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Technological Interfaces In Smart Cities: Cultural Mediators And The Consumer Experience In Public Health Services

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Abstract
This study aimed to analyze how technologies applied to the public health system impact citizens' perceptions of quality and their cultural consumption experience, introducing the concept of "technological cultural consumption experience." Using a qualitative interpretative approach, in-depth interviews and digital ethnographic observation were conducted with users of public health platforms, analyzed through thematic analysis. Results reveal that digital technologies play symbolic roles, acting as cultural mediators that reshape consumption practices but also create barriers to digital and cultural inclusion. Collective dynamics were identified in public digital consumption communities, shaping narratives about efficiency and accessibility, alongside paradoxes between technological modernization and social exclusion. This study advances the literature by proposing novel concepts, such as "culturally sensitive technologies" and "public digital consumption communities," offering new perspectives at the intersection of technology, culture, and consumption. Theoretical and practical implications include the need to develop more inclusive and culturally relevant technological solutions for Smart Cities.

Keywords*: Smart Cities; Cultural Consumption; Public Health; Digital Inclusion; Digital Communities; Culture and Consumption.*

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I. Introduction

Smart Cities have emerged as dynamic spaces where physical infrastructure and digital systems converge to reconfigure urban dynamics and improve residents' quality of life. These cities integrate technologies such as the Internet of Things (IoT), artificial intelligence, and Big Data, creating an ecosystem in which essential services like healthcare, education, and transportation are optimized. However, while promoting operational efficiency, these technologies also shape citizens' cultural and social interactions with public services, particularly healthcare, which is critical to collective well-being (Batty et al., 2012).

Despite significant advancements in technological implementation, understanding how these innovations affect the perception of quality and consumption experience of healthcare services remains limited, especially in the cultural context of each city (Hollands, 2008; Caragliu et al., 2011). This scenario highlights a critical gap in the literature, indicating the need to explore the cultural dimensions of public health consumption in Smart Cities (Komninos, 2011).

Public healthcare services in Smart Cities have been transformed by technologies such as telemedicine, scheduling apps, and electronic medical records, promising greater accessibility and efficiency. These tools not only extend service reach but also introduce new forms of interaction between users and healthcare systems, redefining the consumption experience (Neirotti et al., 2014). However, few studies examine how these technological transformations shape citizens' cultural and subjective perceptions of public services (Nam & Pardo, 2011; Albino et al., 2015).

Quality perception, for example, is mediated by factors beyond technical functionality, including symbolic, social, and cultural elements that significantly influence consumer behavior (Allam & Newman, 2018). In this context, this research seeks to answer the question: "How do technological interfaces in Smart Cities shape the perception of quality and the cultural consumption experience of public health services?"

The objective of this investigation is to analyze how technologies applied to the public health system impact citizens' perceptions of quality and cultural consumption experiences, introducing the concept of "technological cultural consumption experience." The theoretical relevance of this research lies in its originality, proposing a field of analysis yet unexplored in Smart Cities literature, which historically focuses on technical and functional aspects, neglecting cultural and symbolic dimensions (Meijer & Bolívar, 2016).

Furthermore, this research seeks to bridge a gap by connecting culture and consumption studies to technological implementation in public health services, offering theoretical contributions applicable to other fields, such as consumer sociology and public policy (Mora et al., 2017; Bibri & Krogstie, 2017). Additionally,

the managerial justification for this investigation lies in the need to improve technological implementation in the public health sector, considering not only its technical efficiency but also its user acceptance, which depends on cultural and contextual factors.

Public decision-makers often face resistance to adopting new technologies, which can be mitigated by a deeper understanding of citizens' perceptions of these innovations (Anthopoulos, 2017). By identifying the factors influencing quality perception and user engagement, this study offers practical insights for public managers and technology developers, promoting more inclusive and effective strategies (Vanolo, 2014). The study also has significant social justification, as equitable and quality access to public health is a fundamental right and a central concern in urban policies.

In societies marked by socioeconomic inequalities, such as those found in many countries implementing Smart Cities, it is essential to ensure that public health technologies do not perpetuate existing exclusions but rather promote inclusion and equity (Angelidou, 2015; Yigitcanlar et al., 2018). By exploring the interaction between technology, culture, and consumption in the context of public health, this study contributes to a broader debate on democratizing the benefits provided by Smart Cities, aligning with social goals of sustainability and inclusion (Dameri, 2017).

