Local Shopping Platforms –
Harnessing Locational Advantages for the
Digital Transformation of Local Retail Outlets:
A Content Analysis

Sören Bärsch[1], Lars Bollweg[1], Richard Lackes[2], Markus Siepermann[2], Peter Weber[1],
and Valerie Wulfhorst[1]

[1] Fachhochschule Südwestfalen, Soest, Germany
{baersch.soeren,bollweg.lars,weber.peter, wulfhorst.valerie}
@fh-swf.de
[2] Technische Universität Dortmund, Dortmund, Germany
{richard.lackes, markus.siepermann}@tu-dortmund.de

Abstract. Competitors and customers put Local Owner-Operated Retail Outlets (LOOROs) under digitalization pressure. Local Shopping Platforms (LSP), acting as intermediaries between LOOROs and their customers, explicitly make use of the locational strength of LOOROs and seem to be a promising vehicle to help LOOROs overcome their manifold digitalization difficulties. In this study, with the help of a structured content analysis of 27 LSPs in Germany, Switzerland, and the U.S., we analyze LSPs as local descendants of e-marketplaces and derive a functionality-based typology. Furthermore, we scrutinize how LSPs harness LOOROs locational advantages. Despite their visible role as interorganizational service-hubs and a low-level entry option to e-commerce for LOOROs, our results show that LSPs currently unduly focus on location-enabled services that support the online channel, while neglecting the potential of location-based services and the local stores as a Point of Sale (PoS).

Keywords: Local Shopping Platforms, LOOROs, Location-dependent Services, Retail.

1   Introduction

In an otherwise positively developing market environment, Local Owner-Operated Retail Outlets (LOORO) face an intense business and market transformation. The market share of LOOROs has already declined from 26% in 2003 to 17.9% in 2015 in Germany [1]. Several independent studies predict a further decline in revenue for LOOROs in Germany of 30% within the next four years [2], [3] and of about 50% within the next ten years [4]. Big box retail outlets, chain stores and online retailers on

the one side, as well as changing customer shopping habits and a decline in shopper frequency in the high streets on the other side, are threatening the very existence of LOOROs [5], [6]. Further, studies show that LOOROs, like other small- and medium-sized enterprises (SME), still hesitate to adopt e-commerce channels (e.g. by starting their own online shops) [7], [8] as well as to participate in electronic marketplaces (e.g. selling on eBay or Amazon) [9]. Existing research has explained this phenomenon of reluctant digital transformation with an extensive set of internal (e.g. financial constraints, lack of knowledge, lack of infrastructures, fear of global competition, etc.) and external (e.g. lack of standards, lack of understanding of SME needs, etc.) influence factors acting as adoption barriers [10-13].

Currently, Local Shopping Platforms (LSPs) as intermediaries and inter-organizational service hubs between LOOROs and their customers are spreading in German cities [14]. For instance, Atalanda.com is a local shopping platform provider that offers LSPs in now thirteen German cities. Atalanda enables small and medium sized stationary retailers to sell their products online via local Atalanda marketplaces (e.g. "OnlineCity Wuppertal" or "Einkaufen in Attendorn").

The advent of LSPs has many ties to the long tradition of e-marketplaces and e-intermediaries with one clear distinction: On large e-marketplaces, like Amazon or eBay, the boundaries between Business-to-Business (B2B) and Business-to-Consumer (B2C) as well as regional or national restrictions blur [15], [16]. With the advent of LSPs, we see a counter-development of platforms that implement location-dependent self-restrictions into their business models. It is either a limitation to the cooperation with retailers from a certain area, the limitation of just doing business with customers from a certain area, or both. LSPs use these location-dependent self-restrictions as their unique selling proposition. They sell the existing offer of merchandise of LOOROs via their platform and try to reach time advantages in delivery and service by using the connected local shops as decentralized storages in direct neighborhood to the households of the local customers [17].

