How to Include Omnichannel Services in Land-Use Policy?

E-Planning Holds the Key

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ABSTRACT

This paper is a reflective overview of the knowledge on online conversion of services in the perspective of urban planning. It points that traditional planning aimed at building optimal spatial relationships between particular functions in urban environment. Particular decision-making rules have been introduced, contributing to a hierarchical land-use structure. This traditional approach has been recently challenged by the rapid ICT development which added a lively, virtual, and non-spatial dimension of urban economy. The well-established foundations of urban planning started to shake, calling for a new paradigm. This paper looks for an alternative to conventional planning which would be able to develop policies for omnichannel services (i.e., enterprises that use both online and offline channels for communicating and distributing their products). The advantages of ‘e-planning’ in managing omnichannel services sector are outlined and a conclusion is drawn that only a multi-channel approach can bring appropriate answers to contemporary developments in services sector.

KEYWORDS

E-Planning, Land-Use, Offline Services, Omnichannel Services, Online Services, Urban Planning

1. INTRODUCTION

Fast advancements in human civilization in the recent decades pose specific, unprecedented challenges to public policy. In particular the rapid ICT development calls for appropriate response from public authorities. Sometimes it may even require a fundamental shift (replacement, renewal) of traditional procedures and attitudes.

This observation refers also to urban planning: profound changes in demography, social communication, lifestyle, consumer behaviours, power relations, technology, climate risks – to mention only the most obvious issues – exceed the capacity of conventional planning practices (see European Innovation... 2013, European Commission 2014). There is a pressing need for a new paradigm that would provide resilience and sustainable growth of today’s urban regions. Theoreticians and practitioners all over the world are searching for such new concepts that would support urban planning in addressing the emerging challenges.

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In this article I will try to outline the strengths of “e-planning” in managing the emerging omnichannel services sector. E-planning is a concept developed and promoted by the authors publishing their works in “International Journal of E-Planning Research” (IJEPR) as well as in other journals. Its specific features, linking the online and offline realities seem to be particularly relevant for the discussion on the processes of online conversion of services.

The article aims at answering the following, interconnected questions:

1. What is the nature of omnichannel services? In what are they different from traditional ones?
2. How can public policy deal with conversion and hybridization of services? Are omnichannel services “plannable” or not?
3. What does e-planning has to offer in terms of omnichannel services development?

This article is a reflective overview of the knowledge on conversion and hybridization of services and contemporary urban planning. It is situated on the intersection of economy of services sector and geography of land-use. It tries to link those domains on the ground of e-planning.

The article is divided into four sections. Starting from a literature review describing current transformations in the services sector it calls for a multi-channel approach in urban planning. Then e-planning features are discussed and eventually conclusions are drawn about the possible match between omnichannel services and e-planning qualities.

2. CONVERSION AND HYBRIDISATION OF SERVICES

2.1. Time-Space Compression, Telepolis and Etopia

Due to communication technologies, traditional, material forms of service provision are supplemented (and sometimes replaced) by virtual, remote ones, which may have a significant impact on the existing functional and spatial structures of human settlements. Among the concepts that describe the relationship between the dissemination of the internet and settlement processes, the so-called time-space compression, as defined by D. Harvey (1989), comes to the fore. The concept refers to the development of widely understood communication techniques (which are classified under the common term of the so-called *telematics*, including telecommunication, transport technologies, information technology and electronics), which reduce the need for spatial concentration of economic activities. Theoretically, any activity can be performed remotely from any place in the world, if only it has access to appropriate transmission networks.

As a result, the importance of spatial distribution of everyday human needs: work, shopping, entertainment, health care, education, public services, administration and others, is reduced. People are increasingly working and using services at home, and so homing, or home centeredness becomes an important trend in the modern society (Castells, 1998). In face of the progressing digitisation and dematerialisation of the economy, the prestigious location is losing its importance, and the knowledge and qualifications of its residents and access to high quality transport and communication infrastructure is gaining significance (Sassen 2001, Llewelyn-Davies et al., 2004).

The so-called “telepolis”, a networked city (Rötzer, 1995), is located both nowhere and everywhere where it is technically accessible. It is more complex, more diverse, larger and more opaque than a “global village”, a concept from the second half of the 20th century (Królikowski, Rylke, 2010).

