

# The Duality of Extraterritoriality between the Physical and the Digital: The Spatial Paradoxes through the Lens of Media and Collective Memory

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## Abstract

The present research focuses on the duality of extraterritoriality in its physical and digital manifestations, approaching how each space affects urban planning governance and cultural memory. This highlights that new layers of complication by digital technologies underpin a different kind of sovereignty and jurisdiction. Through a qualitative, interdisciplinary approach involving case studies of NEOM and Silicon Valley, this research examines how extraterritoriality's physical and digital forms come together to reshape societal structures and collective memory. The case studies provide a lens for understanding how physical and digital extraterritoriality impacts urban environments, drawing on insights from urban studies, digital humanities, and cultural theory. Against this background, one importantly identifies crucial literature gaps, especially regarding digital extraterritoriality concerning local governance and socio-cultural dynamics. In these gaps, the study identifies valuable information on the evolution of extraterritoriality and their addressing of contemporary changing urban contexts, thus laying a foundation for possible further research into this critical area.

## Keywords

Digital Sovereignty, Extraterritoriality, Urban Governance, Collective Memory, Smart Cities

## 1. Introduction

### 1.1. Background

Historically, extraterritoriality has been one of the tools of diplomacy and colonial

expansion; this means exempting individuals or territories from local jurisdiction. Traditionally, under extraterritoriality, foreign diplomats, military personnel, and some international institutions were accorded immunity from local laws when they operated on another nation's territory (Amir, 2014). Eventually, the concept of extraterritoriality started to reach well beyond the logic of centripetal force, reflecting broader power dynamics—for example, in colonial contexts where imperial powers exercised control over territories and populations without direct governance. The concept of extraterritoriality took a turn for the most radical transformation given the advent of digital technologies. Digital platforms, cloud computing, and data centers create new types of “digital extraterritoriality” extending beyond physical borders, challenging all the traditional ideas about territoriality, governance, and, notably, sovereignty (Tweedie, 2021). As Michaelsen and Thumfart pointed out, digital sovereignty—a situation where control over data and digital infrastructure crosses national boundaries—opens boundaries and opens up an entirely different prospect for governance and urban planning (Michaelsen & Thumfart, 2023). This study examines how digital extraterritoriality impacts urban landscape, architecture, management, and cultural memory. This research tries to bridge the gap between traditional extraterritoriality and digital transformation through the lenses of media and collective memory, drawing on how the increasing convergence of physical and digital spaces redefines governance and cultural identity. This case study-based analysis, referring to futuristic, intelligent city models in Saudi Arabia, such as NEOM, and Silicon Valley of the U.S. as the epicenter of digital infrastructure, will delve deep into physical and digital extraterritoriality shaping the modern urban environment.

## 1.2. Problem Statement

Digital technologies have placed sovereignty, governance, and the representation of urban spaces at the heart of complex challenges. Historically, extraterritoriality has been conceptualized within diplomatic and colonial frameworks. However, the emergence of cloud computing, artificial intelligence (AI), and the Internet of Things (IoT) has introduced new forms of extraterritorial spaces. These spaces are often controlled by multinational corporations or governed by supranational juridical frameworks, existing beyond the reach of traditional nation-states.

These tensions manifest in issues related to local governance, data sovereignty, and cultural identity. Additionally, digital extraterritoriality strongly influences collective memory and artistic representation (Liao, 2014). Media portrayals of places like NEOM and Silicon Valley often emphasize technological progress and innovation, while overlooking the socio-political power dynamics embedded in these spaces. This research aims to address the challenge of deciphering how digital extraterritoriality informs urban design, governance, and cultural memory, and what this means for the future of urban space.

## 1.3. Aims and Objectives

This research aims to explore the phenomenon of extraterritoriality in both

material and virtual spaces and its impacts on urban planning, governance, and cultural memory. In particular, the objectives of this study will be:

- To investigate the different theoretical matrices framing our notions of extra-territoriality, particularly within perspectives on the nature and implications of digital sovereignty for city spaces.
- To examine the evolving relationship between physical and digital extraterritorial environments and their implications for governance, urban planning, and socio-cultural dynamics.
- To conduct case studies on NEOM and Silicon Valley to demonstrate the expression of digital and physical extraterritoriality in urban planning and governance systems.
- To analyze how collective memory and media representation of extraterritorial spaces affect cultural narration and the perception of urban spaces.

#### 1.4. Research Question

“How do digital technologies and physical extraterritorial spaces interact to reshape societal structures, perceptions of territorial sovereignty, and collective memory, particularly in contemporary urban environments like NEOM and Silicon Valley, and what are the implications for national and international policies?”

## 2. Literature Review

### 2.1. Theoretical and Historical Framework

In a time when the dividing line between the physical and digital world is increasingly blurred, this study gives an in-depth insight into how such interrelated spaces recur and recalculate the human understanding of governance, identity, and cultural stories. Theoretical positions from urban studies, digital governance, and cultural theory inform this study. These disciplines have been beneficial in offering depth to understanding how extraterritorial spaces—physical and digital—relate to governance, urban space, and collective memory (Szigeti, 2019). The discussion by Michaelsen et al. of digital sovereignty was critical for the conception that control over digital spaces has gone beyond national boundaries, commanding urban planning and governance (Michaelsen & Thumfart, 2023). Another theoretical framework employed is Michel Foucault’s concept of heterotopia, as introduced in Foucault & Miskowiec (1986), which views extraterritorial physical or digital spaces as sites of “otherness” where social norms are redefined.