On the one hand, this LSP approach seems to be promising for LOOROs, as it helps them in their digital transformation and to overcome the e-commerce adoption barriers by outsourcing the digitalization challenge to the platforms [18], [9]. The LSPs serve as digital service providers and relieve LOOROs from the burden of building up their own digital infrastructures and hiring specially educated staff [19]. Furthermore, LSPs enable cooperation and shared services among competitors, allowing for synergy effects for the digital transformation of all participating retailers in the city centers. For example, LSPs can spread the development cost of the platform's infrastructure (IT, logistics) across the connected shops, avoiding the need for individual high investments [20].

On the other hand, local shopping platforms seem to be problematic for LOOROs, as these seem to step into a self-reinforcing spiral of ubiquitous online price competition with significantly declining (online) sales prices when joining the platforms [16]. Furthermore, it remains unclear whether customers will (in the long-term) accept electronic marketplaces that are limited to offers from only local vendors, or whether they will prefer global marketplaces with nearly unlimited offers like eBay and Ama-

zon [21]. Today, the business model of LSPs still lacks proof of concept and is therefore an uncertain bet as a sustainable backbone for the digital transformation of LOOROs.

Against this background, LSPs seem to be a premature approach, but the integration of location advantages and physical infrastructures into their service strategy could lead to competitive advantages for LOOROs. It could help them win back market shares and revenue from the big online and offline competitors and to catch up in the ongoing digital transformation of the retail sector.

However, also reknown pure players, like esp. Amazon, have already started to enter the stationary retail sector (e.g., Amazon Books Stores, Amazon Go Stores, Amazon Now and Whole Foods). These examples of online-to-offline ventures experiment with ambitious retail concepts (e.g., the use of sensors and other technology to identify and automatically charge customers). Therefore, the stakes are high and LOOROs are facing tough competition. As LSPs are a rather new approach, we still do not know enough about their service offers and about how they facilitate the locational advantages of LOOROs in the digital realm. It is not yet to say, if LSPs will actually be able to help LOOROs transform their business models and survive in the highly competitive digital future [19]. Therefore, with regard to the ongoing transformation process of LOOROs and the according role of LSPs, in this paper we aim to answer the following research questions:

RQ1)   *What kind of local shopping platform approaches exist?*

RQ2)   *Which local services do these local shopping platforms offer in order to utilize the locational advantages of LOOROs?*

The paper is structured as follows: In section 2, we discuss the theoretical background needed for the analysis. We then introduce the methodological foundation of the structural content analysis in section 3. In section 4, we discuss the results of the content analysis. Finally, in section 5, we conclude, point out limitations and discuss future research opportunities.

2   Theoretical Background

2.1   Functionality and Categories of Local Shopping Platforms

Local Shopping Platforms represent e-marketplaces with a local focus. Like traditional e-marketplaces, they serve three main functions: 1) they match (local) buyers and sellers, 2) they enable the exchange of information, and 3) they facilitate transaction and fulfillment services [22], [15].

As with e-marketplaces, also the services provided by local shopping platforms are not standardized and strongly differ [23]. The service landscapes provided range from simple externalized management of the online front-end (e.g., online shop, marketplace) to the outsourced management of complex sales and marketing processes, including pricing, invoicing, data processing, and logistics [23], [24]. According to Peterson et al. (2007) [25], this diverse service landscape enables a typological differ-

entiation (categorization) of LSPs based on the typical e-marketplace functionalities (see Table 1).

Following this approach, we derived five types of local shopping platforms: The first e-marketplace function (match of buyers and sellers) allows for the differentiation of two categories of local shopping platforms, *Store Locator Platforms* and *Product Catalog Platforms*. *Store Locator Platforms* offer only contact and store location information. They do not provide any information on products or any online shop functionalities to enable the core buying process. In addition to this contact and store location information, *Product Catalog Platforms* as the second category of LSPs provide an overview of the products available in the connected stores. As *Store Locator Platforms*, also *Product Catalog Platforms* do not provide any online shop functionalities. Considering the e-marketplace function (exchange of information), we derived an additional platform category named *Product Enquiry Platforms*. These platforms enable customers to request product availability information, while still not providing online shop functionality. Regarding the e-marketplace function (transaction and fulfillment), two more types can be differentiated. *Affiliate Transaction Platforms* allow the purchase of products, but customers complete the transaction process on an external website with the help of an affiliate shop. Finally, *Full Transaction Platforms* offer the full e-marketplace service range, including payment and logistics. Table 1 summarizes the typology.

