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Reframing Urban Land Use and Value Through the Digital Economy: Review of Disrupted Activities, Behaviours, and Mobility

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Abstract

The rise of the digital economy is profoundly transforming urban landscapes by reshaping how people live, work, consume, and move. This paper conducts a systematic literature review of peer-reviewed articles to explore how digital disruptions are altering urban activities, human behaviours, and mobility patterns—and how these changes redefine land use and land value. Findings reveal that the digital economy is decoupling urban functions from geographic proximity, undermining traditional land value determinants. E-commerce, remote work, and gig economies are restructuring retail, office, and housing demand, while platform urbanism is driving the privatisation of public spaces and corporatisation of governance. Digital behaviour shifts, including on-demand consumption and digital engagement, are creating new spatial and economic inequalities. Urban mobility is transitioning toward shared, electric, and autonomous solutions, supporting 15-minute city concepts but also challenging infrastructure and regulatory norms. This study underscores the urgency of rethinking planning, land valuation, and equity in the digital era. The paper concludes with implications for urban policymakers, planners, and real estate professionals seeking adaptive, inclusive, and forward-looking land use strategies.

Keywords: digital economy; urban disruption; land use; land value; urban mobility; platform urbanism; e-commerce; remote work; behavioural shifts; urban planning and development

1. Introduction

The advent of the digital economy has brought about significant changes in how people live, work, and interact within urban environments. Traditional urban activities, such as retail, commerce, and recreation, are increasingly being augmented or replaced by digital alternatives [1]. This shift is influencing human behaviour, leading to new patterns of consumption, communication, and social interaction [2–4]. Simultaneously, digital technologies are transforming mobility, with the rise of shared mobility platforms, electric vehicles, and autonomous transportation systems [5,6]. These changes collectively impact land use patterns and, consequently, land values within cities [7].

The conventional understanding of land use and land value is predicated on physical proximity and accessibility to economic opportunities, amenities, and transportation infrastructure [8,9]. Nevertheless, the digital economy challenges these assumptions by reducing the importance of physical location for certain activities and creating new forms of value that are not directly tied to traditional land uses [1,10,11]. For instance, the rise of remote work has decoupled employment from physical workplaces, potentially leading to shifts in residential preferences and demand for office

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spaces [12]. Similarly, the growth of e-commerce has altered retail patterns, impacting the demand for brick-and-mortar stores and transforming commercial districts [13,14].

Understanding these transformations is essential for urban planners, policymakers, and real estate professionals. Traditional land use regulations and valuation models may no longer accurately reflect the realities of the digital economy, leading to inefficiencies, inequities, and unsustainable development patterns [15,16]. This study will address the following key research questions: (a) How does the digital economy disrupt traditional urban activities, and what are the implications for land use patterns? (b) How does the digital economy influence human behaviour in urban environments, and how do these behavioural shifts affect land demand and value? (c) How does the digital economy transform urban mobility through the emergence of new transportation technologies and platforms, and what are the consequences for land use, accessibility, and urban form? By examining the disruptions caused by the digital economy on urban activities, behaviour, and mobility, this research aims to provide insights that can inform more effective land use policies, valuation methodologies, and urban development strategies.

2. Literature Background

2.1. The Digital Economy and Urban Activities

The digital economy has significantly altered traditional urban activities, such as retail, commerce, and recreation [17–19]. The rise of e-commerce has disrupted traditional retail patterns, leading to a decline in brick-and-mortar stores and the emergence of new forms of online shopping [13]. This transformation has implications for the demand for commercial spaces and the vitality of traditional commercial districts. Similarly, the digital economy has facilitated the growth of online services, such as online education, telemedicine, and remote entertainment, which have reduced the need for physical spaces dedicated to these activities [20–22]. The shift towards a digital economy has also led to the emergence of new types of urban activities, such as co-working spaces, maker spaces, and innovation hubs [23,24]. These spaces cater to the needs of digital workers, entrepreneurs, and startups, fostering collaboration, creativity, and innovation. They often require different types of land use and infrastructure compared to traditional office spaces, necessitating a re-evaluation of zoning regulations and development policies.

2.2. Digital Economy and Human Behaviour

The digital economy has profoundly influenced human behaviour in urban environments, including consumption patterns, social interactions, and mobility choices [25–27]. The proliferation of smartphones, social media, and online platforms has transformed how people consume goods and services, communicate with each other, and access information [28]. These behavioural shifts have implications for land demand and value. For instance, the rise of online shopping has altered consumer behaviour, leading to a greater emphasis on convenience, personalisation, and price transparency [29]. This has reduced the demand for traditional retail spaces and increased the demand for logistics and distribution centres [30,31]. Similarly, the growth of social media has transformed social interactions, leading to a greater emphasis on online communities and virtual experiences [32]. This has implications for the demand for public spaces and community facilities.

2.3. Digital Economy and Urban Mobility

The digital economy has revolutionised urban mobility through the emergence of new transportation technologies and platforms. Shared mobility platforms, such as Uber and Lyft, have transformed how people move around cities, providing convenient and affordable transportation options [33]. Electric vehicles are gaining popularity, reducing reliance on fossil fuels and promoting sustainable transportation [34]. Autonomous vehicles hold the promise of further transforming urban mobility, potentially leading to safer, more efficient, and more accessible transportation systems [35].

