The other thirteen constructs are formative, so that different analyses are needed [29]. The significance of the constructs' indicators is assessed by their loadings (reflective constructs) or weights (formative constructs) and their t-values. Concerning the reflective construct, all indicators are significant [30]. For the convergence criterion, the model fits to the convergence criteria AVE (Average Variance Extracted) is 0.576 (minimum > 0.5), the composite reliability is 0.844 (min. 0.7) and Cronbach's alpha is 0.751 (min. 0.7) [31-34].

The prediction validity Q^2 is with 0.381 higher than the minimum of 0 [34]. For the formative constructs, the discriminant validity must be verified. The highest correlation between the latent variables with a value of 0.85 still matches the maximum of 0.9, so that the criterion is met [34]. In addition, multicollinearity between indicators of formative constructs is not permitted [35]. The variance inflation factor (VIF) for all indicators i , with $VIF_i = 1/(1 - R_i^2)$ is lower than five so that there is no sign for multicollinearity [34].

Structural Model

The variance inflation factor of constructs with two or more influencing factors (here: Attitude, $VIF=1.00$) is lower than the required level, which shows that there is no multicollinearity [35]. The value of R^2 indicates a substantial (moderate, weak) influence if the value exceeds 0.67 (0.33; 0.19) [37]. Since endogenous and exogenous variables are collected together using one questionnaire [37], the survey is prone to common method bias (CMB). However, our VIF values indicate that the model is free from CMB [34].

In sum, only two hypotheses are not significant. We could confirm 17 of 19 hypotheses of our research model, two of which could be confirmed at the 10%, one at the 5%, and 14 at the 1% level (see Figure 4). The explanatory power of the model (R^2) is on a medium (Current Use of Digital Administration and Digital Marketing) to high level (Current Use of Digital Sales and Digital Services).

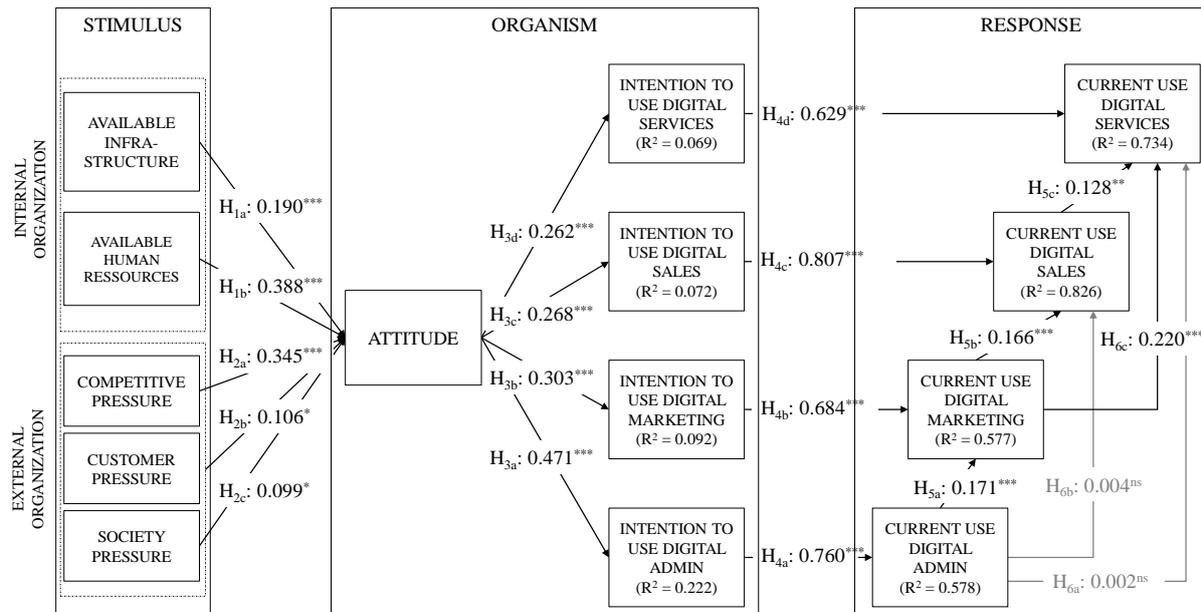


Figure 4. Conceptual model results

Conclusion

Results

The "Available Organizational Infrastructures" and the "Available Human Resources" impact attitudes towards digitalization with respect to internal organizational impact factors. Both hypotheses (H1a, H1b) were verified and proved to be extremely relevant. Specifically, this refers to the availability of human resources among all factors that have by far the most significant effect. This holds in particular for the availability of human resources which have the highest impact by far among all factors. That means that employees drive innovation processes of LOOROs and influence the shop owners if they have enough competencies. Digital competencies are a prerequisite for the adoption of technological innovations.