Table 1: Local Shopping Platform categories with regards to the main e-marketplace functionalities, derived from Peterson et al. (2007)

	Information	Communication	Transaction & Fulfillment
Platform Categories	Store Locator Platforms	Product Enquiry Platforms	Affiliate Transaction Platforms
	Product Catalog Platforms		Full Transaction Platforms

2.2 Location Theory & Location-Dependent Services

"Location! Location! Location!" has long been a mantra for the stationary retail sector and its service providers. In the pre-e-commerce era, it was widely believed that the choice of a location is the single most important decision for retailers [26]. In fact it has been even argued that poor location may be an insurmountable obstacle for even the best retailers [27]. In the advent of e-commerce, location seemed to have lost its importance [28]. Many pure players built big warehouses outside the cities to enable the efficient implementation of the fulfillment promises they made to their customers [29]. However, with the rising service competition between pure e-commerce players and stationary retailers (Big Box Retail Outlets and LOOROs), including services like e.g. same day delivery or even same hour delivery, the importance of location for the retail sector and the interest in location theory is increasing again [30], [31]. For example, Kim et al. (2017) [32] point out that the impact of distance in the e-commerce

age "is not dead", and in their study they highlight the negative effects of growing transportation costs on online sales prices and customer demand. Furthermore, in their study they show that location-dependent services, like logistics services and especially express delivery services are positively correlated with repurchases and the loyalty of customers. Further, research showed that even in an environment with near zero trade cost, physical distance matters [33] and that especially location-dependent service are essential to attract and retain customers in multi-channel retail environments [34], [35].

To make use of locational advantages, location theory suggests the facilitation of location-dependent services for multi-channel retailers and e-marketplaces. In fact, there are two types of services to look at. First, location-enabled services: these services are possible if the location of the store is close to the households of the customers and thus enables short distance services with low transportation costs [36], [37]. Second, location-based services: These services aim to utilize foot-traffic at popular places like main streets, parks, etc. using location-awareness information systems and devices, like smartphones and wearables [38-41].

Table 2: Differentiation Location-independent and Location-dependent Services

Location-independent Services	Location-dependent Services	
Standard Web-Services	Location-enabled Services	Location-based Services
All Services provided on e-marketplaces and not related to location.	Services that are feasible if the location of the retailer is close to the households of the customers.	Services that are feasible if the customers are close to the store location.

3 Analysis

3.1 Methodology

To analyze the different types of existing LSPs and their offered services, we conducted an extensive content analysis [42-44] and followed the procedure suggested by Krippendorff (1980, 2004) [45], [46] and Mayring (2010) [47]. Accordingly, after defining the research scope and questions, in a first step we identified the existing LSPs through an explorative web search. In the second step, we conducted a pre-test, categorizing 30% of the identified LSPs and their services. This pre-test was followed by a revision procedure to improve the categorization and to streamline the coding agenda.

Subsequently, in a fourth step, three individual coders conducted the full content analysis (100%). Finally, in the last step, an expert panel of senior researchers discussed and resolved discrepancies in the coding results (see Figure 1). All mentioned research steps will be discussed in detail in the following.
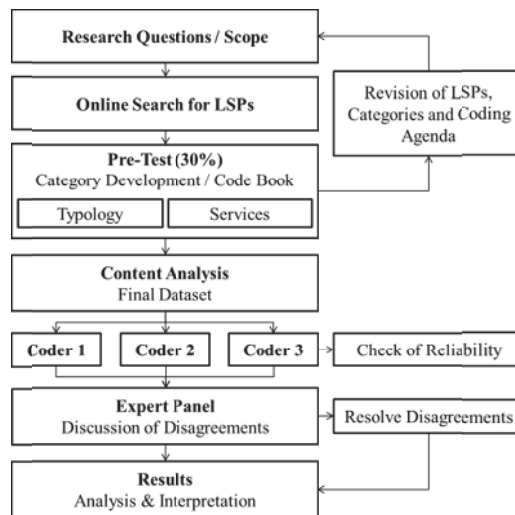
Figure 1: Research Procedure (based on Kripppendorff 2004 and Mayring 2010)

3.2   Sample

For the identification of the LSPs we conducted an online search process in June and July 2016, using the following keyword combinations in English and in German: "Local" + ("E-Marketplace", Shopping Platforms", "Shops Online", "Vendors Online", "Marketplace", "Products Online", "Retail", "Online shop"). The online search process was limited to the first ten result pages on Google per search iteration (first 100 results). To get as unbiased results as possible, the search engine settings where switched to "Do not use private results".