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These transformations have significant consequences for land use, accessibility, and urban form. The rise of shared mobility platforms may reduce the need for private car ownership, leading to a decrease in demand for parking spaces and a shift towards more pedestrian-friendly and bike-friendly urban environments [36–38]. The adoption of electric vehicles may require the development of new charging infrastructure, which could impact land use patterns and energy consumption [39,40]. The deployment of autonomous vehicles may lead to more efficient use of road space, potentially reducing traffic congestion and improving accessibility [41].

3. Research Design

3.1. Methodological Approach

This study employs a systematic literature review (SLR) methodology to investigate how the digital economy disrupts traditional urban activities, behaviour, and mobility patterns, and their subsequent impacts on land use and land value. The SLR follows a rigorous three-stage methodological approach adapted from [42], ensuring comprehensive coverage and systematic analysis of relevant literature. The review was guided by three key research questions: (a) How does the digital economy disrupt traditional urban activities, and what are the implications for land use patterns? (b) How does the digital economy influence human behaviour in urban environments, and how do these behavioural shifts affect land demand and value? (c) How does the digital economy transform urban mobility through the emergence of new transportation technologies and platforms, and what are the consequences for land use, accessibility, and urban form?

3.2. Literature Search Strategy

The first stage (Stage 1) is to define the literature search strategy. To ensure comprehensive coverage of relevant literature, a structured search strategy was developed using Boolean operators to combine key terms related to each research question. Three distinct search queries were formulated: ("urban activities" OR "urban land use" OR "urban functions") AND ("digital transformation" OR "digital economy") for addressing urban activities; ("urban behaviour" OR "consumer behaviour" OR "lifestyle changes") AND ("digital transformation" OR "digital economy") for examining behavioural aspects; and ("urban mobility" OR "travel behaviour" OR "commuting patterns") AND ("digital transformation" OR "technological disruption") for investigating mobility transformations. These search queries were applied to the title, abstract, and keywords fields across four major academic databases. Scopus was selected for its comprehensive coverage of peer-reviewed literature across multiple disciplines, particularly strong in urban studies, geography, and technology research. Web of Science was utilised for its rigorous selection criteria and citation indexing, ensuring high-quality scholarly publications. Google Scholar was included to capture a broader range of academic literature, including recent publications and interdisciplinary research that might not yet be indexed in traditional databases. ProQuest was employed to access additional academic journals and ensure coverage of publications from diverse geographic regions and emerging research areas.

The search was restricted to articles published between 2019 and 2024 to capture recent developments in the rapidly evolving digital economy. Additional filters were applied to ensure quality and relevance, including limiting results to peer-reviewed journal articles, research papers only (excluding reviews, editorials, and conference papers), English language publications, and full open-access articles. The initial search yielded 512 articles across all databases, providing a substantial corpus for systematic review.

In Stage 2, The selection process involved a multi-stage screening approach with clearly defined inclusion and exclusion criteria applied at primary and secondary levels. Primary inclusion criteria specified peer-reviewed research articles with full-text availability online and articles published in academic journals. Primary exclusion criteria eliminated duplicate records across databases, books and book chapters, industry reports, and government reports and policy documents. Application of primary criteria reduced the initial 512 articles to 244 unique research articles.

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Secondary screening criteria were then applied in two phases. The inclusion criteria at this stage required direct relevance to digital transformation impacts on urban activities, behaviour, or mobility; clear alignment with one or more research questions; demonstrable methodological rigour; and provision of empirical evidence or robust theoretical contributions. Articles were excluded if they had only tangential relationships to digital transformation in urban contexts, lacked clear connection to urban activities, behaviour, or mobility, showed insufficient relevance to the research aims, or were purely descriptive studies without analytical depth. The first phase involved screening titles, abstracts, and keywords of the 244 articles, resulting in 77 articles deemed potentially relevant. The second phase consisted of full-text review of these 77 articles against secondary criteria, yielding a final sample of 66 articles for in-depth analysis. Figure 1 presents a summary of the methodology described above, including the Boolean search terms applied.