The concept of heterotopias, invented by Michel Foucault, becomes crucial to understanding digital extraterritoriality. It is a space of “otherness”, part of other spaces but located outside of them, and it is simultaneously unreal while being entirely real (Flavin, 2022). Foucault’s idea is important in framing spaces such as AWS data centers or Google’s global network of cloud facilities, which exist outside the ambit of national jurisdiction in a legal and cultural sense. However, they may be physically located in many countries. These digital heterotopias disrupt the conventional relation of borders and governance, aligning more with the

globalized corporate sovereignty rather than the traditional state power. In another light, Henri Lefebvre's production of space can be applied to understand how NEOM's smart city framework attempts to bridge the relationship between "conceived space" and "lived space". Conceived space refers to the governmental and corporate visions that consider the digital infrastructure and how citizens experience such space (Brown, 2020). The combination of NEOM's technologies and IoT, among others, Lefebvre's contention that space is not neutral but is produced through social interaction and power. Setting these theories to the fore, we aimed to investigate how such conceived digital spaces of the metaverse by Facebook and Azure cloud infrastructure by Microsoft—nowadays extraterritorial spaces function and may reshape lived experience in quite fundamental ways. The notion of control of space—physical and digital—speaks equally to Lefebvre's right to the city and insists that the production of one's own spaces is controlled by its citizens or users. Yet, in extraterritorial digital environments such as Google's data centers in Iowa, for example, the control lies not with the populace but with the corporations and represents a divorce from the influence of the local population. Thus, the philosophical critique of those spaces pivots on denying "the right to the city" by monopolizing physical infrastructure and the digital networks on which modern urban environments are increasingly relying.

## **2.2. Historical and Architectural Context and Discourse of Extraterritoriality**

The concept of extraterritoriality has long historical roots, extending back to the Treaty of Nanking in 1842, which granted British subjects' immunity from Chinese law while in designated zones in Shanghai and other treaty ports (Office of the Historian, 2019). These areas manifested imperial power and control, much like modern digital extraterritoriality, where multinational corporations exercise control over vast networks of servers and data centers. Colonial extraterritorial zones, such as the Shanghai International Settlement, were legally beyond the control of local governments. Similarly, today's Google data centers in Finland or Facebook's server farms in Sweden operate outside traditional national governance structures due to international legal agreements.

The evolution from traditional diplomatic and imperial extraterritorial zones to the contemporary digital version reflects significant geopolitical shifts. During the Cold War, extraterritoriality was often associated with military and diplomatic functions, as seen in U.S. military bases in Japan or Germany, which operated largely under U.S. law (Efrat, 2021). These zones bridge earlier notions of physical extraterritoriality and today's focus on the digital realm. Post-World War II, the rise of global telecommunications networks, such as AT & T's transatlantic cables and the creation of the internet, further altered the boundaries of territoriality. These early technological infrastructures laid the foundation for modern-day digital extraterritoriality, where corporate giants like Amazon or Microsoft build physical networks that underpin global data flows yet remain legally detached from the territories in which they operate. In the late 20th century, the creation of

offshore financial hubs such as the Cayman Islands or Singapore mirrored the rise of digital extraterritoriality, offering another model of space outside the state's traditional jurisdiction. Today's digital platforms operate with little oversight from national governments, as evidenced by Facebook's Libra cryptocurrency project (now Diem), which aimed to create a global currency system outside central banks' control (Rrustemi & Tuchschnid, 2020). This reflects the shift towards decentralized, extraterritorial digital zones where traditional state governance is bypassed.

Extraterritoriality emerges from dynamic legal, political-geopolitical transitions. Parrish followed how the extraterritorial practices in the United States contracted as a parallel process to the rise of isolationism (Parrish, 2017). This dynamic reflected broader changes in global power dynamics and the U.S.'s shifting foreign policy posture. Todd further conducted a perspicacious study on extraterritoriality in 19th-century Egypt, bringing forth its nexus with imperial internationalism (Todd, 2018). Todd showed how this extraterritorial practice was a significant feature in diplomatic relations and the construction of sovereignty in colonial contexts.

For example, Kämpe addressed extraterritoriality in personal secession, an extraordinary approach touching individual freedoms and territorial self-government (Kämpe, 2013). The findings indicated that extraterritorial spaces often meet the self-government concept over disputed geopolitical territories. Del Valle Gálvez looked into extraterritoriality within the context of a European refugee crisis (Del Valle Gálvez, 2019). His work has also highlighted how externalized border controls and migration policies represent extraterritorial practices impacting refugees and host countries. Fox Eleanor studied the modernization of extraterritoriality in the case of antitrust law by focusing on shifting legal structures with implications for controlling transnational corporate practices, especially within the digital economy (Fox, 2019).