The search process resulted in a first set of 52 candidates for local shopping platforms. A second level selection and screening process to improve the quality of the findings reduced this set to 27 LSPs (selection criterion: local self-restriction to either cooperation with retailers from a certain area, the limitation of just doing business with customers from a certain area, or both) from three countries. 21 platforms were from Germany, four platforms from the U.S. and two platforms from Switzerland (see Table 6). Despite the bilingual keyword combinations and the disabled private results setting, there were distortions in favor of German platforms. The reason for this bias could be default settings of the Google.de search engine.

3.3   Pre-Test, Coding, and Full Content Analysis

After the pre-test (30%) and the revision procedure, the coders together categorized the identified local shopping platforms and their services (100%) in a joint effort to achieve a consistent coding. They screened each platform for 74 possible items: 5

typological items and 69 service items (see Table 5 and 6). Each item was considered with 1 point in the Code Book (Yes / Available = 1, No / Not Available = 0), resulting in two scores: (1) a Typological Score, ranging from 0 to 5, and (2) a Service Score, ranging from 0 to 69 (see Table 3 and 4).

Table 3: Code Book: Platform Typologies

Items / Functions	Definition	Coding Rule
Store location	Shows locations and contact information of local retail stores	Available = 1 Not available = 0
Product Description and Pictures	Shows products and descriptions of products of local retail stores	Available = 1 Not available = 0
Product enquiry	Offers the functionality to write a product enquiry to a local retail store	Available = 1 Not available = 0
Affiliate links	Shows products and prices from local with affiliate link to an external online shop	Available = 1 Not available = 0
Full transaction handling	Offers full transaction handling for local retail stores on the platform	Available = 1 Not available = 0

Table 4: Code Book: Services

Type	Categories	Definition	Items	Coding Rule
Location-Dependent Services	Location-Enabled Services	Services based on the proximity to the customers	16	Available = 1 Not available = 0
	Location-Based Services	Services based on the location of the customer	13	Available = 1 Not available = 0
Location-Independent Services	Information & Recommendation Services	Services offering basic information and / or recommendations	12	Available = 1 Not available = 0
	Communication & Support Services	Services offering a communication channel	14	Available = 1 Not available = 0
	Payment & Billing Services	Services enabling the payment process	8	Available = 1 Not available = 0
	Fulfillment Services	Services for delivery and / or pick-up	6	Available = 1 Not available = 0

3.4   Intercoder Reliability

The verification of the Intercoder Reliability followed the guidelines of Raupp and Vogelsang (2009) [48] and Tinsley & Weiss (1975, 2000) [49], [50]. For this, the Holsti's Coefficient of Reliability r_H, and Krippendorffs α were calculated. Concerning the platform typologies, there were 5 items and 27 platforms, so that each coder had to judge 135 different items in total. In sum, complete agreement was achieved (r_H=1; see Table 5).

Table 5: Holsti´s Coefficient of the typological items

Coder Pair	C1 + C2	C1+C3	C2+C3
coder's consensus	135	135	135
percentage agreement	1.00	1.00	1.00
r_H	1.00		

Regarding the services, each coder had to examine 27 platforms for 69 services (1,863 items). The Holsti´s reliability coefficient of r_H = 0.916 shows an almost complete agreement [51]. The Krippendorff's α coefficient marginally missed the threshold for very good (0.9) but is still good with α = 0.895 [46], [52] (see Table 6).