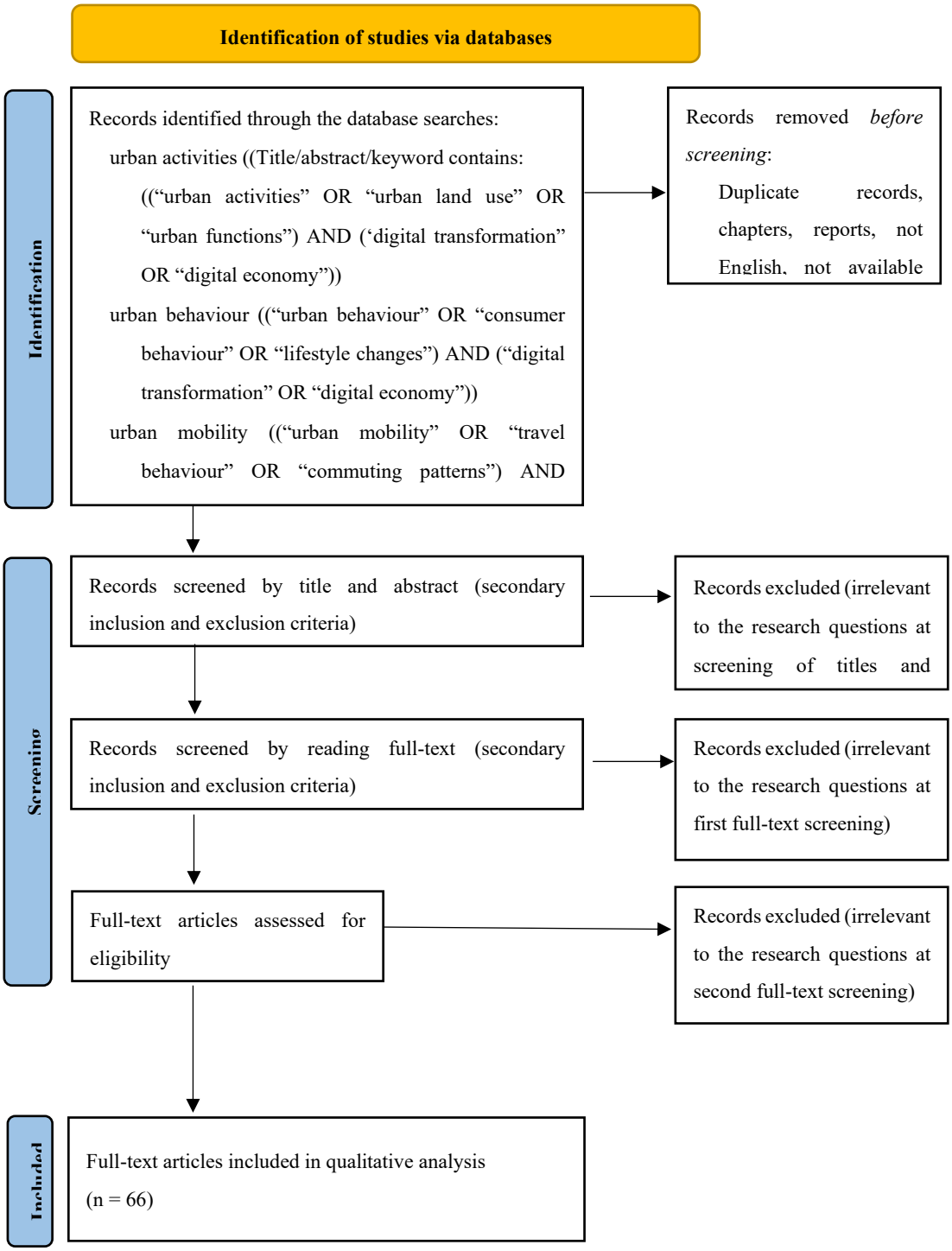

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Figure 1. Literature selection procedure.

3.3. Data Analysis

In Stage 3, The analysis employed a systematic categorisation method adapted from [43], utilising a four-step qualitative approach to identify and organise key themes aligned with the research questions. These themes were then re-evaluated, refined, and cross-referenced with other literature and review studies. The criteria for the formation of the themes are presented in Table 1.

Table 1. Criteria for category formulation.

Step	Selection Criteria	Process Description
1	Initial Issue Identification	Determine key issues relevant to digital economy impacts on urban land use and land value using the eye-balling technique across the literature
2	Disruption Detection	• Detect disruptions to traditional urban activities due to the digital economy • Identify behavioural shifts in the digital economy age • Identify how digital economy transform urban mobility
3	Category Formation	Group identified disruptions with similarities to form broader potential categories
4	Category Refinement	• Narrow down categories and check consistency against other literature • Final review of literature and analysis of shortlisted categories
5	Finalisation	• Verify, classify, and finalise the creation of final categories • Distribute selected literature under most relevant categories

The analysis utilised descriptive qualitative techniques rather than statistical methods. Pattern matching was employed to identify common themes, trends, and differences across the selected literature using systematic eye-balling techniques deemed sufficient for assessing and organising the data. Explanation building was used to develop coherent narratives connecting identified patterns to the theoretical framework and research questions. This analytical process resulted in the distribution of the 66 selected articles across three primary thematic categories: How Digital Economy Disrupts Urban Activities (n = 22), How Digital Economy Disrupts Urban Behaviour (n = 22), and How Digital Economy Disrupts Urban Mobility (n = 22). The final stage involved synthesising findings from the analysed articles into a comprehensive narrative that addresses each research question, presenting key findings within each thematic category, identifying cross-cutting themes and interconnections, and highlighting implications for land use patterns and land values.