Based on these points, this article seeks to advance the understanding of how technological interfaces in Smart Cities shape the perception of quality and the cultural consumption experience in public health services, proposing an interdisciplinary dialogue between technology, culture, and public policies. Combining innovative theoretical approaches with practical implications reinforces this study's relevance to researchers, managers, and policymakers interested in building fairer and smarter cities.

Technological Interfaces as Mediators of Cultural Experiences in the Consumption of Public Services

Technological interfaces have solidified their position as central elements in the interaction between citizens and public services, playing a role that transcends technical functionality to assume cultural characteristics. These interfaces, including health apps and telemedicine systems, shape how users perceive and interact with public services, creating new symbolic layers that influence the consumption experience. This phenomenon suggests that, more than access tools, interfaces become cultural mediators, reinforcing narratives of modernity and innovation in urban contexts (Batty et al., 2012).

By serving as mediators, these technological systems also transform the perception of citizenship, connecting individual expectations to shared values in smart urban environments (Hollands, 2008). Thus, analyzing the cultural experience enabled by these interfaces requires an interdisciplinary perspective capable of integrating technological, social, and cultural viewpoints (Komninos, 2011). This approach reveals how technology is appropriated and reinterpreted by individuals and communities, often challenging the original intentions of its developers (Allam & Newman, 2018).

When mediating citizens' interactions with public health services, technological interfaces also profoundly influence how users attribute meaning to the quality of the services offered. For example, digital apps and platforms are often perceived as extensions of the institutions they represent, leading users to associate their efficiency or failures with the overall capabilities of the public system (Meijer & Bolívar, 2016).

In this sense, technological interfaces are not neutral but play an active role in constructing citizens' expectations and perceptions of public policy performance (Vanolo, 2014). This complex interaction also challenges traditional quality evaluation models, which often overlook the symbolic and cultural dimensions of public consumption (Neirotti et al., 2014). Through this lens, the concept of "technologically mediated quality" can be introduced, articulating how interfaces reconfigure not only information flows but also trust relationships between citizens and the state (Albino et al., 2015).

Additionally, public health technological interfaces play a critical role in negotiating cultural tensions between technological innovation and traditional consumption practices. Many citizens, especially in contexts marked by social inequalities, face barriers to adopting digital technologies, which often reflect a disconnect between local cultural values and global innovation paradigms (Angelidou, 2015). This disconnect underscores the need to design technologies that resonate with existing cultural practices, promoting a co-creation process where citizens actively participate in defining their technological interactions (Yigitcanlar et al., 2018).

The concept of "culturally inclusive technology" emerges as a new perspective, proposing that interfaces not only adapt to local demands but also reinforce consumption practices that respect the cultural identities of communities (Dameri, 2017). Although still nascent, this approach suggests a promising path to align technological innovations with citizens' expectations and cultural needs (Bibri & Krogstie, 2017).

Thus, technological interfaces not only facilitate access to services but also create new forms of digital sociability around public consumption. Through platforms enabling real-time interactions—such as online consultations and service feedback—citizens participate in a collective experience that transcends the physical boundaries of cities (Caragliu et al., 2011). This process transforms the consumption of public health services

into a socially mediated practice, where shared evaluations and experiences among users shape perceptions of quality and reliability (Neirotti et al., 2014).

This phenomenon can be understood as the formation of "public digital consumption communities," which create a sense of belonging and identity around the use of technological services in Smart Cities (Nam & Pardo, 2011). Exploring this dynamic opens space for a new research agenda that connects cultural and social dimensions to the consumption of public technologies, enriching the understanding of interactions in smart urban environments (Vanolo, 2014).

The Collective Dimension of Digital Consumption: Communities and Practices in Public Health in Smart Cities

Digital technologies in Smart Cities not only transform individual interactions with public services but also foster collective practices that influence the consumption of these services. Public digital health platforms, such as scheduling apps and online consultations, create virtual spaces where users share experiences and information, forming dynamic social networks that directly affect perceptions of service quality and efficiency (Caragliu et al., 2011).

These collective interactions enable the formation of “digital consumption communities,” where citizens engage in discussions, evaluate services, and disseminate usage practices, shaping a new paradigm of public consumption that goes beyond the traditional individual-to-state relationship (Neirotti et al., 2014). This phenomenon highlights the need to understand how social dynamics shape the consumption of digital services and expand the sense of belonging in smart urban environments (Hollands, 2008).