Table 6: Krippendorffs α and Holsti´s Coefficient of Reliablility r_H

Coder Pair	C1 + C2	C1+C3	C2+C3
Agreement / Coder Pair	1719	1698	1705
Correlation Coefficient / Coder Pair	0.923	0.911	0.915
Holsti´s Coefficient of Reliablility r_H	0.916		
Krippendorff's α	0.895		

3.5   Expert Panel

To overcome and harmonize uncertainties (the coders agreed on 1668 out of 1863 items), an expert panel of four senior researchers with high expertise in the field of e-marketplaces and e-commerce discussed all remaining discrepancies (195 items) and made final decisions. Furthermore, the expert panel reviewed and discussed all platforms and confirmed the coding results.

4   Results

The platform types derived from literature in section 2 could be confirmed in practice. Of the 27 platforms identified, 21 are located in Germany, two in Switzerland, and four in the U.S. Only two platforms represent *Store Locator Platforms* and two others *Product Catalog Platforms*. Six platforms provide the functionalities of *Product Enquiry Platforms*. Four platforms can be considered *Affiliate Transaction Platforms,* and thirteen platforms offer the full range of online shopping transaction and fulfillment services as *Full Transaction Platforms* (see Figure 2). These results clearly indicate that the majority of the platform providers strive to offer complete shopping experiences on their platforms.
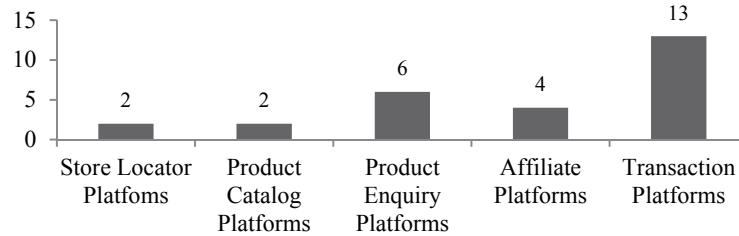
Figure 2: Distribution of types of local shopping platforms in the data sample

Table 7: Identified Location-Dependent Services on LSPs

No.	Location-Enabled Services	#	No.	Location-Based Services	#
	Information Services			**Information Services**	
1.	Map with store locations	16	1.	Location-based product consultation	0
2.	Information about local news	1	2.	Barcode scanner	2
3.	Information about local events	3	3.	Location-based map with store locations	8
4.	Information about product availability (In-Store)	12	4.	Location-based map with closest product location	3
5.	Information about store opening hours	19		**Communication & Support Services**	
6.	Information about store contact data	22	5.	Location-based support	0
	Communication & Support Services		6.	Location-based advertisement	1
7.	Support at home	9	7.	Location-based loyalty program	0
8.	Face to face support	1	8.	Location-based price-draws	0
9.	Local loyalty card	7	9.	Location-based discounts	0
10.	Customer integration (Customer feedback on store services)	13	10.	In-Store navigation	0
11.	Community integration	10			
	Navigation Services		11.	Outdoor navigation	0
	-		12.	Location-based shopping tour	0
	Payment and Billing Services			**Payment and Billing Services**	
	-		13.	Self-Checkout	0
	Fulfillment Services			**Fulfillment Services**	
12.	Same day delivery	2		-	
13.	Same hour delivery	6			
14.	Click & Return	3			
15.	Click & Collect	0			
16.	Reserve & Collect	6			

Altogether, the 27 platforms provide a range of 67 different services. These services support the different functions of e-marketplaces and can therefore be categorized as follows [15], [22]:

(1) Information & Recommendation Services
(2) Communication & Support Services
(3) Payment & Fulfillment Services

Table 8: Amount of services offered of Location-Dependent and Location-Independent Services on Local Shopping Platforms (July 2016) – Sorted by typology

