CHAPTER 5

Different Types of Questionnaires as a Tool in Placemaking Research

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Abstract

Urban spaces require increasing their attractiveness by exploring the social and spatial implications of new lifestyles. Broad civic knowledge is the basis for placemaking to shape user-centred and inclusive spaces of everyday life. Gathering information on the sense of the place is crucial to finding out and understanding the place-related identity of its users to make the place more appealing and usable. The most popular survey tool is a questionnaire constructed as a series of questions and used for collecting information about a population's attributes, attitudes or actions. Administered in person or online, questionnaire surveys may provide broad coverage of urban communities – however, they require significantly large human resources to carry out. The survey based on personal contact with the respondent may limit time allocated to its implementation, thus affecting the sample selection. Also, the researcher's involvement in the questionnaire-filling process can be problematic if he or she reveals the

topic of interest and if the sequencing of questionnaire themes influences responses. Similarly, an online questionnaire may not reach some potential respondents due to their reduced access to the internet etc. These limitations may affect the results' reliability. Taking into account the above-mentioned aspects, the idea of this chapter is to present selected types of questionnaires (textual, visual, in-VR and survey gamification). The main aim is to discuss these questionnaires in the context of their main advantages and disadvantages resulting from the specifics of a type and a form of survey (in-depth and online) to facilitate their use in the process of data collection in placemaking research. The results show that the variety of types of questionnaires, as well as the form of the conducted survey, allow their better selection to the specificity of the community, increasing the place-related identity, thus may provide a more reliable and complete set of information possible to be used in placemaking.

Keywords

collection of information – research tools – quality of research – limitations – urban studies

1 Introduction

No matter where the place under this process is situated, placemaking is based on broad civic knowledge. Urban spaces require increasing their value and attractiveness by exploring new lifestyles' social and spatial implications (Elhoufy et al., 2022). Shaping, experiencing and contributing to "place" is a continuous and multidimensional process. "Place" itself occurs within the locality, but also in relationships within the locality created by the users of the place. Placemaking places people at the centre of attention, which is done by applying a participatory process to public spaces design, understanding the perceptions and aspirations of their users, or responding through projects and programmes that generate positive relationships "in", "to" and "with" the place. At the same time, this process creates the capacity for people to invest space with meaning (Mateo-Babiano & Lee, 2020).

In placemaking, it is crucial to find out and understand the place-related identity of its users to make the place more appealing and usable for them. It is important to avoid creating places that suit their designers and founders, but serve their present or future occupants, solve their problems and support their everyday lives (Foth, 2017). There are many methods and tools to engage the local communities to express their views on the place they use and collect

information about their sense of place. At the same time, they improve the decision-making process related to the creation of user-friendly and sociable places which work well, are comfortable, have a good image and serve as a stage for the lives of local communities. The survey, apart from observations and site studies, is one of the commonly used methods of data collection from a group of respondents, usually representative of the population, well suited for community engagement. Administered by mail, in person, online and over the telephone, it may provide broad coverage of communities (Gao et al., 2019). This method is appropriate for different purposes, such as to know a population's conditions, ways of life, behaviours, values or opinions. It allows us to analyse a social phenomenon that is believed to be better understood based on information received from individuals in the general population. It also allows asking them about their social and professional situation, their level of knowledge or awareness of a problem and is useful in getting their opinions and attitudes towards selected issues, as well as in recognising their needs and expectations, or on any other relevant points (Check & Schutt, 2012). Surveys are therefore frequently used in social and psychological research (Singleton & Straits, 2009) and thus useful in placemaking. Surveys may be used in large-scale projects, but they are also very useful in communicating with small local communities. Moreover, they can be implemented at different stages of placemaking activities: planning, implementation and reflection. Another important role of this method is to help local governments understand where local communities stand on important issues and what their priorities are.

The main tool of the survey is a questionnaire usually constructed as a series of questions and/or other types of items. This is useful for finding out more details about people's main characteristics (e.g. age, sex, place of residence etc.), behaviours (e.g. usage of place) and attitudes (e.g. positive or negative as reflected in beliefs and emotions). A good questionnaire can be considered a real conversation between stakeholders that encourages them to share their insights and exchange ideas. Questionnaires are recommended for cost-effective data collection due to their ability to reach a large number of respondents, especially by using social media platforms. In many cases, they offer reduction of distribution, data entry and participant recruitment costs, while still allowing for a comprehensive and reliable analysis of data. Therefore, this tool of gathering and documenting community input is used very often by non-profit organisations.