In this context, we can even speak of the “death of distance”, which can lead to the disappearance of the city as the concentration of man’s activity (Cairncross, 1997). As the internet begins to take over some of the historically established functions of the city (banks, shops, administration), futurologists more and more often predict the final collapse of the city, or at least of the city as we know it (Castells, 1998).

However, this argument is opposed by W.J. Mitchell (2000, 2005), the author of the term *e-topia*, who conducts in his work an in-depth and comprehensive analysis of the spatial consequences of information technology development. In his opinion, seeing these technologies as anti-city forces is far from the truth: they obviously have an overwhelming influence on cities, but this influence is very subtle and complicated. For example, wired (cable) ICT networks affect the diversity of space, leading to the combination of various functions (including offices and flats) both for individual buildings and the whole city, which resembles the functional scheme of pre-industrial era cities, and contributes to reducing the distance between the workplace and the place of residence. In turn, the wireless standard of information transmission that dominates today means that basically any space (e.g. a hotel room, a waiting room at the railway station, a table in a café, a bench in a park) can be a workplace at the same time, which significantly reduces the need for traditional office space.

As we can see, communication technologies bring new spatial and functional phenomena, although they all remain unquestionably urban in their nature. The “real” and “virtual” reality intertwine in spatial practices and lead to the creation of specific social relations. New technologies help to minimise the feeling of isolation, but do not satisfy people who still need to meet their friends and acquaintances (Smagacz-Poziemska, 2015).

Thus, while cities are no longer a place where material goods are produced, they still remain a space for social interaction, connecting people to create innovation, and they are business, cultural and political hubs. New forms of production are being created, which are more and more often non-material, and concern knowledge, information, ideas, organisation, cultural undertakings, etc. (cf. Batty, 2013, 2014).

We can say that present cities function simultaneously in the physical and virtual worlds. The analysis of visibility (mediality, position) of Polish cities in cyberspace and cyberspace links between them allow us to state that the position and links between cities in cyberspace are closely connected with those in the real world. This brings the important observation that geographical space, considered in the context of the links between an online and offline city, becomes a hybrid of material, i.e. physical and non-material cyberspace. Close relations between these spaces become apparent in the case of rank or importance of cities and links between them (Janc, 2014).

We should therefore perceive urbanised areas as two parallel structures, one of which is hooked into a physical structure and the other related to electronic flows. The biggest challenge of modernity will be to find the right proportions between what is real and what is virtual, and between a city composed of physical spaces and a “city of bits” (Palej, 2005).

2.2. Between Concentration and Dispersion

In the geography of settlement, especially in the analysis of distribution of services in cities, so-called agglomeration effects are often observed. They are directly related to the aforementioned mechanism of concentration, as they describe the benefits resulting from locating businesses and apartments next to each other, i.e. lower transport costs and, consequently, ease of exchange of goods, people and ideas (Glaeser, 2010). As a result of their occurrence, we now know the hierarchy of the settlement network.

The history of our civilisation indicates that every invention that reduces transportation costs contributes to the dispersion of the settlement, as it reduces the importance of the location (Lusht & Farber, 1996). This is also the case today with online services, although the enormous spontaneity of the ICT sector development makes it difficult to clearly assess its impact on the settlement space. On the one hand, it seems that lower transportation costs weaken concentration mechanisms and reduce the benefits of agglomeration. However, the paradox of our times is that urban areas remain vital despite an easier flow of goods and knowledge than ever before (Glaeser, 2010). The spatial proximity of companies, employees and customers in service centres facilitates daily functioning, exchange of knowledge and efficient provision of goods and services (McKillop et al., 2009). As already mentioned, ICT is not a substitute for direct contacts, but rather a complement to them. P. Sztompka writes (2016) that social relations may exist without the spatial co-presence of partners,

but “in all these cases of indirect relations, their content is poorer than in case of direct, face to face relations” (Sztompka, 2016, p. 91).

However, the existence of a general advantage of the agglomeration's benefits over costs does not exclude deglomeration processes (Harasimowicz, 2015), and the final outcome of the competition between the real and virtual means of service delivery is still difficult to predict. It is certain, however, that the dissemination of internet access has a significant impact on the service sector, both at the level of individual companies and the entire market.