Hildebrandt supplemented the discussion of extraterritoriality by describing how digital technologies change the nature of territorial borders (Hildebrandt, 2017). His work gave ground for recognition that both digital and physical boundaries are combined with an increasing tendency. Also, Osipov presented a critical overview of the consequences of the emergent digital changes in governance, assuming, in general, that digital platforms impose different architectural and government logic (Osipov, 2020). Tweedie's work tamed the intersection between architecture and digital design. Thus, among the reviewed materials, his work is focused on more than extraterritorial spaces but rather on the artistic issue of digital architecture. Being presented, Glasius provided a framework for authoritarian practices in extraterritorial spaces and, therefore, has contributed to political arguments that could be welcomed within urban planning and governance discussions (Glasius, 2018).

### **2.3. The Materialization and Manifestation of Extraterritoriality between the Digital and Physical**

Then again, Amir, in 2014, elaborated on how the media framed public perception

about extraterritorial events; this one takes into consideration the incident on Mavi Marmara. Thus, this work did underline the media as an element of interest in shaping the narratives of extraterritorial spaces, though it lacked an immediate application to architecture. Weizman proposed the concept of forensic architecture in 2017 to analyze violence and conflict manifestations within urban spaces. His research extended the discussion of extraterritoriality to forensic and architectural investigations and purportedly suggested that an architectural methodology can assist in documenting extraterritorial practices (Weizman, 2017). Woods addressed data sovereignty, emphasizing its legal implications for digital extraterritoriality (Woods, 2018). Though his research was centered around legality concerns, there was great merit in the questions he raised about how digital boundaries manifest in physical environments. Ryngaert focused, in 2017, on how digital extraterritoriality influences jurisdiction and governance in cyberspace, providing a broad framework of analysis based on the intersection between digital and physical extraterritoriality. The same author developed his ideas in a 2023 study to analyze normative changes of extraterritorial enforcement in the digital space. Glasius studied in 2018, and Furstenberg, Lemon, and Heathershaw in 2021 examined authoritarianism in extraterritorial spaces and provided insight into how authoritarian regimes extend their influence beyond physical borders (Glasius, 2018). Their research emphasized spatial analysis of repression in transnational contexts. Razmetaeva, Ponomarova, and Bylya-Sabadash discussed jurisdictional complications posed by the challenges of the modern digital age, pointing out the necessity for novel and adapted legal arrangements against the problems of regulation within virtual spaces (Razmetaeva, Ponomarova, & Bylya-Sabadash, 2021). Their work underlined that legal solutions should correspondingly pursue an ever-changing digital environment. Bernal 2020 discussed the interrelationship between digital and physical environments within Eritrean politics, showing how digital media and diaspora communities reconstitute territorial borders (Bernal, 2020). He found that digital space exceeds physical borders and generates fluid socio-political landscapes. Sekati 2022 focused on how extraterritorial jurisdiction might be exercised in fighting cybercrimes (Sekati, 2022). This is important because his work highlighted the legal challenges for assuming jurisdiction in virtual space and the inefficiency of the existing legal framework to deal with transborder cyber offenses.

#### **2.4. Spatial Dynamics and Practices of Extraterritoriality**

Through this sense, this concept emphasizes understanding the interaction and influence between physical and digital extraterritorial spaces on the structure, governance, and cultural memory of the contemporary urban. Szigeti also contributed to the critical discourse in 2019 regarding traditional notions separating territorial and extraterritorial landscapes by accusing them of being too simplistic since the natural territorial borders cannot be defined (Szigeti, 2019). The spatial behaviors associated with extraterritoriality in architecture were beyond the scope of his analysis. For instance, Collyer et al. investigated the intersection of migration and

extraterritorial state power and showed how these transnational practices reshape urban environments (Collyer & King, 2015). Although their work was handy when establishing the migratory pattern, it did not thoroughly consider its implications for architecture. Rios et al. followed up with a presentation concerning “trans-local placemaking” in the Hmong diaspora, indicating how twenty-first-century cultural practices envelop physical boundaries (Rios & Watkins, 2015). While their work enriched trans-locality knowledge, its direct application within the architectural realm remained underexplored. Tan and Güneç (2017) discussed decolonization through architecture, displaced populations, and refugee camps (Tan & Güneç, 2017). Their work points to the spatial outcomes of extraterritoriality in the displaced environment; however, further research is needed to capture how architectural interventions address such situations. Fernández-Molina and Ojeda-García studied the case of parastates in Western Sahara, with insights on territorial and sovereignty issues in stalled conflicts (Fernández-Molina & Ojeda-García, 2020). While their research brought several critical geopolitical perspectives, their application to architectural practices was still embryonic.

Further research, such as Massey’s (1994) concept of “global sense of place”, highlights how globalization fragments spatial dynamics, merging local and global identities. Harvey (2001) builds on this with his work on “spaces of capital”, discussing how economic and digital networks shape urban spaces. Lefebvre’s (1991) *The Production of Space* also remains critical for understanding how space is socially produced in the context of digital extraterritoriality.