Taking into account the above-mentioned aspects, the idea of this chapter is to present the specifics of selected types of questionnaires (textual, visual, in-VR and survey gamification) (Soliva & Hunziker, 2009; Gyllin & Grahn, 2015; Gao et al., 2019; Andrade, 2020; Azali, 2021). The aim is to compare

these questionnaires in the context of their main advantages and disadvantages resulting from the specifics of a type and/or a form of survey (in-depth, online and others) to facilitate their use in the process of data collection in placemaking.

2 Cases

Four types of questionnaires were selected for the overview: textual, visual, in-VR and survey gamification. The specificity of each of them was taken into account in assessing their advantages and disadvantages in the context of usefulness as tools for collecting information about the community and its relationship with the place in the placemaking process.

2.1 *Case 1 – Textual Questionnaire*

2.1.1 Presentation

A textual questionnaire is the oldest and the most popular form of questionnaire used as a research tool to obtain information suitable for statistical analysis. As such, is often regarded as the easiest type of questionnaire to use (Preston, 2020). However, in the visual-digital era, it is more and more difficult to pose the questions which would gain respondents' comprehension. When the text is not supported by the photo or the multimedia, the key point is to be precise and unequivocal. Results of a multi-level analysis confirm the importance of being understood properly by the respondents as a crucial point on the way to gather data for further analysis (Lietz, 2010). That's why, to avoid negative impact on sample quality (De Leeuw & De Heer, 2002) or on data accuracy, textual questionnaires should be constructed following rules (mostly connected with question length, question wording and question order), such as: (1) keeping questions or statements as short as possible (Holbrook et al., 2006; Foddy, 1993; Dillman, 2000; Fink, 2003; Brislin, 1986) and preceded with an introduction (Andrews, 1984); (2) minimising grammatical complexities (Dornyei, 2003); (3) reducing the cognitive load on respondents (White et al., 2005) by breaking down more complex questions into simpler ones and avoiding words that indicate vagueness, such as "probably", "maybe" or "perhaps" (Brislin, 1986); (4) avoiding the off-putting effects of poorly worded questions on respondents by eliminating the use of difficult vocabulary either in questions or instructions (Brace, 2004), negatively worded questions and adverbs of frequency (Lietz, 2010); and (5) placing questions in proper order (Baker, 2003). Correctly constructed textual questionnaires are extremely important in placemaking research, when respondents refer either to places they have

already known, but couldn't see at the moment or to future places, not seen previously, which must be imagined.

2.1.2 Implementation in Placemaking: Advantages and Disadvantages

Textual questionnaires are widely used in placemaking studies, mostly to conduct research on: (1) understanding respondents' needs in public spaces; (2) evaluation of the quality of public spaces and their possible improvements; and (3) recognition of perception of public spaces in such aspects, like security or inclusiveness. They allow researchers to collect information and opinion about the public spaces and their transformation, but, according to some studies (Lietz, 2010), should be regarded as a supplementary tool due to the difficulties generated by their textual nature.

The flexibility of textual questionnaires allows the customisation of the questionnaire design – types and variety of questions (i.e. open-ended, closed-ended, dichotomous, multiple-choice or scaling) and their content – to gather specific information, accommodate diverse respondent needs and ensure the relevance and accuracy of data collected (Holbrook et al., 2006). By using computer techniques, textual questionnaires enable the collection of data from a large number of respondents at the same time, which provides a representative sample and obtains more reliable results. Questionnaires can also be carried out both in a traditional form (e.g. paper, face-to-face, research administered) and online (mostly self-administered), which gives researchers a large degree of freedom in planning and conducting their research with various methods and tools.

However, it is important to remember that textual questionnaires are inappropriate for collecting information about sensitive topics such as sexual orientation and illicit activities (Preston, 2020). They also won't work in a situation where questions refer to people's abilities to convey information from the far past or when respondents haven't knowledge of the topic and they are incompetent to answer the questions. The key role is also played by the way the questionnaires are administered. Remarkably inexpensive, self-administered internet surveys allow for access to small and dispersed populations and let respondents answer the questions at the most convenient time and place. But at the same time researchers or interviewers have a very limited impact on the will of the respondent, their attitude to the survey or the completeness of the responses. In case of any incomprehension of the question by the respondent, there is no possibility to ask for explanation. Paper forms, still completed in face-to-face interviews with an interviewer asking each question and recording each answer, eliminate these limitations, but are very expensive and time-consuming and require numerous people to be involved in the process.