Lusht and Faber (1996) have long predicted that new communication technologies will result in both centralisation and decentralisation of settlements. The reduced need for spatial accessibility of some functions (especially production, distribution, execution ones) will be accompanied by a growing need for spatial concentration of others (including decision-making, management and control), which require direct interaction and face-to-face contact. As a result, a mixed hierarchy-network structures will emerge in urban areas, offering high accessibility and penetrability of clearly distinguished urban entities, enabling both concentration and free location of particular activities and functions, linking territorial and non-territorial features of services system (Ossowicz, 2013).

2.3. Determinants of The Online Services Development

The emergence of services provided over the internet (e-services) has a fundamental impact both on the economic performance of individual companies and on the structure and functioning of the market. The potential for moving (all or part of) the activity to the internet depends primarily on various relations between offline and online channels (Lieber and Syverson, 2012). Let us try to look at these relations in order to be able to draw conclusions about the conditions of developing service centres in cities.

From the customer's point of view, the main factors influencing the use of electronic services are: time savings, cost savings and convenience, as well as flexible delivery time. The main barriers to the use of electronic services are: limited confidence in this form of service delivery, technical difficulties and preference for direct contact (Dominiak, 2016).

From the perspective of the service provider, the potential for conversion, i.e. the transfer of activities previously carried out in a material way to the internet, depends on various relationships between online and offline channels. Companies seeking to optimise their distribution channels must consider which of their products can be better delivered in direct contact with the customer and which can be sold remotely (Levin et al., 2005). A simple observation shows that the markets on which the online channel has become popular are developing faster than those based solely on material forms of service provision (Lieber and Syverson, 2012) and hence the clear trend of creating hybrid services, combining online sales with traditional offerings (Wang et al., 2016).

The results of research from 2003, i.e. at the beginning of the internet services era, suggested that when customer satisfaction with online and offline services is the same, loyalty to the service provider is higher in the case of services provided over the internet than in the case of those offered in a traditional manner (Shankar et. al., 2003). Today, there are many indications that the trend has been reversed. For example, in traditional trade, the lowest loyalty rates are observed in the “books, films and music” sector, which means that multimedia stores and bookshops do not meet consumers' expectations in this segment. At the same time, this industry has the highest loyalty rates and the highest customer service satisfaction in online trading. The NPS (Net Promoter Score), i.e. a measure of satisfaction and willingness to recommend shopping in a given store (traditional or online) to friends or family in other market segments, is on average 5 times higher for online than for offline shopping (Nowicki, Wojnarowicz, 2015).

As far as the relationship between quality of service and customer loyalty is concerned, it is very similar for services offered online and offline (Walsh et. al., 2010). In other words, the most important thing is satisfaction with the service, as it determines consumer loyalty, regardless of whether it is a

traditional or a remote service. Nevertheless, as has already been mentioned, service satisfaction is generally higher on the internet than in the traditional channel.

Services are not equally susceptible to innovation. The diffusion of technological progress is characterised by its uneven spread in different types of services. In order to enable a systematic description of service innovation, Dominiak (2018) proposes a division according to the degree of novelty into “radical” and “incremental” services. Radical ones concern new services, which have not been defined previously, and are most often created as a result of ICT development. The incremental ones concern the enrichment of the existing offer of services by adding new items (e.g. in menus, new routes, courses), changes in the characteristics of services already provided or minor changes that affect their reception by customers.

In turn, the classification by B. Eichengreen (2009 - after Dominiak, 2018) differentiates:

- Traditional services (trade, transport and storage, administration), with the decreasing contribution to the GDP,
- Services which are hybrids of knowledge-intensive and traditional services (education, health care, hotels and restaurants, utilities and personal services) - their share is slowly growing,
- Knowledge-intensive services (financial intermediation, IT, business services, communication), whose share is growing very dynamically.

2.4. Online and Offline Services - Similarities and Differences

What is actually the difference between traditional and remote services? There are three main levels of differentiation:

1. Space. Each of the services provided in a traditional way requires a specific place to contact the customer (e.g. office, studio, shop). Online services, on the other hand, reduce the role of the spatial location of the service facility - the product can be delivered almost anywhere, if only the customers have access to appropriate transmission networks (at home, at work, in public spaces, etc.). However, the spatial dimension of online services has certain social consequences: the lack of face-to-face contact with the customer brings with it a progressive anonymisation of relations in the service sector.
2. Time. Traditional services are usually open at certain hours of working days. This makes them difficult to be accessed by people who work or travel much. Therefore, an important advantage of online services is that, on the one hand, they can be ordered by customers at any time and, on the other hand, they can be performed by service providers at a convenient time (e.g. at weekends or at night). Moreover, some remote services can be performed immediately (automatically - e.g. buying tickets or computer files).
3. Accessibility. Originally, customers could only consider offers that were available closest to their location, which was one of the reasons why the concentration mechanism was established. Today, customers are more mobile and have access to up-to-date information on services around the world. They find an offer that meets their needs and expectations and are ready to travel relatively far to consume it.