	Local Shopping Platform	Typology	Total	Location-Dependent Services									Location-Independent Services			
				Location-Enabled Services				Location-Based Services								
				Total LES	Information	Communication & Support	Fulfillment	Total LBS	Information	Communication & Support	Navigation	Payment & Billing	Information & Recommendation	Communication & Support	Payment & Billing	Fulfillment
	No. / category		69	16	6	5	5	13	4	5	3	1	12	14	8	6
	Average no. / LSP		16	4.8	2.7	0.6	1.5	0.7	0.5	0	0.2	0	2	6	2	1
	Share / LSP		23%	30%	45%	13%	30%	5%	12%	0%	6%	0%	20%	41%	28%	15%
1.	Klickando	5	28	8	4	0	4	0	0	0	0	0	3	9	5	3
2.	Stylerella	5	26	9	5	3	1	2	1	0	1	0	3	9	2	1
3.	hierbeidir	5	24	6	3	0	3	0	0	0	0	0	2	8	6	2
4.	Loca Fox	4	24	6	4	0	2	3	3	0	0	0	6	8	0	1
5.	Atalanda	5	22	6	3	0	3	0	0	0	0	0	3	7	3	3
6.	farmy.ch	5	22	5	1	2	2	0	0	0	0	0	3	9	4	1
7.	Kaloka	5	22	6	3	0	3	0	0	0	0	0	3	7	3	3
8.	buchhandel.de	5	21	6	3	1	2	3	2	0	1	0	2	4	5	1
9.	Locamo BETA	5	21	8	5	1	2	1	1	0	0	0	2	6	2	2
10.	Koomio	4	21	7	4	0	3	2	2	0	0	0	3	8	0	1
11.	Shopcity (Shoplocally)	5	19	8	4	4	0	0	0	0	0	0	3	5	2	1
12.	findeling	1	17	4	4	0	0	4	2	0	2	0	0	9	0	0
13.	Digitale City	3	15	4	0	1	3	0	0	0	0	0	5	5	1	2
14.	locally	3	15	4	4	0	0	0	0	0	0	0	5	5	0	1
15.	beiuns.kaufen	5	14	3	1	0	2	0	0	0	0	0	3	5	3	0
16.	Kietzkaufhaus	5	14	2	1	0	1	0	0	0	0	0	2	5	2	3
17.	localharvestmarket	5	14	3	2	0	1	0	0	0	0	0	5	3	1	2
18.	Mein Jülich	4	14	4	2	1	1	0	0	0	0	0	2	8	0	0
19.	Arranja	3	14	2	0	1	1	0	0	0	0	0	1	8	1	2
20.	RN-Shopping	2	13	5	3	1	1	2	1	0	1	0	3	3	0	0
21.	Postmates	5	12	2	0	0	2	0	0	0	0	0	1	5	2	2
22.	snipda	4	12	5	4	0	1	1	1	0	0	0	2	3	0	1
23.	Lieblingsladen.de	2	12	4	3	0	1	0	0	0	0	0	3	4	0	1
24.	Marktplatz Bruchköbel	3	11	7	4	2	1	0	0	0	0	0	2	2	0	0
25.	take-it-lokal.de	3	9	3	3	0	0	0	0	0	0	0	1	1	4	0
26.	Yategolocal	1	7	3	3	0	0	0	0	0	0	0	2	2	0	0
27.	Kaufnah BETA	3	3	0	0	0	0	0	0	0	0	0	0	3	0	0

From the 67 different services, 40 services are location-independent and 29 are location-dependent services. Thirteen services of the latter group are Location-Based Services, while 16 are Location-Enabled Services (see Table 7). Among the location-dependent services, information services are dominating, while among the location-independent services communication services are in the majority.

The extent to which LSPs provide location-dependent services differs quite strong. On average, LSPs offer 23% of all identified services, ranging from a min. of 4% to a max. of 41% of the services. Between 0% and 56% of the identified Location-Enabled

Services (average 30%) and between 0% and 31% of the identified Location-Based Services (average 5%) are provided by the platforms. For comparison, concerning location-independent services, 0%-50% of the information & recommendation services (average 20%), 7%-64% of the communication & support services (average 41%), 0%-75% of the payment & billing services (average 28%), and 0%-50% of the logistics services (average 15%) are provided by the LSPs (see Table 8).

A deeper look on location-enabled services shows that local shopping platforms provide between 0%-83% of the identified information services (average 45%) and 0%-80% of the identified communication & support services (average 13%) as well as of the logistics services (average 30%). As location-based services, only two categories are used: information (0%-75%, average 12%) and navigation services (0%-67%, average 6%).

Logistics services are one of the major advantages that LSPs can offer to customers. Regarding Affiliate and Full Transaction Platforms, which both support the complete shopping process, further interesting findings are that: (1) only seven full transaction platforms offer same day delivery, (2) ten full and two affiliate transaction platforms offer click and collect, (3) five full and one affiliate transaction platform offer click and return, (4) and three full and four affiliate transaction platforms offer reserve and collect.