However, the descriptive results show only a medium availability. While only 11% of the respondents attribute innovativeness to their employees, at least 44% found their available human resources to have enough "competencies" and to be "motivated" to handle digitalization (58%). The level of "infrastructural readiness" is even lower. Only about 30% of the respondents agreed or strongly agreed to have sufficient "infrastructural resources" to face the digitalization challenge, to have sufficient "capacities", or to have a sufficient "IT-Infrastructure" for the challenges of the digitalization. Obviously, LOOROs suffer from lack of internal resources.

External pressure is commonly found to be an adoption driver [5], [6] which is confirmed by our study. All examined factors show an impact on the attitudes towards digitalization, particularly competitive pressure. Around 40% of respondents recognize their own digitalization and feel a desire to keep up with competitors. In addition, the influence of customer pressure is small and of society pressure nearly negligible. The reason lies in the perception of customer demand. About 70% of all LOORO owners cannot report that their customers ask for digital offers and services. Many LOOROs seem to live in an "offline bubble". They only have customers who prefer the offline offer of LOOROs and the owners do not get in contact with other consumers who prefer online offers. Obviously, LOOROs seem to be decoupled from their near and far environment [38], [39]. Interestingly, if LOOROs perceive direct pressure from customers or society, this decreases their positive attitude towards digitalization. On the one hand, this is not surprising. Pressure from policy usually comes from regulations that are often regarded as impositions. On the other hand,

LOOROs should orientate to the wishes of their customers. If they directly ask for digital services, this should enhance and not hinder LOOROs' wish to digitalize.

However, the general attitude towards digitalization, which concerns the organism of the model, is positive. Nearly 60% perceive digitalization as being good and "easy to learn". While a positive attitude fosters all intentions to use digital tools and services, the highest effect is exerted on the intention to use digital administration tools. Because the intention to digitalize an activity significantly influences the use of digital tools (H4a-H4d), this in turn activates a domino effect from back office to front office activities to the line of customer interaction.

The use of digital administration tools encourages LOOROs to use digital marketing tools (H5a) which consecutively fosters the use of digital sales (H5b) and the provision of digital services (H5c, H6c). That means that in case the prerequisites for the operation of digital tools are given, this not only facilitates but fosters the usage of these tools. In more detail, the use of digital administration tools is prerequisite for the use of digital marketing tools and so on.

However, the digitalization of the administrative backend only influences its direct successors (H6a and H6b are not significant). That means that the digitalization process of LOOROs seems to evolve from backend to frontend step by step and is not customer driven. If we have a deeper look at the intentions of LOOROs to digitalize, we can observe a medium level for the administrative stage (52% to 62%). Digital marketing activities are intended to use by 23% to 45%, digital sales by 8% to 28%, and digital services by 21% to 39%. Digital administration in the backend is used by more than half (54%) of the participants, while digital sales (8%), digital marketing and digital services (both mean: 25%) are rarely used.

Our findings indicate that LOOROs are facing a lack of available human resources and infrastructure and that they are facing a situation of insecurity. LOOROs seem to be holding and waiting for their digitalization decision, not understanding whether or not their own usable technology is appropriate and in which technologies they should invest [40]. Surprisingly, they do not experience pressure from changing consumer demands and thus do not see a need to respond to competitors' digitalization efforts.

Managerial Implications for LOOROs

First of all, LOOROs need to be reconnected to their potential customers with regard to changing habits and the growing competition from Internet and chain stores. Hence, for LOOROs to recover competitive strength there is a need for an external (public or governmental) push to help the requisite internal turnaround. The owners/managers need to focus mainly on their understanding of the present and future consumer demands and preferences to reconnect LOOROs with environmental developments [41]. Talking with and involving their employees might help with this as their competencies and motivation is one of the main drivers.