Despite the differences described above, paradoxically the way of providing online services is not really different from the traditional one we have known for centuries. Above all, the remote provision of services is in line with the least effort principle (cf. Zipf, 1949): the internet significantly reduces the cost and time needed to use a service. In addition, as with offline services, the goal is the same: achieving an optimal price/quality ratio, customer satisfaction and loyalty to the service provider (Schmidt, 2015).

On the other hand, significant changes take place in the sphere of human territoriality, where the interpenetration of “real” and “virtual” reality leads to changes in social relations, which are necessary to create a local identity (cf. Smagacz-Poziemska, 2015). The territoriality of human behaviour is a natural strategy of individuals and communities to control the resources of a specific area. It is connected with the creation of borders and zones for modulating social relations. It also concerns giving meaning to specific spaces, with attachment and loyalty to one’s own place of residence (cf. Sack, 1986). However, as S. Skolik (2015) argues, certain aspects of territoriality can also be found in virtual space. Some websites and services are treated as their own by internet communities. What can be observed is behaviour typical for territoriality, such as appropriating certain “online places”, creating borders and defending them (Skolik, 2015).

Eventually, ICT technologies enable the development of personalised urban services dedicated to individual customers, according to their specific needs and preferences. In order to create a lasting competitive advantage, the city must refer to the individual needs and preferences of consumers. The development of modern technologies and the spread of the internet are conducive to the personalisation of services (cf. Plesko, Świdorski 2015).

Such an approach completely changes the image of the city and the way in which its basic functions are performed, and allows to move away from mass to individual treatment of residents. This obviously raises new challenges in terms of service design, coordination between different sectors of administration, budget, resource optimisation and personal data protection, but remains an extremely attractive element of the city’s vision for the future (cf. Liu et al., 2015).

2.5. Conversion, Hybridisation and Their Consequences

The processes described above can be simplified into two terms: conversion and hybridisation of services. We talk about conversion when the whole service is transferred to the internet. When part of the service process is carried out online and another part remains offline, we can talk about hybridisation. In the first case, the service loses all its spatial references and can be performed entirely from anywhere. Hybridisation, on the other hand, allows the service to maintain certain territorial characteristics, which is an important anchorage point for the concept of local (neighborhood) services. Let us therefore take a closer look at this phenomenon.

The potential of a particular supplier to become a multi-channel or omnichannel services provider (an enterprise that uses more than one retail channel for communication and distribution of its services and products, including online and offline instruments) strongly depends on the advantages and disadvantages perceived by the consumers (Levin et. al. 2003). Clients’ preferences differ for different products. ‘High-touch’ products are those that the consumer requires the ability to inspect at each stage of the shopping experience (e.g. clothing). In contrast, ‘low-touch’ products are those that are standardized and do not require inspection to evaluate quality before buying (e.g. airline tickets) (Lynch et al. 2001). Other products fall at various points on the continuum.

As new devices and channels, including mobile phones, tablets and social media invade both the traditional (physical) and online (virtual) shopping environments, omnichannel marketing becomes a worldwide standard in services sector. A multi-channel consumer behaviour follows a seamless shopping experience by using the distribution services of both online and offline channels in varying degrees. It includes also showrooming (when customers’ experience products in the physical store, then buy them online) and webrooming (when they research products online but purchase them in a physical store) (Kumar et al., 2017). Research has shown that webrooming has a positive impact on customer satisfaction and that showrooming is related not only to price savings but also to other factors such as perceived quality gains (Gensler et al., 2017). As a result, greater accessibility to both distribution channels contributes to assuring the customer’s maximum satisfaction with their purchase (Cortiñas et al. 2019).