Mixed forms such as telephone questionnaires, where the respondent and the interviewees have a distant, but direct contact seem to be the most reasonable in terms of balance between the time and cost of the conducted research and its quality.

2.2 *Case 2 – Visual Questionnaire*

2.2.1 Presentation

Various visual methods are gaining more and more widespread currency in the design of places. They allow space assessment because perception is dominated by people's visual sense. Besides on-site studies through the real experience of the landscape, they include also off-site studies using representative scenes through photographs (real representation of space) or visualisations (photomontages, virtual reality), giving the possibility of modification of the space (Anjum et al., 1998; Bishop & Rohrmann, 2003; Xiang et al., 2021; Naghibi et al., 2022).

The visual questionnaire was created at the stage of searching for an effective and useful research tool in the field of landscape. It consists in using the method of image projection where direct methods of evaluating places are not possible or are ineffective (Naghibi et al., 2022). This type of questionnaire has been acknowledged as a valid and reliable tool which may represent the real and actual landscape (Hami & Emami, 2015). It is usually used in perception studies related to aesthetic quality assessments in which photographic representations are used as an implication with direct observations of landscapes (Daniel, 2001; Cheng, 2007; Liu & Schroth, 2019). This is why this tool might be regarded as effective for the perception of place. Besides the photos of real landscapes, visualisations and photomontages – created by adding, removing, or combining the features of an original photograph to produce various images (Waldheim et al., 2014) – are more and more popularly used in visual questionnaires. Those types of graphic presentations are an easy way to illustrate a number of design alternatives (Boyd & Chan, 2022) as well as a variety of elements introduced to them, all of which contribute to the look of the place and at the same time create its special atmosphere. This type of questionnaire is mainly conducted in online surveys, but also includes an in-depth form to support the textual questionnaire.

2.2.2 Implementation in Placemaking: Advantages and Disadvantages

Considering the use of the visual questionnaire as a survey tool in community involvement in placemaking, both its advantages and disadvantages should be taken into account. On the one hand, this type of questionnaire supports the perception of place and allows participants to be able to see introduced changes, including elements and their arrangement which may impact the

final result of its development. The experience of the image may be inspiring and have an educational and awareness-raising value by showing possible variants of the place rearrangement. It thus has a certain advantage over the bodily experience. This tool can offer a more understandable form of communication about a place through visual elements because of their more realistic nature than description. At the same time, it may be used to support the written text (Anjum et al., 1998). The visual questionnaire may also enable participants of the survey to evaluate implemented elements to analysed or designed places. This helps them to accept the most desirable and to reject the unnecessary ones. Using graphic images participants usually express their preferences more easily. Another important role of this tool, although rarely taken into account, is the possibility of collecting opinions from people whose verbal communication may be difficult, e.g. young people, people at risk of exclusion etc. Collecting opinions from these communities is extremely valuable for more integral local policymaking, and thus more inclusive deciding on the places they belong to. Moreover, this tool is considered relevant in gathering knowledge important for adaptive management (Da Silva Vieira & Antunes, 2014) as well as better local awareness and engagement (Petheram et al., 2012). Thus, visual questionnaires may offer deeper insights into the community's perceptions and needs. On the other hand, passive appreciation of visual images without physical experience of a site may be insufficient to fully understand it and resulted in limitation of its perception as a multisensory experience of the place in time (Pallasmaa, 1996; Crisman, 2006) and, therefore, reduce social involvement in the evaluation of the place and decision-making process.