Therefore, employees should secondly be bolstered with digital knowledge. The lack of competence among employees is one of the major resource problems. Chambers of commerce and government can offer trainings tailored to the needs of LOOROs to overcome this digitalization barrier. LOOROs as well as their employees are inexperienced with the according tools and applications and therefore neglect opportunities of digital sales channels. Appropriate trainings can introduce them to this new digital world so that LOOROs can start using online sales and marketing channels with low entry barriers, like third-party platforms (also local shopping platforms), to keep in touch with existing customers, explore new markets and to get started in the e-commerce arena. Providing help in this manner seems to be a more promising approach than exerting direct pressure on them. The direct digitalization pressure already exerted by policy through for example electronic cashier systems reduces the positive attitude towards digitalization and subsequently the LOOROs' intention to digitalize.

However, even if it reduces LOOROs positive perception of digitalization, forcing them to digitalize their back office is nonetheless and thirdly a suitable approach. The administrative backend is the area with the highest use intentions and with the highest current use.

Moreover, for subsequent digitalization areas, it is the starting point. Since legal regulations will control the administrative backend to some degree, policy can use the openness of LOOROs as a door opener for digital support of their administrative backend. This could trigger a promising impulse and launch a chain reaction in all subsequent areas towards the use of digitalization tools and applications.

Research Implications

Firstly, we contribute to the technology adoption research by means of an examination of the internal and external influence factors of the technology adoption process of Micro Enterprises (like LOOROs with an adapted and improved S-O-R Model. The new model includes an improved organism (O) section (by integration of the TRA/TPB core constructs) as well as an extended response (R) section and a usage-related examination. It offers a toolbox for future research on micro enterprises of all kinds.

Secondly, the subdivision of the analysis model into four digital business areas (Digital Administration, Digital Marketing, Digital Sales Channels and Digital Services) offers a systemized approach to frame the ambiguity of the umbrella term digitalization into an operational understanding. Previous research usually neglected that companies already have adopted different digital tools which are used to support parts of their business processes. Yet, the degree to which digital tools are already used determines the readiness of a company to adopt other technologies [7], [27].

Limitation and Future Research

The very limited sample size, first of all, restricts the explanatory power of our results. Second, this analysis is focused on the German retail industry context. The findings should, however, not simply be generalized to other countries with their unique retail cultures.

Thirdly, only owners of LOOROs, but not their customers, have been studied. Although several recent surveys have had a look at the customers' view in the cities we investigated, the connection between retailers and customers is only indirect. This could be improved in further studies by distributing questionnaires to owners and their customers at the same time.

Lastly, the technologies (tools and applications for services, sales, marketing and administration) considered when measuring the "intention to use" and the "current use" are just one possible selection. The inclusion of other technologies could lead to different results.

Future research would be valuable on at least the following aspects: (1) Technology: Systematic research is needed to identify promising technologies and digital tools and applications that can help LOOROs improve their businesses and win back competitive power. (2) Technology adoption under uncertainty: Further studies should investigate what other factors may impact the technology adoption process. Additionally, more research on how to overcome the high uncertainty of local shop owners is needed, as this uncertainty currently clearly hinders the technology adoption of LOOROs. (3) Public and governmental support: Research is needed on how the public can trigger the digital development of LOOROs.

References

1. L. Bollweg, R. Lackes, M. Siepermann, P. Weber, "Mind the Gap! Are local retailers misinterpreting customer expectations regarding digital services," *In Proceedings of the MCCSIS*, pp. 111–117, Las Palmas de Gran Canaria (2015), doi: <https://doi.org/10.1016/j.jretconser.2013.06.007>