The quality of omnichannel services is rated higher than that of traditional services (cf. Wang et al., 2016). According to R. Barrera Barrera and G. Cepeda Carrión (2014), this quality can be

described using various criteria: functionality, privacy, reliability, accessibility or contact-making ability of service providers. Poor internet service negatively affects the performance of traditional sales channels (Piercy & Archer-Brown, 2014).

It should also be noted that customer preferences for the relationship between online and offline channels vary depending on the type of service. So-called “high-touch products” are characterised by a greater need to touch or to personally examine the product before purchase (e.g. clothes belong to this category), while “low-touch products” are so standardised that they do not require quality assessment before purchase (e.g. airline tickets) (Lynch et al. 2001). These two categories describe the extreme situations between which all hybrid products and services can be placed.

Of course, the type of item purchased is only one of several determinants of the process of providing online services. What seems equally important are: reliability and security (greater in the case of hybrid services than in the case of services provided solely online) or personal contact between the service provider and the recipient (hybrid services contribute to reducing anonymity). All this speaks in favour of omnichannel services.

2.6. The Potential of Conversion (Sample Empirical Evidence)

As shown in the theoretical considerations above, modern users of services are increasingly benefitting from the possibility of doing their shopping and services remotely. This phenomenon applies to all urban systems, including neighbourhood scale. A series of case studies conducted in neighbourhoods representing various types of urban settlement in Poland in the years 2017-2018 (see Damurski 2020 for methodological details) showed that some service providers start to move their activities to the internet, where they find a wider range of customers and new development opportunities. Also, customers are keen to opt for new technological solutions to facilitate their daily operations.

The surveys conducted among customers (607 respondents) and services providers (170 respondents) contained a simple question related to the use and offering of services, respectively: “Do you ever shop over the internet?” and “Do you offer sale of goods and services over the internet?”. The answers became the basis for developing an index of the so-called ‘conversion potential’ illustrating the scale of possible transferring the shopping and servicing activities to the internet.

Calculation of the conversion potential index was based on several assumptions (see Damurski et al. 2018), but yet gave measurable results. The ‘conversion potential’ (CP) can be described as the ratio of the number of respondents who do not use online services ($N_{\text{non-users}}$) and those who do use them (N_{users}), expressed with a formula:

$$CP = N_{\text{non-users}} / N_{\text{users}}$$

Thus the conversion potential is inversely proportional to the percentage of respondents who are active on the internet. In other words, when 100% of the respondents in a given area use online services, the potential is 0 (Table 1).

As the table 1 shows, the conversion potential among service recipients is relatively small in comparison with the potential among service providers. This means that a significant part of the surveyed customers have an experience of using online services, while the local entrepreneurs do not respond to this experience: most of them do not offer their services via the internet. In this respect, the demand-supply relationship indicates a shortage of supply.

The survey does not prove that customers are forced to use an online offer from outside their home since their local service providers cannot meet their expectations. However, the results indicate a clear shortage in services provided remotely in relation to the capacity of the local market.

The distribution of CP index by settlement type is interesting. It turns out that suburban users shop online much more often than users in large cities (the average index for Siechnice and Zabierzów is 0.46, while for Wrocław and Warsaw it is 0.76). Statistically, this is followed by the services offer: the conversion potential among service providers in the suburbs is lower (3.07) than in large cities

Table 1. Online conversion potential for customers and service providers in selected neighbourhoods in Poland. Source: Author's own research

Area	Customers			Service providers		
	Using online services	Not using online services	Conversion potential	Offering online services	Not offering online services	Conversion potential
Large city: Warsaw (neighbourhood Moldawska Street)	86	72	0.84	5	35	7.00
Large city: Wrocław (neighbourhood Pereca Square)	94	64	0.68	15	43	2.87
	59.5%	40.5%		25.9%	74.1%	
Medium-sized town: Ostrów Wielkopolski (neighbourhood Waryńskiego street)	79	54	0.68	11	17	1.55
Suburban settlement: Siechnice (neighbourhood around market square)	53	18	0.34	3	13	4.33
	74.6%	25.4%		18.8%	81.3%	
	59.4%	40.6%		39.3%	60.7%	
	54.4%	45.6%		12.5%	87.5%	
Suburban settlement: Zabierzów (neighbourhood Kolejowa street)	55	32	0.58	10	18	1.80
	62.5%	36.4%		35.7%	64.3%	
Total / Average	367	240	0.65	44	126	2.86
	60.4%	39.5%		25.9%	74.1%	

(4.94). In fact, the high range of figures for Zabierzów and Siechnice makes it difficult to draw clear conclusions.