2.3 *Case 3 – In-VR Questionnaire*

2.3.1 Presentation

In general, questionnaires that specifically are connected to virtual environments and virtual spaces can be divided into two areas: In-VR questionnaires and out-VR questionnaires. Traditional questionnaire formats, such as the immersive experience questionnaire (IEQ) that measures the subjective experience of being immersed (Jennett et al., 2008) and the environmental affordance questionnaire (EAQ) that uses 25 items in 5 factors (identification of affordances and constraints, task performance, acceptance of virtual environment, kinaesthetic and tactile feedback from actual environment, and use of specific affordances and constraints in the scene), present the questions to the user through web-based survey tools either pre- or post-VR experience (out-VR). However, there are some attempts to develop and integrate questionnaires directly into the virtual environment (immersed in VR), so-called in-VR (Schwind et al., 2019; Putze et al., 2020; Alexandrovsky et al., 2020). One

such in-VR questionnaire that has recently been developed is the Immersive Questionnaire Toolkit (Safikhani et al., 2021). In-VR questionnaires are implemented as a user-interface object which provides interaction with the questionnaire inside VR. This toolkit uses three different factors: usability, task load and presence. There are already some well-known questionnaires covering these aspects out-VR conditions, such as the Igroup Presence Questionnaire (IPQ) measuring presence, the System Usability Scale (SUS) that assesses the usability of three factors and the NASA Task Load Index (NASA TLX), which measures the demand for the tasks. All three were integrated in the Immersive Questionnaire Toolkit (Safikhani et al., 2021). Altogether, the Immersive Questionnaire Toolkit is using a rather complex set of measures. For example, the IPQ consists of four main components: general presence (GP), spatial presence (SP), involvement (INV), and experienced realism (Real).

User interaction includes two ways to answer a questionnaire in an in-VR environment: using 2D layout or 3D layout. The 2D layout is similar to the web-based questionnaire UI, but as an object in a virtual environment. The 3D layout is an interactive object in a virtual environment that works by grab-and-release interactions. The VR setup for performing the in-VR experiment includes a head-mounted display, goggles, two controllers and two tracking sensors. For the software, Unity is used. When using this questionnaire toolkit, the user is invited to enter a "Questionnaire Room". The Questionnaire Room consists of three main stages: user ID stage, game stage and questionnaire stage. At the questionnaire stage, the 3D layout questionnaire is an object placed in the scene and consists of three interactive parts: (1) the question text and questionnaire progress monitor; (2) the handle of answer selection and range indicator; and (3) the accept and return handle (Safikhani et al., 2021). The questions are presented in a 2D format while answering the question is done in a 3D format by interacting with the questionnaire object.

2.3.2 Implementation in Placemaking: Advantages and Disadvantages

Using the in-VR questionnaire as a data collection tool in exploring community building and engagement in placemaking scenarios has advantages and disadvantages. Moving to virtual reality or augmented reality (AR) techniques for collecting data may initially require an openness to experiment, but also a level of technical understanding that urban planners may find challenging. Using in-VR questionnaires (Schwind et al., 2019) can play an interesting role in placemaking, community engagement and urban planning. In-VR questionnaires can be used in VR environments that create an immersive experience through a digital twin (a digital representation or model of a physical object, process or system). This can help to bridge the gap between testing the raw

data of a proposed placemaking design and understanding the actual impact before implementing the actual design in the physical environment. In-VR questionnaires could therefore test different placemaking scenarios with raw user data and actual end-users of a specific intended place/space. This way it may allow for more efficient scenario selection, as well as may be increased with the development of AI in the future.

One area that would benefit from the use of in-VR questionnaires is study on the impacts on user engagement and task performance in VR through visuo-haptic alignment and representation. In everyday non-VR environments, different objects such as chairs and walls have both visual and physical properties and conditions. If we see a chair, this chair will signal (afford) sitting and when approaching it we can actually sit on it. Either it is to our satisfaction or not, but it fulfils its function and what it affords (Schleußinger et al., 2023). However, in VR, visual properties are mediated in digital form and thus provide the user with a virtual environment. The difference is that this environment does not have any physical properties (in general). This "gap" can result in nonalignment between visible and physical properties represented in VR and thus create some dissonance. On the other hand, this nonalignment may also be considered from a positive side, in which the virtual environment, compared to the physical, can be altered, changed and adapted to different scenarios depending on the context.

The diversity of design approaches in the literature for the design of in-VR questionnaires indicates the lack of a validated guideline for this purpose. Some research confirms that the majority of participants would prefer in-VR questionnaires over out-VR questionnaires due to the fact that leaving a virtual environment for answering questionnaires related to the presence in that environment can lead to a break in the presence (BIP) and less accurate results. The results show that users prefer pointing and anchoring in the world over other positioning options. However, using in-VR questionnaires can increase physical and mental demands.