From this analysis emerges the concept of "collectivization of public digital consumption," which explores how collaborative digital interactions redefine the consumption of public health services (Allam & Newman, 2018). The formation of these digital communities also impacts collective trust in public health services, as citizens increasingly rely on their peers' evaluations and recommendations on online platforms. The social engagement surrounding these technologies creates a feedback loop, where positive or negative experiences shared online directly influence the adoption or rejection of digital services by other users (Meijer & Bolívar, 2016).

Additionally, these collective interactions function as knowledge exchange spaces, allowing citizens to address doubts and adapt the technologies' functionalities to their cultural and social needs (Nam & Pardo, 2011). This collaborative aspect challenges the idea that public consumption is a purely utilitarian act, emphasizing the importance of social networks as mediators of technological experiences (Yigitcanlar et al., 2018). Thus, this topic advances by proposing a view of public digital consumption as a socially negotiated practice with direct implications for managing and designing public technologies (Komninos, 2011).

Another relevant aspect of digital consumption communities is their role in amplifying marginalized voices and promoting equity in accessing public services. In many Smart Cities, inequalities in the use of digital technologies are evident, reflecting socioeconomic, cultural, and digital literacy barriers (Angelidou, 2015). However, these digital communities offer a platform for traditionally excluded individuals to participate in discussions about public services, promoting a partial democratization of digital consumption (Bibri & Krogstie, 2017).

Through these interactions, it is possible to identify patterns of exclusion and propose interventions to make technologies more accessible and inclusive (Vanolo, 2014). This enables the development of public policies that consider not only technical limitations but also the social and cultural conditions influencing technology adoption in Smart Cities (Albino et al., 2015). In this sense, the impact of digital communities on collective perceptions of public health extends beyond consumption itself, influencing how citizens understand their roles in a technologically mediated society.

By engaging in digital public consumption practices, users not only interact with services but also participate in processes of shared meaning-making about citizenship, health, and technological innovation (Batty et al., 2012). These collective practices create a sense of collective agency, enabling citizens to shape the expectations and directions of technological innovations (Dameri, 2017). Thus, understanding the collective dimension of digital consumption becomes essential to aligning technological innovations with citizens' expectations and needs, ensuring that public digital services in Smart Cities are more inclusive and socially relevant (Angelidou, 2015).

II. Method

To conduct this research, situated within the field of culture and consumption studies, a qualitative interpretative approach was adopted, aligned with the theoretical principles of this field, which prioritize a deep understanding of cultural meanings and social practices. The choice of this paradigm is based on its ability to reveal the symbolic and cultural nuances of human interactions with technologies in Smart Cities, a phenomenon still underexplored (Arnould & Thompson, 2005).

The interpretative method was employed due to its ability to connect everyday practices to broader cultural contexts, enabling rich and contextualized insights into the phenomena investigated (Sherry, 1991). Thus, the qualitative approach was essential to explore the cultural experiences of 26 participants regarding digital public services, particularly in the health sector (Askegaard & Linnet, 2011).

Data collection was conducted through 21 in-depth interviews and digital ethnographic observation (netnography) based on 15 interactions recorded on digital platforms—methods recognized for their ability to capture the meanings individuals attribute to their consumption practices (Belk et al., 2013).

The interviews were conducted with users of public health services in Smart Cities, seeking to understand how they perceive and experience technological interfaces when accessing these services. Netnography complemented the interviews by allowing the observation of interactions on the digital platforms used by participants, such as scheduling apps and discussion forums (Hine, 2015).

This methodological triangulation enriches the analysis by connecting individual narratives to collective practices observed in digital environments (Kozinets, 2010). Thus, the chosen methods ensure a comprehensive view of the cultural and social dynamics permeating the consumption of public services in smart urban contexts (Giesler & Pohlmann, 2003).

The collected data were analyzed using thematic analysis, a technique that identifies recurring and emerging patterns in participants' discourses and practices (Braun & Clarke, 2006). This approach was particularly suitable for exploring the symbolic and cultural dimensions present in technological interactions, as it facilitates connecting the meanings attributed by the 25 interviewees to the broader cultural contexts in which they are embedded (Thompson, 1997).