How does all this relate to space? The small, and probably still decreasing, conversion potential in the following years may mean that more and more people are using a greater number of services offered by the internet. They do not need to leave their homes and, as a consequence, they use public spaces to a smaller extent. Obviously, there are much more factors influencing people in public spaces than just shopping, but the trend seems to be unfavourable. Thus, when organising public spaces in neighbourhoods, public authorities must ensure that, on the one hand, these spaces are attractive enough to invite users to go there despite the lack of need to use physical service points, and, on the other hand, that neighbourhoods provide a synergy of online and offline services.

3. THE CALL FOR A MULTI-CHANNEL APPROACH IN URBAN PLANNING

Several planning approaches seem to be noteworthy in the context of conversion and hybridization of services. The first is integrated planning which aims at coordination and integration of various policies in order to produce comprehensive strategies. Such integration may take various forms: it may be more or less institutionalized, may be based on standards and procedures or simply on good administrative practices. The concept of integrated planning implies cooperation between various disciplines and policies, and offers a holistic decision-making process addressing all the major challenges of urban areas (Markowski 2011, Gzell 2013). Integrated planning aims at building comprehensive strategies and takes into account both local and regional development objectives. It is also expected to be responsive, which means adjusting long-term and short-term plans to particular territorial contexts and to ever-changing urban environment (Agenda... 2011, European Innovation... 2013).

The great popularity of the concept of integrated planning stems from its comprehensive and holistic approach to urban and regional policy. However, due to this far-reaching vision it becomes vague and hard to grasp. Actually any collaborative or interdisciplinary activity taken by public

institutions on the municipal or regional level may be called ‘integrated planning’. As a result, it seems to be just a new label for the processes that would have been happening anyway and does not provide appropriate answers to specific shortfalls of traditional urban planning.

Indeed, some phenomena elude integrated planning framework. For example online conversion of services sector is missing adequate policies. Services, being for ages one of the core stimulants of urban and regional development, disappear from geographical space (at least some of them do) and thus threaten the functional structures of contemporary cities. This process urgently calls for an appropriate answer from urban planning.

The second concept – smart governance or smart growth – seems to be more relevant to deal with the issues of conversion of services. It is characterized by information-rich and highly communicative qualities, networks of innovation and creative partnerships (Deakin & Waer, 2012). The performance of a smart city involves the coordination of transport, environmental issues and economic development. Planning of this kind synthesizes “hard infrastructure” (urban networks and facilities) and “soft infrastructure” (knowledge, communication and social capital), the latter being critical for a city’s competitiveness (Leboreiro Amaro, 2014).

According to the European Innovation Partnership (2013) smart cities should be regarded as systems of people interacting with and using flows of energy, materials, services and financing to catalyze sustainable economic development, resilience, and high quality of life; these flows and interactions become smart through making strategic use of information and communication infrastructure and services in a process of transparent urban planning and management that is responsive to the social and economic needs of society. The SC label is applied to cities in which ICT is increasingly pervasive and ubiquitous, whose knowledge economy and governance is being progressively driven by innovation, creativity and entrepreneurship; and in which digital technologies can be used to efficiently and effectively run cities and the services provided by them (JPI Urban Europe, 2015).

Paradoxically, smart governance provides only partial answer to the issue of online conversion of services. On one hand it promotes the development of e-services in the public sector (i.e. services of general interest, like administration, education, healthcare etc.) and “smartness” of market services, but on the other hand it neglects the negative consequences of those processes in urban space. Contemporary urban governance should take into account the aspatiality of online services but smart city concept seems to miss this is problem.

Aspatiality of online services means their detachment from the localisation factors. A service provider may be located anywhere, but still it may successfully perform its tasks using the ICT networks. This feature is an antonym of spatiality where geographical location is a binding factor for traditional services, determining their effectiveness and potential for development. Traditionally, spatial availability of services was perceived as a crucial factor of quality of life in local communities – neighbourhood liveability (equitable distribution of housing, jobs, health care, education and respect that ensures satisfactory life for neighbourhood inhabitants) strongly relies on accessibility to facilities and on attractiveness of local services market (Lovejoy et al. 2010, Arundel and Ronald 2017 – after Mouratidis 2018). Hence the growing share of aspatial services may change human territorial behaviours and thus diminish the liveability of urban areas (see Southworth 2016).