4. Analysis and Results

4.1. General Observation

The increasing number of publications focusing on the digital economy's impact on urban environments demonstrates a growing interest among researchers. The number of articles published reflects this trend, with two articles in 2017, four in 2018, four in 2019, 12 in 2020, 12 in 2021, 10 in

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2022, and 22 between 2023 and 2024. A significant number of leading authors are affiliated with academic institutions in Europe (n = 32) and Asia (n = 20), reflecting the widespread adoption of the digital economy in these regions. Interest is also evident in Australia (n = 5), South America (n = 4), and the Middle East (n = 4), with fewer studies originating from North America (n = 1). A graph illustrating the growth of literature on the impact of the digital economy in relation to publication year and world region is available.

The extensive and multifaceted impact of the digital economy on urban environments is reflected in the diverse range of journals and proceedings from which articles were selected for this research review. Approximately half of the articles are distributed across journals and proceedings focusing on Geography, Planning and Development (n = 8), Economics (n = 8), Business and Finance (n = 8), and Social Science (n = 8). The remaining half are primarily found in publications centred on Urban Studies (n = 6), Transport (n = 5), Environmental Science (n = 5), Engineering and Technology (n = 5), and Tourism (n = 5). A smaller proportion of papers originate from other various fields.

Regarding the research method, literature reviews represent the most prevalent type of paper addressing the impact of the digital economy (n = 24). The academic discourse on the digital economy and its effects on urban areas is often scattered across various disciplines, including management, information systems, economics, and urban planning. A literature review can bridge these disciplinary divides by synthesising diverse perspectives and bringing together insights from different fields [44]. While a literature review provides a broad overview of a topic, it may lack the depth and detail necessary to fully understand the complexities of the digital economy and its urban impacts. They are not always consistent, and different studies may reach conflicting conclusions [45].

An additional common research method employed is quantitative analysis, with 17 papers utilising approaches such as surveys, questionnaires, panel data, and regression models. Quantitative analysis is adept at identifying broad trends and patterns within large datasets. By analysing survey responses from a diverse sample of urban residents, researchers can uncover common behaviours related to digital platforms, such as e-commerce adoption, use of ride-sharing services, or engagement in online communities [46]. Quantitative methods, particularly surveys and panel data, can be scaled to cover large populations and diverse geographic areas, enhancing the generalisability of research findings. However, Quantitative analysis often lacks the depth and contextual understanding that qualitative methods can provide. Surveys and questionnaires typically focus on specific variables, neglecting the broader social, cultural, and historical context that shapes urban activities and behaviours [47].

Conversely, a dozen of papers adopted a qualitative approach, incorporating interviews, ethnographic studies, comparative analyses, and workshops. Qualitative methods prioritise the exploration of subjective experiences and meanings. They allow researchers to understand how urban residents perceive, interpret, and make sense of the changes brought about by the digital economy. even though Qualitative research is inherently subjective, and researcher bias can influence the data collection, analysis, and interpretation processes.

Another methodological approach used are case study (n = 10) and Mixed Method (n = 4). The case study approach is flexible and adaptable, allowing researchers to adjust their research questions and methods as new information emerges. This is particularly useful in the rapidly evolving digital economy, where new technologies and business models are constantly emerging. While case studies are often used for exploratory research, they can also contribute to theory building by generating new concepts, frameworks, and hypotheses.

4.2. How Digital Economy Disrupts Urban Activities

This section discusses some digital economy impacts on urban activities disruption. Based on the reviewed literature the following outcomes were identified: (a) spatial segregation; (b) privatisation of public space; (c) corporatisation of urban governance; (d) Revaluation of urban centres and suburban areas, and (e) tourism disruption (Table 2).

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Table 2. Urban activity disruption.

Author	Year	Title	Journal	Method	Finding	Reframe the Use and Value of Urban Form	Region
Audouin and Neves	2017	What Regulations for ICT-Based Mobility Services in Urban Transportation Systems? The Cases of Ride-Booking Regulation in São Paulo and Rio de Janeiro	Urban Transport	Case study	Integrating ride-booking services with public transport	Enhance the efficiency and sustainability of urban mobility	Brazil
Allam and Newman	2018	Redefining the Smart City: Culture, Metabolism and Governance	Smart Cities	Literature review	Smart City initiatives often focus on technology and corporate branding, neglecting cultural and historical contexts	Promotes the preservation and enhancement of urban identity and history	Australia
Caprotti and Cowley	2019	Varieties of smart urbanism in the UK: Discursive logics, the state and local urban context	Trans Inst Br Geogr	Thematic review	Smart-city strategies often invoke crisis to justify technological and policy interventions	Highlights the need for resilient and adaptive urban forms	UK
Lee et al	2020	Mapping Platform Urbanism: Charting the Nuance of the Platform Pivot	Urban planning	Landscape scan	The growth of markets for smart city products, primarily driven by corporate actors	Limits the availability of alternatives and raises concerns about the influence of corporate interests on urban governance	Australia
Rose et al	2020	Platform Urbanism, Smartphone Applications and Valuing Data in a Smart City	Trans Inst Br Geogr	Interviews	Data generated by the apps were intended to create various forms of value beyond financial profit	Smart city initiatives can generate multiple forms of value	UK
Söderström and Mermet	2020	When Airbnb Sits in the Control Room: Platform Urbanism as	Frontiers in Sustainable Cities	Case study	Neighbourhoods with high concentrations of Airbnb listings have experienced	The integration of short-term rentals into residential neighbourhoods blur	Iceland