## 2.5. Cultural and Collective Memory and Representation of (and by) Extraterritoriality

Cultural studies offer a fertile grounding to grasp how extraterritoriality intersects with identity, language, and spatial reconfigurations. Langford mapped global justice and notions of rights beyond borders by exploring the legal dimensions of cultural rights in extraterritorial spaces; however, his work did not address the spatial implications of these rights (Langford, 2013). In turn, Chiappe Bejar took the works of Danticat and Díaz to explain how cultural narratives about extraterritoriality are entangled with history, language, and identity as modes of shaping cultural memory (Chiappe Bejar, 2018). The work of Langford and Bejar contributed to the understanding of cultural dimensions in extraterritoriality, while architectural depictions were left underexplored. Drawing on Bakhtin’s ideas of creativity and alternative existence, Lysokolenko and Palahuta examined the notion of play. By contrast, their work opened new avenues for elucidating how cultural practices inform extraterritorial spaces (Lysokolenko & Palahuta, 2022). While being very relevant for the urban landscapes, the findings of those works had limited direct relevance for Wang’s investigation. Wang studied borders as assemblies in a global food trade context, which ran counter to the traditional conceptions of political boundaries (Wang, 2021). His writing was valuable in terms of theoretical insights; however, it did not engage, in the end, with the architectural practices in

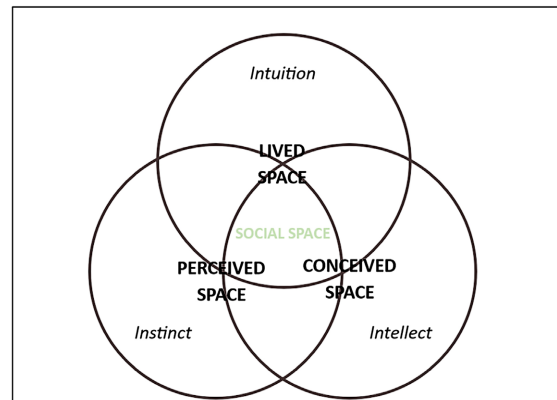
extraterritorial spaces. In Hart's work, one finds the investigation of extraterritorial spaces for the intersection of literature and geopolitics, presenting a literary perspective that could be included within the architectural discourse (Hart, 2019). Beaumont looked into political dimensions within the commemoration of *World War I* in collective memory and identified how such memorial practices shape how the general public perceives historical events (Beaumont, 2015). These studies form a basis for investigating how cultural memory is represented in extraterritorial space; beyond this work, however, research is required to link these better insights into architectural practice.

## 2.6. Architectural Design and Theory

Architectural Design and Theory is a broad subject area that merges the study of architectural theory into architectural design practice. The studies relate to the language of architecture, the human body, historical precedents, and the design process investigation. Fessel discussed the "Extraterritoriality Nexus" and how extraterritoriality in urban settings is shaped by nature, but those findings have a relatively weak anchorage to the theories undergirding architectural theory (Fessel, 2013). Integrating spatial representation and design methodologies could deepen understanding of extraterritoriality's impact on constructed spaces. Lewis examined authoritarian spatial practices in Uzbekistan, linking them to security considerations, but there is a need to explore how these manifests in architectural design (Lewis, 2015). Roskam's study on Shanghai's governance highlights the historical roots of extraterritoriality but needs a modern application (Roskam, 2019). Paidakaki et al. examined the architectural resilience of refugee camps without considering extraterritoriality to play every role in that process (Paidakaki, De Becker, De Reu, Viaene, Elnaschie, & Van den Broeck, 2021). Volait concentrated on the need to rethink colonial architecture in a new light, failing to connect such ideas with the question of extraterritoriality today (Volait, 2017). Karrholm contributed to commercialized public spaces (Karrholm, 2016), and Wu, in their work on urban planning in China, explicitly demanded further investigation into how spatial practices must often negotiate influences from elsewhere (Wu, 2015). These contributions reinforce a need to embed extraterritoriality more deeply within architectural theory.

To better understand both virtual and real extraterrestrial places, it is necessary to refer to architectural theory, namely heterotopias as proposed by Michel Foucault and *The Production of Space* by Henri Lefebvre. Spaces that exist outside of traditional society norms and serve distinct tasks are described by Foucault as heterotopias. Cloud computing, data centers, and digital platforms such as Microsoft Azure and Amazon Web Services are examples of modern heterotopias that exist outside of conventional legal jurisdictions but have far-reaching effects on international law and social mores. Significantly, as shown in **Figure 1**, Henri Lefebvre proposed the distinction between "conceived space" (representations of space) and "lived space" (representational spaces) (Fuchs, 2018). Cities like Shenzhen