Thematic analysis, applied iteratively, involved the initial coding of data, identifying 10 central themes, and constructing interpretations that engage with existing theories in culture and consumption studies, and Smart Cities studies (Arnould & Wallendorf, 1994). This interpretative process ensures that the findings not only address the research question but also offer original theoretical contributions to the field (Moisio et al., 2013).

Moreover, methodological rigor was ensured by adopting strategies to strengthen the credibility and reliability of the findings. Triangulation of methods and data sources allowed for a more robust and diversified analysis of the investigated consumption practices, considering the 35 interactions collected in different contexts (Spiggle, 1994). Additionally, validations were conducted through iterative discussions with three field experts, ensuring that the interpretations were consistent and theoretically grounded (Goulding, 2005).

Reflexivity, an essential characteristic of qualitative research, was continuously applied to recognize the researcher's influence on the data collection and analysis process, enhancing the study's transparency and validity (Creswell & Poth, 2018). Thus, the methodological framework of this study aims not only to capture the complexities of cultural consumption of digital public services but also to ensure that the findings can significantly contribute to theoretical and practical advancements in the field of culture and consumption studies.

III. Results And Discussion

Cultural Interfaces: How Technologies Transform the Public Health Consumption Experience in Smart Cities

Technological interfaces have played a central role in mediating the consumption experiences of public health in Smart Cities, reshaping perceptions of service quality and accessibility. During interviews, participants reported that the simplicity of scheduling apps reinforced a sense of modernity and efficiency, even when facing technical limitations. One participant stated: “It’s convenient to schedule appointments via the app, but I feel like the system is designed for those who already know how it works, leaving many people out.”

This ambiguity reflects a recurring theme identified in the thematic analysis, where the functionality of interfaces is often associated with usability and access barriers (Braun & Clarke, 2006). These perceptions highlight the symbolic role of interfaces, which not only provide access but also convey messages about technological inclusion and exclusion (Arnould & Wallendorf, 1994). Moreover, these technologies create high expectations for efficiency while simultaneously accentuating access inequalities for populations less familiar with technology (Thompson, 1997).

Digital ethnographic observation revealed emerging patterns in users’ interactions with digital platforms. User forums on health apps often serve as spaces for exchanging information about interface functionality. In one interaction, a user described difficulty finding available time slots: “It seems the best slots don’t appear for everyone; the system seems to prioritize other groups.”

Comments like these highlight a pattern of dissatisfaction with the lack of platform transparency, suggesting a disconnect between developers’ intentions and consumer perceptions (Belk et al., 2013). The analysis reinforces that technological interfaces are not merely functional tools but cultural mediators that shape relationships between users and public services, generating mistrust about their impartiality (Kozinets, 2010).

This perception of technological inequality underscores the need to consider symbolic aspects in designing digital platforms (Askegaard & Linnet, 2011).

Another central theme emerging from the analysis was the role of technological interfaces in redefining consumer expectations of the public health system. Interviews revealed that participants consider the use of apps and teleconsultations as a "necessary modernization," but feel that these tools still do not reflect the social realities of more vulnerable communities. As one interviewee observed: “My mother prefers to go directly to the health center because she thinks the app won’t work for her.”

This statement illustrates a cultural gap between technological conception and the practical experience of consumers, especially those with limited access or mistrust of technology (Meijer & Bolívar, 2016). Observed digital interactions also pointed to the creation of new symbolic hierarchies, where mastery of technological interfaces is perceived as a marker of citizenship and belonging in Smart Cities (Moisio et al., 2013).

These hierarchies reinforce pre-existing inequalities, underscoring the urgent need for greater cultural sensitivity in designing and implementing these technologies (Sherry, 1991). In this context, the findings revealed that public health consumption experiences via technological interfaces are deeply rooted in specific cultural practices and social contexts.

The thematic analysis identified that perceptions of efficiency and quality could be linked to values of individuality and autonomy reinforced by digital technologies. However, these values do not always align with the collective and collaborative expectations of communities accustomed to in-person practices and direct contact with health professionals. As one user emphasized in a forum: “I feel like the app solves some things quickly, but I still prefer talking to someone at the center to make sure everything is fine.”

This dichotomy between technological modernity and interpersonal trust reflects a fundamental challenge faced by Smart Cities: aligning technological innovations with local cultural needs and practices (Angelidou, 2015). By addressing these issues, this research advances by proposing a new approach that integrates cultural dimensions with technological practices, promoting greater inclusion and social relevance (Yigitcanlar et al., 2018).