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		Actually Existing Smart Urbanism in Reykjavík			changes in their demographic features, retail structures, and local sense of place	the boundaries between residential and commercial uses of urban space	
Busch et al	2021	Digital Urban Production: How Does Industry 4.0 Reconfigure Productive Value Creation in Urban Contexts?	Regional Studies	Multiple case study	Urban areas offer a pool of highly skilled workers with the necessary technical and digital skills	Underscores the value of urban areas as centres of knowledge, innovation, and skilled labour	Germany
Elwood	2021	Digital geographies, feminist relationality, Black and queer code studies: Thriving otherwise	Progress in Human Geography	Theoretical and analytical approach	Digital urbanism mediates for precarity and racialised inequalities	Highlight the potential for urban spaces to be re-mediated for collective wellbeing and mutual support	USA
Hodson and McMeekin	2021	Global technology companies and the politics of urban socio-technical imaginaries in the digital age: Processual proxies, Trojan horses and global beachheads	EPA: Economy and Space	Case study	Sidewalk Labs (SL) project: a new model of private digital governance that could be circulated globally	Highlights the potential for global dissemination of urban governance practices	UK
McGuirk et al	2021	Municipal Statecraft for the Smart City: Retooling the Smart Entrepreneurial City?	EPA: Economy and Space	Interviews	Municipalities engaged in diverse activities to build public legitimacy for smart city governance	Municipalities are not merely reactive enablers of smart city initiatives but are actively shaping and directing smart city trajectories	Australia
Sadowski	2021	Who owns the future city? Phases of technological urbanism and shifts in sovereignty	Urban Studies	Critical commentary	Phases of Technological Urbanism: different degrees of control over urban governance, services, and space	The rise of platform urbanism changes the economic landscape of cities	Australia
Wang	2021	Development Trend of Urban Design in 'Digital Age': Pan-	Front. Struct. Civ. Eng	Literature review	Urban development is moving from a three-dimensional city	Urban spaces are no longer static but dynamic and multi-dimensional	China

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		dimensionality and Individual-Ubiquity			to a pan-dimensional digital city		
Allam et al	2022	The Metaverse as a Virtual Form of Smart Cities: Opportunities and Challenges for Environmental, Economic, and Social Sustainability in Urban Futures	Smart Cities	Literature review	The Metaverse can reduce the need for physical infrastructure and promoting virtual interactions	Optimise resource use and reduce environmental impact	Australia
Ouda and Aziz	2022	Digital Placemaking: Perceiving Meaningful Spaces Through the Digital Environment	Contingency planning of adaptive urbanism	Comparative analysis	Digital placemaking practices have successfully created a sense of place, belonging, and community engagement	Transforming public spaces into interactive and engaging environments	Egypt
Santos et al	2022	Determinants of e-inclusion and digital inequality in the use of urban mobility applications in mobility	Research, Society and Development	Mixed method	Income was found to be a significant factor in digital inclusion and digital inequality	The significant influence of income on digital inclusion suggests the need for targeted interventions to support lower-income groups	Brazil
Tang et al	2022	Does the Digital Economy Improve Urban Tourism Development? An Examination of the Chinese Case	Sustainability	Benchmark regression model, panel threshold model (PTM), and spatial Durbin model (SDM)	The digital economy improves connectivity and accessibility,	There are positive spatial spillover effects, meaning the digital economy in one city can positively influence tourism development in neighbouring cities	China
Basaraba	2023	The emergence of creative and digital place-making: A scoping review across disciplines	new media & society	Scoping review	Digital place-making: Engaging the public in co-creation processes	Not only boosts tourism but also fosters a sense of community and belonging among residents	Netherlands

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Carpentiere et al	2023	Innovative Business Models for the Future Smart City	Proceedings of Science and Technology	Multiple case study	Helps users find parking, reduces unnecessary driving, and offers real-time data	Focus on user-centric solutions improves the quality of life and encourages citizen engagement	Italy
Shi et al	2023	Digital Economy, Technological Innovation and Urban Resilience	Sustainability	Regression model	The digital economy exhibits positive spatial spillover effects on urban resilience	Cities should work together to leverage the benefits of the digital economy	China
Hodson et al	2024	How have digital mobility platforms responded to COVID-19 and why does this matter for 'the urban	Urban Studies	Critical review and database analysis	Growth of platforms supporting homeworking, home entertainment, and rapid delivery services, reconstituting the home as a bio-secure site	The rise of homeworking and delivery platforms is decentralising economic activity, disrupting the traditional urban agglomeration model.	UK
Kırdar and Çağdaş	2024	Digital Participatory Model as Part of a Data-Driven Decision Support System for Urban Vibrancy	Urban Planning	Survey	High likability areas are associated with cultural landmarks, urban greening, and scenic vistas	The image value of place, defined through likability and likability features	Turkey
Yeo	2024	Negotiating Digital Urban Futures: The Limits and Possibilities of Future-Making in Singapore	Trans Inst Br Geogr	Ethnographic Fieldwork	Urban dwellers employ various tactics to negotiate digital urban futures	Demonstrating that urban futures are not entirely predetermined	Singapore

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First, digital economies have shifted urban governance towards a smart city model, integrating high-tech investments and knowledge-intensive industries [48]. Municipalities are now active participants in shaping digital infrastructure, forming public-private partnerships and data-driven policies. This involves designing cities to support digital entrepreneurship through "smart precincts" and innovation hubs, leading to specialised districts catering to knowledge economies.