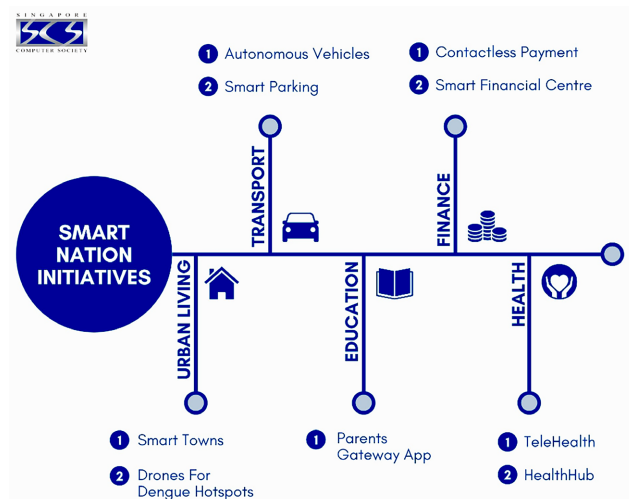
and Ashburn, Virginia (a global data center hub), are being reshaped by digital extraterritoriality, which upsets this dynamic by producing locations that are both lived and conceptualized. Next, architects must figure out how to incorporate these digital infrastructures—which are frequently unseen but have a significant influence—into the built environment of the city without causing any kind of social or cultural upheaval.



Source: [https://www.researchgate.net/figure/Henri-Lefebvres-triad-of-space-production-Source-Authors\\_fig1\\_315696248](https://www.researchgate.net/figure/Henri-Lefebvres-triad-of-space-production-Source-Authors_fig1_315696248).

**Figure 1.** Henri Lefebvre's idea of "lived space" (representational spaces) versus "conceived space" (representations of space).

While many will likely need help to extend their view of digital extraterritoriality beyond NEOM and Silicon Valley, looking at the other important regions is appropriate. For example, the Smart Nation initiative of Singapore presented in **Figure 2** fills in all the gaps in a full-scale integration of digital technology into governance and city living. While its "National Digital Identity" covers all citizens



Source: <https://www.scs.org.sg/articles/smart-nation-singapore>.

**Figure 2.** Singapore's smart nation initiative exemplifies a comprehensive integration of digital technology into governance and urban living.

in one digital platform for full e-services, there can be some threats regarding data sovereignty and digital privacy (Sipahi & Saayi, 2024). Likewise, the Estonian e-Residency program presented in **Figure 3** allows people worldwide to become digital residents, realizing the possibilities of Estonian business and financial services without being in the country. Hence, it extends Estonia's jurisdiction into the digital area, challenging traditional concepts of territoriality.



Source: <https://medium.com/metadium/how-estonia-is-pioneering-the-digital-identity-space-4008c709fbb8>.

**Figure 3.** Estonia's transnational digital identity program.

## 2.7. Literature Review Summary

The literature on extraterritoriality demonstrates its evolution from traditional diplomatic and colonial frameworks to contemporary challenges posed by digital technologies. Key concepts like Foucault's heterotopias and Lefebvre's production of space offer theoretical frameworks for understanding the relationship between physical and digital spaces. Studies have highlighted the governance challenges posed by digital sovereignty, the role of media in shaping perceptions, and the impact of extraterritoriality on urban planning and cultural memory. However, there are still gaps in the literature concerning the architectural implications of these changes and the intersection of digital extraterritoriality with local governance and socio-cultural dynamics. This review provides a foundation for exploring how these issues shape modern urban environments and cultural identities.

## 2.8. Gaps in Literature

Yet, despite this growing discourse on extraterritoriality, significant gaps remain in the academic literature about its digital geographies. Whereas forms of traditional extraterritoriality have been relatively well documented-especially within colonial and diplomatic traditions-a literature on forms of digital extraterritoriality and, more specifically, its role in shaping urban planning and governance remains underdeveloped. Indeed, studies have yet to examine how digital platforms and infrastructures affect the sovereignty of urban spaces like NEOM and Silicon

Valley. Attention to how such spaces interact with collective memory and cultural logic could be higher because media representations are usually favorable to innovation instead of social and political realities. Lastly, architectural theory needs more incorporation into digital extraterritoriality, entailing a lack of clear understanding of how spatial design can adjust to the dual forces exerted by physical and digital governance. These gaps need to be tackled to widen the knowledge of how extraterritoriality shapes urban landscapes in present times.

### **3. Research Methodology**

#### **3.1. Research Design**

This study employs a qualitative case study research design, focusing on NEOM (Saudi Arabia) and Silicon Valley (United States) as primary examples of physical and digital extraterritoriality. These cases were selected due to their global significance in representing the intersection of physical and digital governance. NEOM is a planned smart city that epitomizes the future of urban development with heavy reliance on digital infrastructure and separate governance frameworks. Silicon Valley, by contrast, is already an established global hub for technology and digital innovation. These cases allow for an in-depth exploration of how digital sovereignty and governance evolve in relation to extraterritorial spaces.

The case study approach provides a detailed, contextual understanding of extraterritoriality, making it possible to analyze how these specific spaces impact local governance, socio-cultural dynamics, and collective memory.

#### **3.2. Research Strategy**

The research strategy was based on an in-depth literature and archival material review. Extensive archival research into historical documents, cartography, architectural blueprints, and city planning records was critical in identifying fundamental case studies. Archival research proved crucial to tracing the evolution of extraterritorial spaces and understanding colonial practices' historical and contemporary impacts. These historical maps from The British Library, urban planning records from the Library of Congress, and dispersed architectural blueprints have provided good context and insight regarding extraterritoriality in space and time.