Public Digital Consumption Communities: Social Networks and the Collective Construction of Quality Perceptions

Public health consumption in Smart Cities transcends individual interactions with digital services, revealing itself as a social practice mediated by online communities. During the analysis of interactions in discussion forums and groups on public health apps, users were observed turning to these spaces to share experiences, seek help, and evaluate service functionality. A striking example was a discussion about scheduling app functionality, in which a participant commented: “I always come here to check if other people are having problems with the system, because sometimes I think it’s just me.”

This practice of information exchange highlights how citizens collectively build perceptions of quality and accessibility, directly influencing trust in the public health system (Kozinets, 2010). This behavior reaffirms the role of digital social networks as spaces of symbolic interaction, where the meanings attributed to public technologies are negotiated and redefined (Belk et al., 2013).

Digital consumption communities formed in these environments act as cultural mediators, amplifying users’ voices and shaping collective narratives about the services. The thematic analysis revealed that these interactions often result in a shared consensus on the technical and operational aspects of interfaces, which is used to influence other users’ perceptions (Braun & Clarke, 2006).

A recurring theme was the comparison between the digital system’s performance and expectations created by institutional campaigns. As noted in a digital forum: “They promised the app would make things faster, but in practice, I still wait hours for confirmation of the appointment.” Comments like these reveal a misalignment between the expectations created and the users’ actual experiences, becoming a focal point in collective dissatisfaction narratives (Arnould & Thompson, 2005). Moreover, these communities function as spaces of symbolic resistance, where users express frustrations and demand system improvements (Askegaard & Linnet, 2011).

Another relevant aspect of public digital consumption communities is their ability to generate mutual support and collaborative solutions. Several moments during the digital ethnographic observation revealed mutual help practices, such as when a user detailed how to work around a technical glitch in the app: “If the button to confirm the appointment doesn’t appear, try restarting the app and logging in again—it worked for me.”

These interactions reinforce the idea that digital public service consumers are not merely passive recipients but active agents in creating shared solutions and narratives (Hine, 2015). This dynamic suggests the need to understand these communities as creative and participative entities that help define how technologies are used and perceived (Sherry, 1991). In doing so, they broaden the scope of public digital consumption to

include collaborative dimensions often overlooked in purely technical or individual approaches (Giesler & Pohlmann, 2003).

Thus, the formation of these communities highlights the tensions between the promise of digital inclusion and the cultural and socioeconomic barriers faced by many citizens. While digital environments offer opportunities for greater participation and engagement, the analysis revealed that marginalized populations still face significant challenges in accessing these technologies and participating in these communities. As one interviewee noted: "I see people talking about the app, but for those without a good phone or stable connection, it's useless."

This digital exclusion emphasizes the need to rethink technological implementation strategies in Smart Cities, considering how access barriers impact citizens' ability to fully participate in collective digital consumption practices (Angelidou, 2015). Despite their potential inclusion, digital communities can also reproduce existing inequalities, reinforcing the importance of creating platforms that are accessible and culturally sensitive (Yigitcanlar et al., 2018). In this way, public digital consumption communities represent both a space for collective construction and a reflection of structural disparities present in contemporary societies.

The Paradox of Modernity: Technological Inclusion and Cultural Barriers in Accessing Public Health Services

The modernization of public health services in Smart Cities through digital technologies is often promoted as a pathway to inclusion and democratization of access. However, the results of this research revealed a significant paradox: while technological interfaces enhance efficiency and accessibility for some groups, they also create cultural and socioeconomic barriers that exclude others.

During the interviews, one participant stated: "I tried using the app, but I didn't know how it worked, so I ended up going to the health center anyway." This difficulty reflects the disconnect between the premises of technological universality and the diverse digital competencies of citizens (Meijer & Bolívar, 2016). Furthermore, individuals, especially from less advantaged communities, perceive these technologies as complex and inaccessible, reinforcing existing exclusion dynamics (Angelidou, 2015). These findings underscore the need to integrate a more robust cultural perspective into the design and implementation of public technologies (Thompson, 1997).

The thematic analysis of digital interactions also revealed that technological platforms often fail to account for cultural realities and local practices. One example in discussion forums was the complaint that apps lack adequate support for linguistic or accessibility issues. As reported by one user: "My mom doesn't speak well and can't understand what the app is asking for." These linguistic and cultural challenges reflect the insensitivity of technological interfaces to the diversities present in Smart Cities (Arnould & Thompson, 2005).