2.4 *Case 4 – Gamification Surveys and Questionnaires*

2.4.1 Presentation

Gamification, a strategy involving the application of game elements in non-gaming contexts, has garnered increasing attention and utilisation across many domains (Deterding et al., 2011). Notably, it's been employed within the educational sector to foster engagement and enhance learning outcomes (Mehan, 2023c; Dichev & Dicheva, 2017) and in the healthcare sphere to promote healthy behaviour change (Johnson et al., 2016). Similarly, marketers have employed gamification tactics to create engaging customer

experiences and encourage brand loyalty (Mostafavi & Mehan, 2023; Huotari & Hamari, 2017).

Within the realm of research, gamification has been extended to the design and implementation of surveys and questionnaires. This innovative approach enhances traditional data collection techniques by integrating game design elements to increase participant engagement and improve the overall quality of responses. By introducing features such as points, leader boards, badges and other rewards, gamified questionnaires encourage participation and stimulate a sense of competition (Zichermann & Cunningham, 2011). More complex game narratives and avatars can also heighten the sense of immersion and personal relevance, increasing participant motivation and improving data quality (Novak et al., 2023; Mehan, 2023a; Mehan, 2023b; Hamari et al., 2014).

2.4.2 Implementation in Placemaking: Advantages and Disadvantages

Implementing gamified surveys in placemaking presents unique opportunities. Research has shown that gamified interfaces can lead to more thoughtful responses, higher completion rates and positive user experiences. This approach can make the data collection enjoyable, easing survey fatigue, a common issue with traditional survey methods (Mekler et al., 2013).

In terms of methodology, gamified surveys, by leveraging the inherent appeal and engagement of gaming, can significantly increase response rates and data quality, offering richer insights into the community's perceptions, aspirations and needs. Consequently, this tool can enable more nuanced, comprehensive and participatory placemaking processes, fostering community buy-in and creating spaces that truly resonate with the community. Nonetheless, designing and implementing gamified surveys presents unique challenges. Balancing game elements with survey content is critical to ensuring that the gaming aspects do not overshadow or distort the research goals. Designing a gamified survey is a complex task that requires a deep understanding of game mechanics and user experience design, potentially necessitating significant time and resources (Deterding et al., 2011).

Moreover, the digital nature of gamified surveys may exclude certain community groups with limited internet access or lower digital literacy skills (Hargittai, 2002). Also, while the competitive elements inherent in many game designs may motivate some respondents, they may inadvertently discourage others from participating, thus potentially affecting the representativeness of the data collected (Thom et al., 2012). Ultimately, while gamified surveys present numerous opportunities for enhancing engagement in placemaking, they also come with distinct challenges. It is vital to carefully consider the community's characteristics and the placemaking project's objectives to effectively implement these tools and obtain high-quality, relevant data (Mehan &

Mostafavi, 2023; Edwards et al., 2020). Furthermore, research should focus on elucidating the relationship between the community's digital divide and participation in gamified surveys. Developing strategies to mitigate this divide and ensure broad participation is essential for the representativeness and validity of the data collected using this tool.

3 Discussion on Outcomes and Results of the Four Cases

Gathering data on the sense of the place includes methods based on different types of questionnaires. Knowing their advantages and disadvantages is crucial for their proper selection for the social group and place being studied.

Apart from indicated limitations and difficulties connected with the use of the textual questionnaire, still it is a basic tool used in survey methods in placemaking research (Lietz, 2010). The flexibility of textual questionnaires allows the customisation of the questionnaire design – the types and variety of questions and their content – to gather specific information, accommodate diverse respondent needs and ensure the relevance and accuracy of data collected. Introduction of the online form of the collection allows for achieving the balance between the time and cost of the conducted research and its quality. They should be used especially in the research on citizens' perception of the places and its expectations in terms of placemaking activities.

Traditional environmental experiences based on the site visit in person are usually expensive and time-consuming and hinder the variety of landscape types that can be studied (Sevenant & Antrop, 2011). In this context, a visual questionnaire, whether developed using photographs or visualisations, is a simpler, cheaper, safer and more transparent landscape assessment tool than an on-site survey. If the experimental conditions more closely reflect the "real life" experience of a place, the more accurate results reflect the "real life" response to the environment studies (Hetherington et al., 1993). Using innovative technologies, including virtual reality (VR), is also helpful in obtaining a better quality of mapping places and their perception (Daniel & Meitner, 2001; Lange, 2001). At the same time, VR has great potential to replace or supplement on-site landscape surveys and assessments (Shi et al., 2020). The selection of the components of the visual questionnaire can, therefore, significantly increase its quality and thus improve the perception of the place by the study participants. More precise survey results will directly affect the better quality of the placemaking process based on this type of questionnaire.