#### **3.3. Data Collection**

Data was collected from various disciplines, including urban studies, architecture, digital humanities, and cultural studies, to address the complexities of extraterritoriality. The research team employed interdisciplinary methodologies for comprehensive insights into the subject. They tasked themselves with in-depth examinations of core case studies that gave a detailed insight into the various features of extraterritorial spaces and their effects. Qualitative data was collected through archival research and content analysis of media representations.

Data collection for this research was carried out through several methods, ensuring a comprehensive and interdisciplinary perspective. The study draws on:

- **Archival Research:** Historical documents, city planning records, and architectural blueprints were examined to trace the evolution of extraterritoriality in both case studies.
- **Media Content Analysis:** Representations of NEOM and Silicon Valley in the media were analyzed to understand how these spaces are portrayed in terms of technological advancement, governance, and socio-political impact.
- **Policy and Legal Documents:** Key policy documents, international legal frameworks, and digital governance regulations (e.g., GDPR) were reviewed to understand how extraterritoriality is governed in these contexts.
- **Interdisciplinary Sources:** Additional qualitative data was collected from urban studies, architecture, and cultural theory to provide depth to the analysis of extraterritorial spaces.

These methods allow for a thorough exploration of both historical and contemporary dynamics, ensuring that the data collected is robust and relevant to the study's objectives.

### 3.4. Data Analysis and Interpretation

Qualitative methods in analyzing data were employed in this research to reach an overall understanding of the research questions. Thematic analyses were executed on qualitative data to get patterns and themes on the subject matter of extraterritoriality. The thematic analysis helped consider how internet infrastructure, cultural representations in digital games, and other case studies relate to territoriality and sovereignty. Critical cartographic analysis was done by studying historic and contemporary maps to understand the trends in the evolving representations of extraterritorial spaces. Such analysis highlighted how mapping reflects and constitutes political, cultural, and social factors. The research study also exploited policy analysis to recognize how legal frameworks operate in the exercise of powers in the governance of extraterritorial spaces. The papers analyzed policy documents and legal texts to bring out extraterritoriality challenging conventionally perceived sovereignty and its correlation with jurisdiction. As advanced by Jørgensen and Phillips, discourse analysis enabled the research to deconstruct language and storytelling around extraterritoriality. This has shown how discourses create meaning in terms of space and territoriality. Based on Braun and Clarke's thematic analysis, key themes in digital cultural content and scholarly literature have been identified. This gave an in-depth understanding of how extraterritoriality is framed and enacted across different contexts.

### 3.5. Ethical Considerations

The study had to be strict in its ethical considerations to make sure such a study would maintain its integrity and validity. This study put the archives and data to responsible use with proper attribution. Policy and legal documents were researched commensurate with commitments to accuracy and fairness. This in-

depth qualitative research methodology afforded this study deep insight into extraterritoriality.

#### 4. Case Study

NEOM is a planned smart city in Saudi Arabia, epitomizing digital extraterritoriality in the modern urban landscape. Designed to function independently of the rest of the country, NEOM boasts its own legal, economic, and governance apparatus; it, therefore, provides a priority example for exploring how digital technologies, IoT, and cloud computing are reconfiguring urban planning and governance. In this sense, its dependence on digital infrastructure mediates the notion of territory into a kind of semi-autonomous zone, significantly ruled by global standards imposed on digital technologies. Another case is Silicon Valley in the United States, where corporate governance in data, cloud services, and technological innovation seriously contests notions of national and international jurisdiction. While physically part of the U.S., the digital infrastructure of Silicon Valley exerts its influence as part of a global network, reflecting the rising importance of digital sovereignty. NEOM and Silicon Valley are manifestations of an increasingly complex world of digital extraterritoriality, which asks how governance will adapt to technological developments and changes in the spatial dynamics of cities. Besides NEOM and Silicon Valley, other global digital projects exemplify the growing significance of extraterritoriality. For example, Singapore's Smart Nation initiative presented in **Figure 4** comprehensively integrates digital infrastructure into urban governance. Singapore's digital identity project, the National Digital Identity, acts as the single platform for all citizens to access healthcare, finance, and government services. While it is physically in Singapore, its reach extends beyond the island. The transnational nature of data sovereignty is further illustrated by the controversy over the European Union's General Data Protection Regulation (GDPR). It would apply not only to a company in the European Union but also to any other that handled information on European Union citizens. It functions as a new type of digital extraterritoriality. Companies like Facebook and Google come under GDPR standards, even though their data servers are in the United States or elsewhere. This dynamic creates legal complexities as digital infrastructures stretch across multiple jurisdictions.



Source: <https://www.telecomreviewasia.com/news/featured-articles/1963-what-we-can-learn-from-singapore-s-smart-nation-initiative/>.

**Figure 4.** Singapore smart nation initiative.

## 5. Results and Analysis

Extraterritoriality has its duality, where physical and virtual spaces integrate environments and shape chapel narratives. The discussion results revealed that although classic physical extraterritoriality, like embassies and international zones, still plays itself out in governance and territoriality, this new rise of digital extraterritoriality presents new dynamics that will challenge conventions about sovereignty and jurisdiction.