The increasing importance of digital connectivity and data accessibility is shifting the economic value of land [49]. High-tech districts and smart city hubs are experiencing land value appreciation, while traditional commercial zones are becoming less relevant [50]. This dynamic leads to increased value in digitally connected districts, potentially causing gentrification and displacement. As an example, smart city projects can attract private investment, which increases real estate prices and displaces low-income residents. Furthermore, Algorithmic Urban Exclusion, Digital mapping and AI-driven urban services often prioritise privileged groups while excluding marginalised communities [51]. For example, Routing algorithms in ride-hailing apps avoid low-income neighbourhoods, reinforcing spatial segregation and unequal access to services.

Secondly, Municipal governments are increasingly collaborating with tech firms, leading to the privatisation of public services and spaces, potentially catering primarily to those who can afford them [52]. This collaboration blurs the boundaries between public and private spaces, transforming public areas into commercialised zones, as seen in smart city projects that maximise data collection and monetisation. Cities are being designed with interactive urban environments, integrating technologies like AR, smart sensors, and AI-driven public services, and shifting urban services such as transport and accommodation to private digital platforms, which affects affordability [53]. This shift highlights the digital divide and socio-spatial inequality, as not all residents benefit equally from these digital transformations [50], leading to the exclusion of marginalised communities from digital economic benefits.

Third, digital urbanism is evolving from smart, data-driven city management to platform urbanism, where digital platforms increasingly mediate urban services and interactions . These platforms, exemplified by transportation services like Uber and short-term rentals like Airbnb, act as intermediaries that reshape traditional urban economies [54]. This shift can lead to cities becoming reliant on specific corporate platforms, creating issues of "lock-in" and potentially "lock-out" from alternative solutions, and influencing city governance and service delivery [52]. The rise of these platforms also fosters informalisation and deregulation, creating tensions with existing municipal policies, and potentially leading to corporate-controlled governance models where private firms dictate urban management strategies, as seen in projects where private firms experiment with urban governance models [55].

Fourth, the increasing prevalence of remote work, e-commerce, and home delivery platforms is reshaping urban landscapes by diminishing physical movement within cities [56]. This shift leads to a decline in traditional office and retail districts as digital alternatives reduce foot traffic, prompting the conversion of retail spaces and adaptation of residential areas with co-working spaces and smart home technologies [57]. While suburban and exurban areas gain value due to increased digital connectivity, allowing work from diverse locations, demand rises for logistics hubs and data centres, yet urban centres maintain their appeal due to proximity to customers, skilled workers, and innovation ecosystems [58]. Despite Industry 4.0's ability to decentralise production, companies still cluster in knowledge-intensive urban environments.

Digital platforms are transforming urban employment patterns by reshaping labour markets, leading to both the decline of traditional jobs and the creation of new, digitally based opportunities [59]. This shift fosters informal employment, particularly in gig-based mobility services, creating a new category of workers as independent contractors and expanding flexible employment opportunities that alter commuting patterns and demand for commercial spaces [60]. The digital economy also reduces information asymmetry between enterprises and consumers through online platforms, enabling cross-regional economic transactions and making financial services more

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inclusive, while the reduced need for physical proximity disperses economic activities beyond traditional urban cores.

The final outcome relates to tourism disruption. Digital technologies are reshaping urban economies reliant on tourism by enhancing efficiency, reducing business costs, and offering personalised services [61]. This encourages tourism specialisation in non-traditional tourist destinations, shifting their economic focus. As digital platforms boost tourism, land values in certain urban areas may increase due to higher visitor demand. Digital storytelling and mobile apps are redefining tourist experiences at urban heritage sites [62], while the value of urban land is now based on digital enhancements and engagement metrics, with digital tools creating new interactions between residents, tourists, and city infrastructure [63]. However, areas with digital upgrades may experience increased land values, potentially displacing residents and businesses, indicating that urban land value is increasingly tied to digital infrastructure and tourism potential [64].

4.3. How Digital Economy Disrupts Urban Behaviour

This section discusses how digital economy disrupt urban behaviour. This disruption can be seen in: (a) Gig work and digital nomadism; (b) Consumption patterns; (c) From ownership to access-based consumption; (d) The power of digital engagement (Table 3).

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Table 3. Urban behaviour disruption.