2. E. Pantano, M. Viassone, "Demand Pull and Technology Push Perspective in Technology-Based Innovations for the Points of Sale: The Retailers Evaluation," *Journal of Retailing and Consumer Services*, 21(1), 43–47 (2014), doi:10.1016/j.jretconser.2013.06.007
3. V.E Erosa, "Technology Illiteracy in retail SMEs: Exploring late adopters characteristics," In *PICMET'09-2009 Portland International Conference on Management of Engineering & Technology*, pp. 2623–2630. IEEE, Portland (2009), doi:10.1109/picmet.2009.5261816
4. Statista. "Veränderung der Besucherfrequenz im Einzelhandel". Statista. <https://de.statista.com/statistik/daten/studie/291581/umfrage/besucherfrequenzim-%0Aeinzelhandel-in-deutschland-ggug-dem-vorjahr> (last accessed 2020/12/18.)
5. S. Kurnia, J. Choudrie, R.M. Mahbubur, B. Alzougool: "E-commerce technology adoption: A Malaysian grocery SME retail sector study," *Journal of Business Research*, 68(9), 1906–1918 (2015), doi:10.1016/j.jbusres.2014.12.010
6. J. Mehrtens, P.B. Cragg, A.M. Mills, "A model of Internet adoption by SMEs," *Information & Management*, 39(3), 165–176 (2001), doi:10.1016/s0378-7206(01)00086-6
7. R. Rahayu, J. Day, "Determinant factors of e-commerce adoption by SMEs in developing country: evidence from Indonesia," *Procedia-Social and Behavioral Sciences*, 195, 142–150 (2015), doi:10.1016/j.sbspro.2015.06.423
8. S. Kabanda, I. Brown, "A structuration analysis of Small and Medium Enterprise (SME) adoption of E-Commerce: The case of Tanzania," *Telematics and Informatics*, 34(4), 118–132 (2017), doi:10.1016/j.tele.2017.01.002
9. M.R. Amin, H. Hussin, "E-commerce adoption in SME retail sector: A conceptual model," *The 5th International Conference on Information and Communication Technology for the Muslim World (ICT4M)*, pp. 1–6. IEEE, Kuching (2014), doi:10.1109/ict4m.2014.7020677
10. A. Marcati, G. Guido, A.M. Peluso, "The role of SME entrepreneurs' innovativeness and personality in the adoption of innovations," *Research Policy*, 37(9), 1579–1590 (2008), doi:10.1016/j.respol.2008.06.004
11. A. Mehrabian, J.A. Russell, "An approach to environmental psychology," *The MIT Press*, Cambridge (1974).
12. R.S. Woodworth, "Psychology: A study of mental life," *Henry Holt and Co*, New York (1921)
13. S. Kim, G. Park, Y. Lee, S. Choi, "Customer emotions and their triggers in luxury retail: Understanding the effects of customer emotions before and after entering a luxury shop," *Journal of Business Research*, 69(12), 5809–5818 (2016), doi:10.1016/j.jbusres.2016.04.178
14. R.A. Westbrook, "Product/consumption-based affective responses and postpurchase processes," *Journal of Marketing Research*, 24(3), 258–270 (1987), doi: <https://doi.org/10.2307/3151636>
15. I. Bakker, T. Van der Voordt, P. Vink, J. de Boon, "Pleasure, arousal, dominance: Mehrabian and Russell revisited," *Current Psychology*, 33(3), 405–421 (2014), doi:10.1007/s12144-014-9219-4
16. E. M. Rogers, "Diffusion of innovations", 5th edn. *Simon and Schuster*, New York (2010).
17. I. Ajzen, "The theory of planned behavior," *Organizational Behavior and Human Decision Processes*, 50(2), 179–211 (1991), doi:10.1016/0749-5978(91)90020-T
18. F.D. Davis, R. P Bagozzi, P.R. Warshaw, "User acceptance of computer technology: a comparison of two theoretical models," *Management Science*, 35(8), 982–1003 (1989), doi:10.1287/mnsc.35.8.982
19. I. Ajzen, M. Fishbein, "Belief, attitude, intention and behavior: *An introduction to theory and research*" (Vol. 27). Addison-Wesley, Boston (1975).
20. R. Vize, J. Coughlan, A. Kennedy, F Ellis-Chadwick, "Technology readiness in a B2B online retail context: An examination of antecedents and outcomes," *Industrial Marketing Management*, 42(6), 909–918(2013),doi:10.1016/j.indmarman.2013.05.020