### 5.1. Physical vs. Digital Extraterritoriality

As explained in **Table 1**, the NEOM and Silicon Valley case studies provided critical insights into how physical and digital extraterritoriality intersect and diverge. NEOM is a planned smart city in Saudi Arabia and has come to embody a redefinition of territorial boundaries through physical and digital technologies. While NEOM as illustrated in **Figure 5** is a new model of urbanism in which the digital infrastructure necessitates and orders both the physical and administrative frameworks with separate governance structures and relying on AI and IoT,

**Table 1.** Examples of key characteristics of neom and Silicon Valley.

Characteristic	NEOM	Silicon Valley	Smart Nation	e-Residency
<b>Location</b>	Saudi Arabia	United States	Singapore	Estonia
<b>Focus</b>	Smart city, AI, IoT	Digital innovation, data centers	National digital integration, urban tech	Digital identity, global business services
<b>Governance</b>	Separate from national laws	Influences global data policies	Relies on global tech corporations for cloud infrastructure	Extends national laws into digital space
<b>Impact</b>	Redefines territorial and governance norms	Global digital sovereignty	Global digital influence through tech integration	Expands Estonian jurisdiction globally



Source: <https://www.tomorrow.city/neom-saudi-arabia/>.

**Figure 5.** An example of NEOM's digital infrastructure.

Silicon Valley, though physically part of the U.S., is operating globally with its digital platforms, cloud computing, and data centers, and thus well beyond the traditional notions of the nation-state as rendered in **Figure 6**.



Source: <https://edgecore.com/edgecore-digital-infrastructure-breaks-ground-on-first-of-two-silicon-valley-data-centers/>.

**Figure 6.** An example of Silicon Valley’s digital infrastructure.

## 5.2. Impact on Collective Memory and Media Representation

The study also showed in **Table 2** how representations of these extraterritorial spaces in media mostly celebrate technological advancement at the cost of occluding socio-political realities. NEOM is considered a future utopia, with little emphasis on what this means to that region’s local government and cultural identity. At the same time, Silicon Valley is considered the very home of innovation. However, its global influence is still largely unconsidered regarding its effects on local and international policies.

**Table 2.** Media representation of extraterritorial spaces.

Media Focus	NEOM	Silicon Valley	Smart Nation	e-Residency
<b>Portrayal</b>	Technological advancements, futuristic	Innovation, tech leadership	Digital governance, national integration	Digital entrepreneurship, global reach
<b>Overlooked Aspects</b>	Governance implications, cultural impacts	Global influence, socio-political context	Privacy concerns, data sovereignty	National sovereignty, legal implications

## 5.3. Implications for Governance and Policy

This research underlined that digital extraterritoriality challenges established governance frameworks and legal structures. Second, incorporating digital technologies into physical design at the level of cities calls for new legal and administrative methods in approaching such complexity concerning digital sovereignty and territoriality. Such a shift demands policy reforms capable of managing the interaction between the digital and physical spaces so that governance structures

constantly adapt to the changing landscapes of extraterritoriality. The study demonstrates how the interplay of physical and digital forms of extraterritoriality shapes urban environment and cultural memory.

Current international legal frameworks, such as the Budapest Convention on Cybercrime, are only partially effective in addressing digital extraterritoriality (Council of Europe, 2014). More comprehensive legal reforms are required to address the jurisdictional challenges posed by platforms like AWS and Microsoft Azure, which operate across borders and outside traditional governance structures (Table 3). Future policy must also address the growing influence of multinational corporations that, in controlling digital infrastructures, wield power akin to that of states. These corporations exert a form of “digital sovereignty” that is often unchecked by local laws, leading to tensions between national governments and global platforms. To address this, international legal standards on data governance, similar to the GDPR, must be enforced globally to regulate these platforms’ influence on local governance and cultural memory.

**Table 3.** The implications of digital extraterritoriality on governance.

Aspect	Implication	Aspect	Implication
Governance Structures	Need for new frameworks and policies	Governance Structures	Need for new frameworks and policies

## 6. Discussion

This research underlines the tectonic shift within urban environments and their governance structures due to the interplay between physical and virtual extraterritorial spaces. It also underlines how such space development is not a simple, technical, or logistic change but a force that changes and influences the societal structure and collective memory (Liao, 2014). Case studies concerning NEOM and Silicon Valley will be enabled in a fundamental way to show the above shifts. NEOM is a new form of extraterritoriality due to the nature of its futuristic design as well as its governance framework, which blurs digital and physical boundaries into a semi-autonomous zone informed by global digital standards (Donahoe, 2017). In contrast, Silicon Valley entails how digital infrastructure, while physically situated in the United States, has brought about an international influence that challenges traditional notions of jurisdiction and sovereignty (Rajkovic, 2019).

The research’s strengths lie in its interdisciplinary nature, as it draws from notions of urban studies, architecture, and digital humanities with cultural theory to put forward a comprehensive idea of extraterritoriality. This work will unite these disparate methodologies in conversation through case studies and thematic analysis, providing insight into how digital technologies intersect with physical spaces and influence governance and cultural memory. It is a much-needed approach that develops a detailed analysis of the challenges: the modern-day urban environment and the delicate interaction between digital and physical extraterritoriality.