Regarding the typology, platforms of higher categories tend to use more services than platforms of lower categories. However, this cannot be generalized, as some platforms of category 1 are ranging in the midfield while categories of 5 and 4 can also be found in the lower field.

5 Conclusion

5.1 Discussion

In total, 23 shopping platforms that focus on local retailers and local customers were identified, out of which four are from the U.S. and 23 are from German and / or Switzerland.

Concerning the services provided, there is much room for improvement on local shopping platforms. In average, the examined platforms offer only 16 of the identified 69 services, including only eleven out of 40 location-independent services (27.5%), 4.8 out of 16 location-enabled services (30%), and 0.7 out of 13 location-based services (5%). Thus, although local shopping platforms strive to make use of the locational proximity between shops and customers, they fall short in providing appropriate services. A closer look at location-dependent services reveals that mostly general information regarding shop addresses, contact details, opening hours, and product availability are provided. Most platforms do not offer advanced services that really make use of the position of the customers around or in the local stores connected to the platforms, neglecting the local stores as a PoS. The very few location-based ser-

vices offered underpin this finding. It almost seems that LSPs are not interested in strengthening the locational position of the connected LOOROs, but only try to benefit from them by focusing on services that foster online sales, like support or payment and billing services.

5.2 Practical implications

For LOOROs: It is questionable if LSPs can help LOOROs with their digital transformation in a sustainable manner. So far, the service offers of LSPs are focusing solely on the online PoS of the platforms itself, while neglecting the digital opportunities of local physical stores. In today's omnichannel retail world with merging sales and communication channels, such a single channel service strategy needs to be considered outdated [21]. Furthermore, big retail chains started to revolutionize the stationary retail sector with innovative store concepts; LSPs seem to be ignoring this upcoming challenge so far [53] (see Table 8).

Despite these critical aspects, LSPs also carry opportunities for LOOROs. The small retailers could make use of the strength of LSPs to get a low barrier entrance to the realm of e-commerce and use the digital environment to learn for their own digital transformation. Accordingly, LOOROs should utilize LSPs as digital service hubs. Furthermore, to improve their role in the relationship with the platforms, LOOROs should demand location-based services from the LSPs to support their physical stores and help to attract more foot-traffic. At the same time, satisfied offline customers have the opportunity to buy 24/7 at their preferred LOOROs via the local platforms. This offers loyal customers an online channel, preventing them from switching to other online shops [35].

For LSPs: With their current business and service strategy, LSPs miss a great opportunity. Instead of solely installing a sales platform that restricts itself and its market to local customers, LSPs should focus more on the locational advantages of LOOROs and foster location-based and enabled services as unique selling proposition [28], [34]. This would strengthen the position of the connected LOOROs in the city centers and help them attract more customers. Such effects are important also for the LSPs, as only strong local retail partners are able to provide a sustainable base for a long-term cooperation, securing the very existence of LSPs. Without support structures that strengthen the local retailers in their ongoing digital transformation, LSPs run the risk of being only a temporal phenomenon.

5.3 Limitations and directions for future research

The results of this study should be interpreted in the context of several key limitations. First, we derived the sample for the analysis from an explorative web search on Google that might have missed additional types of LSPs hidden on the Web. Additionally, the search settings of Google's search algorithm are not fully transparent and therefore the study could suffer e.g. from a country-dependent search bias. Therefore,

future studies should consider also other sources of information to identify platforms, like e.g. industry information websites or blogs, and they should work with different language and regional settings on Google. Furthermore, due to the coders' language proficiencies, the analysis was limited to German and English language platforms. Insights about digital platforms for local retailers from other countries would have been of interest, too. Regarding the services offered by LSPs, research is needed on the orchestration of Location-enabled and Location-based Services, and the list of Location Dependent Services in general. Finally, further research is necessary on if and how LSPs and Location Dependent Services can help LOOROs overcome informational disadvantages in comparison to online retailers (e.g. In-Store Analytics via Location-based Services).

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