Author	Year	Title	Journal	Method	Finding	Reframe the Use and Value of Urban Form	Region
Petković et al	2018	Digital Economy and (Non) Incremental Changes in Tourism and Retail Business Model	Ekonomika	Comparative analysis	Led to the development of personalised and experience-based tourism services	Creates new economic opportunities within urban areas particularly in sectors like tourism and retail	Serbia
Gillpatrick	2019	The Digital Transformation of Marketing: Impact on Marketing Practice & Markets	Economics	Literature Review	Three waves of digital disruption: unbundling, disintermediation, and decoupling	Shifts the focus from traditional manufacturing to service-oriented and tech-driven industries	Europe
Gillpatrick et al	2019	Understanding the Role of Consumer Behavior in Forecasting the Impact of Industry 4.0 and the Wave of Digital Disruption Driving Innovation in Retailing	DIEM	Literature review and exploratory interviews	Consumers now expect more personalised, convenient, and efficient shopping experiences	Retail spaces are evolving to meet the demands of digitally savvy consumers	Europe
Bozhuk et al	2020	Problems of transformation in the tourism industry in the digital economy	SHS Web of Conferences 73,	Online survey	Tourism shifts: Better service, personalised trips	Digital era drives diverse tourism space demand	Russia
Gazzola et al	2020	The sharing economy in a digital society: youth consumer behavior in Italy	Kybernetes	Mixed method	Key motivations include reducing waste, improving environmental efficiency, and saving money	The sharing economy can enhance economic efficiency and reduce the cost of living in urban areas	Italy
Khoa	2020	The role of Mobile Skillfulness and User Innovation toward	International Conference on	Mixed method	Mobile skills boost e-wallet adoption intent.	Reduced Physical Bank Branches	Vietnam

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		Electronic Wallet Acceptance in the Digital Transformation Era	Information Technology Systems and Innovation (ICITSI)				
Maslova et al	2020	Transformation of consumer behavior in the tourism industry in the conditions of digital economy	IOP Conference Series: Materials Science and Engineering	Online survey	There is a growing trend of tourists organising their trips independently using digital tools	The transformation in consumer behaviour can lead to increased economic activity in urban areas	Russia
Papagiannis et al	2020	The Sharing Economy in a Digital Society: Youth Consumer Behavior in Italy	Kybernetes	Questionnaires	Younger people prefer low-cost digital platforms and networks of shared products/services' providers and on-demand access Young people avoid ownership due to high management costs.	Increased demand for distribution centres and shared amenities	Italy
Chatterjee & Kulkarni	2021	Healthcare consumer behaviour: the impact of digital transformation of healthcare on consumer	Cardiometry	Interviews	Factors in healthcare choice: Digital, service, brand	Create welcoming space for positive customer vibes	India
Räsänen et al	2021	Online information seeking patterns and social inequality in a digital economy	The International Review of Retail,	Survey	Digital divide: Key to equitable economic access City folk likely to browse online post-purchase	Brick-and-mortar stores face declining traffic Retail closures reshape urban landscape	Finland

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			Distribution and Consumer Research,		Rural areas: Less inclined to shop online casually	E-commerce spurs new industrial space development	
Singh	2021	Digital Transformation Changes in the Producer Consumer Relationship	South Asian Journal of Marketing & Management Research (SAJMMR)	Literature review	Shifting the balance of power towards consumers, who now play a more active role in co-production and co-creation	Businesses in urban areas focusing on personalised and hyper-differentiated products and services	India
Ananjeva et al	2022	Digital Transformation Towards Sustainability A Case Study of Process Views in District Heating	Software Business	Case study	Digital shift: Tech, business, value chain changes Org change key for digital skills & culture growth	Digital tech: Energy savings & business innovation boost Digital platforms enable new energy stakeholder ties Digital tech improves space use & energy efficiency	Denmark
Atanasova	2022	Characteristics of Digital Entrepreneurship	Entrepreneurship	Online survey	Digital entrepreneurship is an integral part of the digital economy	Urban environments need to foster innovation and creativity	Russia
Dewi	2023	Changes In Retail Consumer Shopping Behavior After The End Of Covid 19 In Indonesia: Towards Digital Transformation Behavior	Proceeding of International Conference on Digital Advance Tourism, Management and Technology 2023	Literature review	Digital payments via e-wallets replace cash, optimizing tech integration and transforming social behaviour	Businesses must adapt to real-time tech in online shopping, supported by policy, as digital infrastructure becomes vital for retail and entrepreneurial space value.	Indonesia

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Kalashnikova et al	2023	Global trends in the behavior of consumers of retail enterprises in the digital economy	IOP Conf. Series: Earth and Environmental Science	Mixed method	The pandemic accelerated the transition to online shopping	Highlights the need for urban areas to build economic resilience by diversifying retail offerings and supporting local businesses	Ukraine
Lin et al	2023	Digital menus innovation diffusion and transformation process of consumer behavior	Journal of Hospitality and Tourism Technology	Online survey	Perceived information quality, food quality, and service quality all significantly influence diners' intentions to revisit	Restaurants that adopt advanced digital menus may see increased customer satisfaction and loyalty,	China
Qadir et al	2023	Digital Consumer Behavior and Ecommerce Tendencies During the New War Crisis	Journal of Survey in Fisheries Sciences	Literature review	Traumatic events like war can permanently alter consumer purchasing behaviour	Cities can adopt agile methodologies to respond swiftly to changing conditions	Asia
Thompson & Turner	2023	Navigating the Digital Transformation: How Businesses Adapt and Thrive in the Age of Disruption	Research Studies of Business	Literature review	Businesses must foster a culture of agility, encouraging continuous learning, experimentation, and rapid iteration	Flexible zoning laws and adaptive reuse of spaces	Europe
Zheng and Yang	2023	Research on the Impact of Digital Economy on Residents' Consumption Upgrading	Frontiers in Business, Economics and Management	Panel Data Analysis	The digital economy promotes the upgrading of residents' consumption levels and structures	Cities can become centres of technological innovation	China