Specific tools are typically used in an isolated fashion and do not reveal all the available alternatives. This selective approach can be regarded as a limitation, but quite easy to be eliminated. When visual and textual questionnaires

are used in combination, the content (gathered knowledge of users' needs and expectations related to the use of the space) becomes a more integrative whole to suit the characteristics of the place better, as well as real needs and expectations of users' decisions on place creation. A visual questionnaire can help survey participants and researchers communicate better by clarifying the nature of place inquiries (Anjum et al., 1998). Such an approach will consequently enable better decisions to be made in placemaking.

Nowadays, when the role of exposure to diverse ideas and social networks is increasing, and the openness to innovation becomes more and more common, the use of different forms of digital communication creates a wider field for their implementation in placemaking. This form of interaction, which helps gather knowledge about places and their users, can expand dialogue across stakeholders – citizens, communities, government, businesses, civic groups and non-profits (Foth, 2017).

This is indicated by the fact that in-VR questionnaires, compared to out-VR questionnaires, provide the user with a direct and immersed experience and presence. This is important and related to the user engagement and, thus, supports a more direct feedback of the user experience and activities. Therefore, it is crucial to supplement these methods with more traditional, offline data collection techniques or support those with limited technological abilities to ensure inclusivity. From the point of view of researchers or companies involved in placemaking developments, this might give a sense of more engaged answers to the questionnaires since the user might answer while performing tasks. In-VR questionnaires might also be preferred over out-VR questionnaires (like IEQ, EAQ and IPQ) due to the fact that leaving a virtual environment for answering questionnaires related to the presence in that environment can lead to a break in the presence (BIP) and less accurate results. Furthermore, it can be problematic to transform out-VR questionnaire formats into in-VR environments in 2D and/or 3D formats. Compared with out-VR questionnaires, they might also require more time to fulfil and cause higher levels of stress and mental load. However, the reasons for this could be several: (1) There is more task load for users when they fill in the questionnaire in VR and (2) the implemented questionnaires may not be able to reflect the correct response of the users in the VR environment, since the load and frustration of technology may have an effect.

Among the presented types, the gamified questionnaire provides something different – a unique balance of entertainment and data collection compared to other questionnaires. While an in-VR questionnaire offers more structured and immersive experiences, a gamified questionnaire infuses a sense of playfulness and competition that can keep participants engaged, potentially providing a more enjoyable experience. However, it is important to note that gamified

questionnaires' success relies heavily on the quality of game design and its integration with the survey content, making their design potentially more complex and time-consuming (Deterding et al., 2011).

The form of a survey (both in-depth and online) based on a questionnaire may require large human resources to carry it out. Moreover, if the survey is based on personal contact with the respondent, the limited time allocated to its implementation may affect the selection of the sample. Schwarz (1999) suggests that the researcher's involvement in the questionnaire-filling process can be problematic if he or she reveals the topic of interest and if the sequencing of questionnaire themes influences responses. This limitation can be eliminated by digitisation – an online survey. However, a major problem with in-VR questionnaire is obviously that you actually need to develop and design a virtual environment of some kind. This requires technology and management skills that may not be possible for smaller research departments or non-computer science departments. This technology-based format could be regarded as a non-inclusive format for questionnaires. Thus, in order to be able to perform these kinds of questionnaires, agreements and collaboration agreements need to be established.

At the same time, it should be mentioned that regardless of the type of questionnaire its online format may not reach some potential respondents due to their limited access to the internet (Andrade, 2020), digital exclusion due to age and lack of needed skills or other limitations in the use of mobile devices etc. These difficulties may affect the reliability of obtained results, even despite the use of special diligence and care in planning and carrying out such studies. Therefore, it is critical to incorporate strategies to overcome this limitation, such as hybrid models combining online and offline methods or assisting those with limited digital literacy skills. For example, an online survey paired with a gamified questionnaire can substantially expand the reach and convenience of respondents.