21. S. Fließ, M. Kleinaltenkamp, "Blueprinting the service company: Managing service processes efficiently," *Journal of Business Research*, 57(4), 392–404 (2004), doi:10.1016/s0148-2963(02)00273-4
22. A. Enders, T. Jelassi, "The converging business models of Internet and bricks-and-mortar retailers," *European Management Journal*, 18(5), 542–550 (2000), doi:10.1016/s0263-2373(00)00043-8
23. J. Barney, "Firm resources and sustained competitive advantage," *Journal of Management*, 17(1), 99–120 (1991), doi:10.1177/014920639101700108
24. Y.J. Wang, M.S. Minor, J. Wei, "Aesthetics and the online shopping environment: Understanding consumer responses," *Journal of Retailing*, 87(1), 46–58 (2011), doi:10.1016/j.jretai.2010.09.002
25. T. Stapleton, "Complexity and the External Environment," *Milton Keynes GB: The Open University* (2000).
26. N. Melville, K. Kraemer, V. Gurbaxani, "Information technology and organizational performance: An integrative model of IT business value," *MIS Quarterly*, 28(2), 283–322 (2004), doi:10.2307/25148636
27. T. Oliveira, M.F. Martins, "Understanding e-business adoption across industries in European countries," *Industrial Management & Data Systems* (2010), doi:10.1108/02635571011087428
28. B. Ramdani, P. Kawalek, "SME adoption of enterprise systems in the Northwest of England," *IFIP International Working Conference on Organizational Dynamics of Technology-Based Innovation*, 409–429 (2007), doi:10.1007/978-0-387-72804-9_27
29. C. Fornell, F.L. Bookstein, "Two structural equation models: LISREL and PLS applied to consumer exit-voice theory," *Journal of Marketing Research*, 19(4), 440–452 (1982), doi:10.1177/002224378201900406
30. C.B. Jarvis, S.B. MacKenzie, P.M. Podsakoff, "A critical review of construct indicators and measurement model misspecification in marketing and consumer research," *Journal of Consumer Research*, 30(2), 199–218 (2003), doi:10.1086/376806
31. W.W. Chin, "Commentary: Issues and opinion on structural equation modeling," *MIS Quarterly*, 22(1), vii-xvi (1998).
32. L.J. Cronbach, "Coefficient alpha and the internal structure of tests," *Psychometrika*, 16(3), 297–334 (1951), doi:10.1007/bf02310555
33. C. Fornell, D.F. Larcker, "Structural equation models with unobservable variables and measurement error: Algebra and statistics," *SAGE Publications CA: Los Angeles* (1981), doi:10.2307/3150980
34. J.F. Hair, G.T.M. Hult, C. Ringle, M. Sarstedt, "A primer on partial least squares structural equation modeling," *SAGE Publications CA: Los Angeles* (2016).
35. A. Diamantopoulos, P. Riefler, K.P. Roth, "Advancing formative measurement models," *Journal of Business Research*, 61(12), 1203–1218 (2008), doi:10.1016/j.jbusres.2008.01.009
36. A. Diamantopoulos, J.A. Siguaw, "Formative versus reflective indicators in organizational measure development: A comparison and empirical illustration," *British Journal of Management*, 17(4), 263–282 (2006), doi:10.1111/j.1467-8551.2006.00500.x
37. E.T. Tornikoski, H. Rannikko, T.P. Heimonen, "Technology-based competitive advantages of young entrepreneurial firms: Conceptual development and empirical exploration," *Journal of Small Business Management*, 55(2), 200–215 (2017), doi:10.1111/jsbm.12315
38. E. Pantano, "Innovation drivers in retail industry," *International Journal of Information Management*, 34(3), 344–350 (2014), doi:10.1016/j.ijinfomgt.2014.03.002.
39. A. Parasuraman, V.A. Zeithaml, L.L. Berry, "Servqual: A Multiple-Item Scale for Measuring Consumer Perc.," *Journal of Retailing* 64, 64(1), 12 (1998), doi:10.1037/t09264-000
40. A. Purvis, W.G. Boggess, C.B. Moss, J. Holt, "Technology adoption decisions under irreversibility and uncertainty: an ex ante approach," *American Journal of Agricultural Economics*, 77(3), 541–551 (1995), doi:10.2307/1243223

41. D. Grewal, A.L. Roggeveen, J. Nordfält, "The Future of Retailing," *Journal of Retailing*, 93(1), 1–6 (2017), doi:10.1016/j.jretai.2016.12.008
42. P.B. Lowry, J. Gaskin, "Partial Least Squares (PLS) Structural Equation Modeling (SEM) for Building and Testing Behavioral Causal Theory: When to Choose It and How to Use It," *IEEE Transactions on Professional Communication* (57:2), 123–146 (2014), doi:10.1109/tpc.2014.2312452