Another goal of modern planning is to develop resilient urban areas. Resilience means some kind of stability in a continuous process of transformation, adaptation to the endless cycles of growth, accumulation, restructuring and renewal (Lang 2010). A resilient urban system is one that can withstand external shocks, absorb extreme stress and at the same time keep its basic functions, although probably in a changed form (Innes and Booher 2010).

Such adaptive capacity requires new approach to management, including revision of paradigms of public decision-making. It is necessary to work out practices that will allow to react quickly to different situations. It also involves better understanding of changes occurring in complex, interdependent social and spatial systems (Innes and Booher 2010; Lang 2012).

The recent Covid-19 pandemic has put the issues of urban resilience high in the agenda of public policy. The global lockdown heavily impacted food, accommodation, livelihoods, public transport, economy, and other public amenities in cities (Chepelianskaia 2020). Many supply chains have been broken and many traditional services providers in urban areas faced severe financial challenges. Simultaneously the pandemic has shown the great potential of the Internet in building resilience of urban areas. Online services compensated the shortages of physical facilities and enabled retaining the supply of basic products for individual residents and for the whole communities. The unprecedented global health crisis provided another argument for developing a multi-channel approach in urban planning that would be able to deal with complex online+offline phenomena and thus would contribute to the overall resilience of urban areas.

The brief overview of the current knowledge on urban services presented above reveals a significant gap in public policy theory. In particular, urban planning is missing satisfactory solutions on shaping an optimal balance between online and offline services. On one hand the concept of liveability seems to promote on-site facilities as a crucial condition for retaining quality of life and supporting local economy, but on the other hand the search for urban resilience redirects policy efforts towards ICT and virtual world as a good solution to unexpected shocks. As a result, there emerges a discrepancy in political discourse that requires a prompt answer.

The demand for a combined, multi-channel research model for urban services has been already discussed in the literature (Damurski et al. 2019). It should include several issues:

1. Limited effects of the natural mechanisms of spatial concentration, which are being replaced by dispersion of human activity in the 'virtual reality' and nonlinearities of agglomeration economies;
2. Conversion of traditionally offline services into online ones and the growing role of multi-channel (hybrid) suppliers;
3. Redefining the concepts of availability, accessibility and affordability which now will have to include not only physical (spatial) distribution of services but also their online counterparts;
4. Relational approach to 'space' which presents territory as a fluid concept, based on functional relations rather than its geographical features;
5. Apparent contradiction of the anonymous contact between the customer and the service provider *versus* personalisation of online services.

In line with this multi-channel approach, a theoretical discussion on e-planning features will be presented, trying to match its features with omnichannel services characteristics.

4. E-PLANNING AND ITS CHARACTERISTICS

Definitions of e-planning range from very broad to very narrow ones. In the broader sense e-planning is a socio-cultural, ethical and political practice, in which people take part in the subsequent phases of the planning process, both directly (offline) and remotely (online) (Horelli & Wallin, 2010). Since it is obvious that planners' are supportive of using ICT in their workplace and that they recognise the benefits of electronic communications, simultaneously they prefer the face-to-face contact to communicate complex issues (Williamson & McFarland, 2012). This broad view captures all the contemporary forms of decision-making processes, however it does not explain in what sense e-planning is different from traditional planning.

A narrower understanding of EP focuses on selected aspects of the urban planning processes such as citizen participation (Andrzejewska et al., 2009), online interfaces (Antunes et al., 2010) or sectoral models for spatial decision-making. This approach, despite its limitations, gives a good insight into how e-planning takes advantage of various technologies to perform its tasks. It builds powerful web-based services such as interactive spatial information systems, it uses online forms and surveys,

it incorporates Web 2.0 tools and social media etc. All of them, systematised and integrated may take a form of complex planning support systems (PSS) which combine the powerful spatial analysis and display capabilities of GIS with customized computer models and sophisticated visualization tools.