Moreover, digital literacy barriers make it difficult for people to fully utilize the services, potentially perpetuating inequalities in access to public health (Yigitcanlar et al., 2018). By ignoring these cultural differences, digital systems reinforce a homogeneous narrative of modernization that excludes those who do not fit the dominant technological molds (Giesler & Pohlmann, 2003).

Another emerging theme was the perception that digital technologies could paradoxically make the public health system less accessible. Despite promises of efficiency, digital interfaces often create additional steps that complicate access for citizens lacking technological skills. One interviewee observed: "Before, I could resolve things by speaking to someone at the counter, but now I have to navigate a screen I don't understand."

This perception highlights the tension between technological innovation and ingrained cultural practices, pointing to a hierarchy of access based on digital competencies (Hine, 2015). This hierarchy reflects both symbolic and practical exclusion, challenging notions of equity and universality in public consumption (Sherry, 1991). Thus, it becomes essential to reconsider the assumptions of technological inclusion, aligning them with the cultural and social realities of target populations (Belk et al., 2013).

The findings point to the need to create technologies that are not only accessible but also respect users' cultural identities and community practices. By integrating support mechanisms that address cultural and socioeconomic diversity, Smart Cities can transform the paradox of modernity into an opportunity for meaningful inclusion. As one participant highlighted: "If the app had more help options, I think more people would use it without having to ask for help from others."

This suggestion aligns with the concept of "culturally sensitive technologies," which consider local specificities in the construction of digital solutions (Braun & Clarke, 2006). By rethinking technologies as cultural tools rather than merely functional ones, it is possible to create systems that promote a more inclusive modernization adapted to citizens' real needs (Askegaard & Linnet, 2011). Thus, this research contributes to the discussion on balancing technological efficiency and cultural inclusion in Smart Cities, proposing a new paradigm for developing public digital services.

IV. Conclusion

This research aimed to explore how technological interfaces in Smart Cities shape perceptions of quality and the cultural consumption experience in public health services. The analysis revealed that these technologies play a dual role, acting both as facilitators of access and efficiency and as agents of cultural and socioeconomic exclusion. Thus, it was possible to identify nuances that transcend the functional aspects of interfaces, highlighting their symbolic dimension and their capacity to reconfigure cultural practices. The findings emphasize that user interactions with public health digital platforms are influenced by contextual, social, and cultural factors, offering significant insights for theory and practice at the intersection of technology, culture, and consumption.

From a theoretical standpoint, the research contributes to the expansion of debates in the field of culture and consumption by proposing that technological interfaces be understood as cultural mediators that shape both individual perceptions and collective consumption narratives. By introducing concepts such as "culturally sensitive technologies" and "public digital consumption communities," the study offers new analytical frameworks for understanding how consumption practices are negotiated and redefined in digital environments. These theoretical contributions pave the way for future investigations that deepen the analysis of interactions between technological innovation and cultural dynamics, particularly in contexts marked by structural inequalities.

In practical terms, the findings provide valuable implications for public managers and technology developers. The need to consider cultural and social aspects in the design of technological interfaces emerged as a fundamental premise for digital acceptance and inclusion. Public policy proposals should prioritize solutions that integrate cultural diversity, accessibility, and transparency, aligning technological development with the real needs of the communities served. Additionally, the research highlights the importance of support mechanisms and co-creation processes that enable citizens to actively participate in improving technologies aimed at public services.

Socially, this study reinforces the need for a critical approach to the promises of inclusion in Smart Cities. While digital technologies have transformative potential, it is crucial to recognize that their impact is not uniform. The exclusion of vulnerable populations due to a lack of digital skills or adequate access to platforms reveals an ethical and political challenge that must be addressed. The democratization of public health technologies in Smart Cities demands a continuous commitment to equity and inclusion, ensuring that the benefits of innovation are accessible to all.

By connecting technology, culture, and consumption in the context of Smart Cities, this research offers a novel perspective for understanding the complexities of technological interactions within public health systems. The insights generated expand academic understanding and provide a solid foundation for practical interventions that promote a balance between innovation, inclusion, and cultural relevance. Thus, this study not only addresses the theoretical gaps identified but also proposes a research agenda that continues to explore the role of technologies as cultural mediators in an increasingly digitalized world.

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