4 Lessons Learned

The presented study on different types of questionnaires as placemaking tools reveals several important lessons.

All types of questionnaires have some advantages and disadvantages. The advantages emphasise the value of questionnaires as comprehensive and efficient tools for collecting data. The variety of available types of questionnaires allows them to be better selected to various contexts of the place and its users, thus increase their usefulness in placemaking. Disadvantages, related mostly to the form of survey, may limit the use or negatively affect the scope of the

information obtained. Therefore, the choice of the tool must be well thought out – the form of survey should result from the adopted purpose and scope of the study, characteristics and resources of the community, meet their needs and expectations, as well as respect limitations in the use of digital technologies.

A key intent of the use of questionnaires as tools of surveys is to facilitate more community involvement in placemaking. In that context, a variety of questionnaire types should be treated as the potential of this tool, which allows better adaptation to a given situation – not only features and conditions of a place, but especially to the community specificity. Another potential of this tool is the possibility of combining various types of questionnaires in one survey (i.e. textual with visual, in-VR with textual, in-VR and textual with gamification), which allows for a deeper reach of the community and, thus, expanding the set of information resulting in improving the placemaking process.

Although not everything might be described by words, textual questionnaires work well as a basic tool in placemaking. Due to the growing number of precise questionnaires that use visual and audio-visual aspects of presentations, as well as augmented reality, they may successfully support textual and other types of questionnaires. In particular, scale questionnaires (i.e. a closed scale of a closed-ended question) that allow for measurement the intensity to which a respondent feels toward or about something, will be highly useful in the research on place perception.

Visual questionnaires may significantly support the perception of place, thus engaging more the community into the survey. This tool offers a more understandable form of communication between the stakeholders and the place thanks to the use of different visual elements (photographs, visualisations, photomontages etc.) and their realistic nature. This type of questionnaire may offer deeper insights into the community's perceptions and needs by the engagement of people with whom verbal communication is difficult, which is valuable for increasing social inclusion. However, passive perception of visual images without physical experience of a place may be insufficient for its full understanding and result in a certain limitation of its perception understood as a multisensory experience of a place in time, and thus limit the decision-making process to some extent. Therefore, it is crucial to support this type of questionnaire with text.

The outcome of using in-VR questionnaires is reliant on four different factors: the (availability of) technology, and the issues of engagement connected to the two major concepts involved in VR: immersion and presence. In-VR questionnaires give a unique possibility to get feedback from users while they are performing their activities and tasks in a placemaking situation. The

researcher can thus make direct observations while the questionnaires are closely linked to the action in virtual environments. A drawback is that in-VR things may take longer time than in real life due to cognitive task load and technological frustrations and thus may hamper the outcome of the questionnaires. To solve this, experienced virtual reality users may be required. This may, in turn, also exclude people from using in-VR questionnaires based on (1) experience and (2) technology dependency.

Gamification can significantly enhance participant engagement and survey motivation, leading to higher response rates and better data quality. This opens new opportunities for collecting richer data and insights in placemaking research. However, while gamification can enhance surveys, it has challenges. The balance between game elements and research content is crucial to avoiding distraction from the primary research objectives. This requires a deep understanding of both game design and survey methodology.

Digital exclusion can be seen as a critical issue when developing online surveys and use in the placemaking process, regardless of the type of questionnaire used. While online surveys can expand reach, they can exclude certain groups with limited internet access or digital literacy skills. Strategies to ensure digital inclusion should therefore be an integral part of the planning and implementation of online surveys.

5 Conclusions

Questionnaires as main tools of the survey are recommended for data collection to engage the community to the place and its creation. The variety of available types of questionnaires, as well as the form of conducted surveys, allows their better selection to the specificity of the community, increasing its place-related identity. Thus, it may provide a more reliable and complete set of information that can be used directly in the process of placemaking.

The implementation of classic data collection forms, such as in-depth surveys, is possible in the case of a limited group of questionnaires, mainly textual questionnaires. The development of technology makes the digitisation of this tool a modern need. Taking advantage of this trend, as well as combining different types of questionnaires in the research, can be successfully used to broaden access to the community and at the same time improve the quantity and quality of the dataset. However, this approach requires digital inclusion to avoid excluding selected groups of placemaking participants with limited internet access and limited mobile device skills.

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