Yet, this research also underlines various lacunas in the existing scholarship. While interest in extraterritoriality is growing, digital extraterritoriality, for example, is significantly underexplored from the perspective of urban planning and architecture. Whereas traditional scholarship has copiously engaged with physical extraterritorial spaces, such as embassies and international zones, the impact of digital infrastructures, such as those in Ashburn, remains underrepresented. In addition, the study comprehensively identifies a gap in an exhaustive investigation regarding how digital spaces interlink with local governance and socio-cultural dynamics. This lack of clarity concerning understanding the intersection of data sovereignty, urban planning, and architectural design underlines the need for more research into how the adaptation of legal frameworks and urban policies faces challenges of digital extraterritoriality.

### **Implications for Governance and Policy**

The research has significant implications for both governance and policy. Firstly, it highlights the need for new governance models that can effectively manage the intersection of digital and physical extraterritoriality. Traditional notions of sovereignty and jurisdiction are increasingly inadequate to address the transnational influence of digital platforms, data centers, and smart cities. For example, NEOM's reliance on digital infrastructure requires the Saudi government to reconsider how national laws will operate within semi-autonomous, technology-driven zones. Similarly, Silicon Valley's global digital reach calls for new international regulatory frameworks that extend beyond national borders, such as the GDPR in the European Union.

Policymakers must prioritize the development of legal frameworks that can accommodate these shifts, ensuring that local governance and cultural identity are protected in the face of digital extraterritorial influence. This could involve the creation of supranational governance structures or the adaptation of existing international agreements to address digital sovereignty, particularly in areas such as data protection, urban planning, and cultural preservation.

## **7. Conclusion**

The focal point of "The Duality of Extraterritoriality between the Physical and the Digital" reflects the more profound changes within urban systems and governance structures due to converging dynamics concerns in both the physical and digital worlds. Using examples such as NEOM and Silicon Valley, they show that the blurred boundaries within both regimes call for a reassessment of the current legal framework and governance models. It underlines the need for new policies to address the increasingly complex aspects of digital sovereignty and territoriality while paving the way for fitting in urban planning with the evolution of extraterritorial geography. The study dramatically informs how digital infrastructures shape cultural memory and societal structure and, by extension, warrants a holistic approach toward urban governance in the era of digitization. As these

extraterritorial spaces evolve, they challenge existing legal and administrative structures, calling for a reassessment of how governance operates in increasingly digitalized urban environments.

### **7.1. Summary of Research Findings**

This research highlights the evolving nature of extraterritoriality in both its physical and digital forms, specifically focusing on the case studies of NEOM and Silicon Valley. Key findings include:

1) **Dual Nature of Extraterritoriality:** The study illustrates how extraterritoriality has expanded from a historical, physical concept to encompass digital spaces, where governance structures are redefined through technological advancements such as AI, IoT, and cloud computing.

2) **Impact on Governance:** The research reveals that traditional legal and governance frameworks struggle to keep pace with the rise of digital extraterritorial spaces. Both NEOM and Silicon Valley showcase the need for new governance models that can accommodate the unique challenges posed by digital sovereignty and global data flows.

3) **Cultural Memory and Representation:** The study demonstrates how extraterritorial spaces like NEOM and Silicon Valley are portrayed in media, often emphasizing technological progress while overlooking the socio-political and cultural impacts of these spaces.

4) **Literature Gaps:** The analysis identified significant gaps in the existing literature, particularly regarding the intersection of digital extraterritoriality with local governance and socio-cultural dynamics, calling for further interdisciplinary research in urban studies, digital governance, and architecture.

### **7.2. Recommendations and Future Research**

However, the challenges of digital extraterritoriality would be better off with multi-disciplinary works that bring together contributions by policymakers and urban planners from urban studies, digital humanities, and cultural theory. Collaborative efforts between scholars like Shoshana Zuboff, who investigates the psychological, social, and economic effects of digital technology, urban planners like Jan Gehl, who focuses on human-centered urban design, and lawmakers like Edward Snowden, who has brought attention to digital privacy and governance concerns, are necessary to create new management frameworks that can handle the unique dynamics of digital spaces. This could allow the development of novel governance frameworks that attend to the specific dynamics of digital spaces. Besides that, there is a need for an active approach to raising the awareness and understanding of the general public about the issue of digital sovereignty so that communities around the world can be informed and involved in the possible implications of that infrastructure on their urban environment. Future research should study the underrepresented dimensions of digital extraterritoriality, especially those concerning local governance and socio-cultural dynamics. Further

research on more extensive digital infrastructures, such as data centers and cloud computing, about urban planning and cultural identity contributes to a deeper understanding of these technologies' implications for contemporary urban contexts. Longitudinal studies examining the consequences of digital extraterritoriality on collective memory and cultural narratives over the long term will be required to properly understand the nature of urban environments changing in the digital era. Future research in these areas can help improve understanding of such reciprocity in extraterritoriality and its impact on society.

## Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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