Following the theoretical debate of the recent years (Budthimedhee et al., 2002; Szuba, 2006, Klosterman 2012) we may generally define e-planning as a decision-making process supported by the information technologies enabling the communication between the users of space and the spatial planning institutions, with respect to the principle of equal rights of all the stakeholders. E-planning describes the vital interdependence between the ICT and territorial planning. It is a label adopted by a broad research agenda, including key concerns of contemporary planning such as territorial management, policy making, governance, citizenship and participation (Curwell et al., 2005). Its advantages over the traditional urban planning may be listed as follows: 1) it is more open, communicative and participatory due to its capacity to involve high numbers of stakeholders, 2) it is more transparent as it offers a clear and reliable decision-making process; 3) it is more responsive because it may instantly react to emerging challenges; 4) it is more comprehensive due to involving more data of various origins. As a consequence, the concept of e-planning is being developed and applied by academic institutions, innovative government agencies, and entrepreneurial organizations around the world (Klosterman, 2012). It embraces all the online and offline processes related to contemporary planning and describes the vital connections between the ICT and spatial decision-making procedures. It becomes one of the keystones of the current planning practices (Damurski, 2016).

5. CONCLUSION

Traditional urban planning was focused on building optimal spatial relationships between particular urban functions located firmly in urban environment. In order to rise the quality of life it tried to meet the preferences of average users of space in a sustainable way, taking into account also the anticipated needs of future generations of citizens. It has produced particular decision-making rules and practices derived from past trends in urban development (Table 2) and consequently implemented fixed, hierarchical land-use structures observable all over the world.

However, this traditional approach has been challenged by the recent ICT development which added a lively, virtual and non-spatial dimension of urban economy. The well-established patterns and foundations of urban planning started to shake, calling for new approach, for new paradigm.

In this article I tried to look for an alternative to conventional planning which would be able to address online conversion of services. A critical review of the concepts of integrated planning,

Table 2. Single channel approach in planning: matching the features of traditional services and of conventional urban planning. Source: Author's own research

Feature of traditional services	Respective feature of urban planning
Predictable location preferences, strongly dependent on the attributes of physical space	Formulating land-use policy that offers attractive places for locating businesses
Benefitting from spatial concentration and proximity to customers	Fixed rules and practices aiming at creating distinct hierarchy of services centres
High accessibility requirements	Simplified thinking about the links between services location and transportation system (pedestrian routes, public transport, streets)
Specific network of customers related to particular type of service who usually have limited influence on the range of the services offered	No support for building supply-demand relationships

Table 3. Multi-channel approach in planning: matching the features of omnichannel services and of e-planning. Source: Author's own research

Feature of omnichannel services	Respective feature of e-planning
Relatively low attachment to physical space resulting in high movability	Ability to map and manage highly dynamic spatial processes
Uneven location patterns, incl. relatively low concentration preferences	Flexible location criteria and algorithms for services
High accessibility requirements for showrooms and collection points	Various visualization tools based on parametric modeling and spatial relationships analysis, including multimodal mobility patterns
Different levels of economic activity in online and offline environments	Ability to merge various spatial and non-spatial data
Wide network of customers who come from different locations, who expect current information on products and services, and who want to co-create the services offered by the provider	Participatory approach using highly effective online communication tools, supporting optimal supply-demand relations

smart governance and others brought me to a conclusion that none of them was able to respond to this challenge so far and that some other solutions should be searched for.

But are omnichannel services plannable at all? A simple juxtaposition of the features of single-channel services and multi-channel facilities suggests that they are not territorially-bound and thus exceed the capacity of conventional spatial policy. Indeed, it would be hard to draw a land-use plan for the virtual world where there are no coordinates nor fixed locations. However, contemporary economy and society enter the online channels and urban planning cannot stay behind. It should follow them by changing its paradigms and methods.

Thus omnichannel services are plannable if we consider urban planning wider than its traditional meaning, if we define it as a philosophy of managing both spatial and non-spatial phenomena, aiming at raising the quality of life of a particular community. The emerging multi-channel approach promoted under the label of ‘e-planning’ seems to bring appropriate answers to the current developments in services sector. Its features clearly respond to the characteristics of omnichannel services (Table 3). E-planning offers current mapping of highly dynamic spatial processes, implementing flexible location criteria, advanced modelling and visualizing, linking various spatial and non-spatial data as well as supporting optimal supply-demand relations. As a result e-planning is a promising policy concept for managing the processes of conversion and hybridization of services – issues that are hard to grasp but affect everyday life or urban communities.

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