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Chan & Yao	2024	Understanding consumer behavior in phygital environments: an interpretivist methodological framework	Qualitative Market Research: An International Journal	Ethnographic observations, focus groups and content analysis	Social dynamics, peer influences, and the role of influencers are critical in shaping consumer behaviour in phygital spaces	Phygital environments create immersive and engaging consumer experiences by integrating physical and digital elements	China
Rosales et al	2024	Digital Transformation and Elastic Demand: Assessment on the Impact of E-commerce Growth on Consumer Goods in the Philippines	SSRN Electronic Journal	Literature review	Income level influences online shopping behaviour E-commerce benefits busy, higher-income individuals. E-commerce minimally impacts lower-income shopping habits.	E-commerce appeals to busy urban residents. Physical stores appeal to lower urban residents	Philippines
Yadav et al	2024	Effects of the industrial 4.0 transition on consumer behavior: A systematic overview	International Conference on Contemporary Engineering, Technology and Management (ICCETM 2023)	Literature review	Digitalisation impacts employment patterns	Reshape urban economies, creating new job opportunities and business models	Asia

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The first disrupted urban behaviour is related to working behaviour. The digital economy is reshaping urban work and consumption patterns by diminishing reliance on centralised office districts and physical retail spaces [65]. This shift is driven by the rise of digital businesses that operate without fixed locations and the growth of remote work, digital nomadism, and flexible workspaces [66]. As businesses migrate to digital platforms, traditional retail and office spaces lose value, potentially leading to the repurposing of shopping malls and business districts into mixed-use developments or logistics hubs. This transformation leads to new job opportunities in logistics, digital marketing, and information technology, while simultaneously disrupting traditional retail employment, requiring cities to adapt their workforce and education systems to meet Industry 4.0 requirements [67,68]. The platform economy, encompassing gig work and remote jobs, further redistributes urban wealth and employment, leading to uneven economic transformations that necessitate a rethinking of labour policies and workforce training, and highlighting the need for cities to address digital inequality to ensure e-inclusion and social equity.

The second disruption affects consumption pattern. The digital economy is reshaping urban consumption patterns, with consumers increasingly favouring online and hybrid shopping experiences, which reduces foot traffic in physical retail spaces [69]. Businesses are adapting from product-centric to customer-centric models that emphasise personalised digital interactions, which alters traditional commercial zones. This retail transformation favours experience-based spaces like interactive showrooms and pop-up stores, necessitating adjustments in commercial zoning policies, while the adoption of e-wallets further reduces reliance on physical cash, impacting how people engage with urban commercial spaces [70]. Digital payment systems also support the development of smart and cashless cities, where urban spaces integrate seamless digital services, potentially leading to a redesign of urban centres that facilitates digital transactions and reduces the need for ATMs and physical banking spaces.

The shift towards digital consumption is reshaping urban spaces as traditional retail diminishes and e-commerce expands. This leads to the repurposing of vacant department stores into mixed-use developments or logistics hubs, while the growth of home delivery services increases the demand for urban logistics centres [71]. Developed urban centres experience faster digital consumption growth, potentially creating regional imbalances, and technological innovation in the digital economy impacts income distribution and urban investment [72]. Furthermore, digital commerce adoption is higher among younger and wealthier urban consumers, which may exacerbate economic polarisation between digitally connected and disconnected communities.

The third, the digital economy fosters on-demand access to services, shifting consumer behaviour toward instant and flexible consumption models. This has led to collaborative consumption, where individuals share assets like cars and homes, facilitated by digital platforms that prioritise renting, lending, and sharing over ownership, exemplified by services like Airbnb and Uber [73]. This transition reduces the demand for personal vehicle ownership and property investment, influencing urban planning by potentially repurposing parking spaces for green areas and requiring redesign of public transport access points to accommodate on-demand pick-up/drop-off zones. Furthermore, Public transportation may need to adapt to a more flexible, on-demand model rather than traditional fixed routes.

Subsequently, consumer spending habits are influenced by economic crises and conflicts, leading to increased price sensitivity and a focus on product availability, delivery efficiency, and affordability [74]. This shift is further amplified by the digital economy, where younger, tech-savvy generations like Millennials and Gen Z are more inclined to participate in the sharing economy, driven by social and environmental motivations, and enabled by the reduced barriers to access provided by digital platforms [73]. Moreover, higher technological proficiency and openness to innovation among these younger populations drive greater adoption of digital payment methods, influencing urban economic activities and potentially redesigning urban centres to facilitate digital transactions [70]. The COVID-19 pandemic has also accelerated the transition of businesses to new

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conditions of functioning, further solidifying the importance of digital solutions in meeting consumer demands.

The power of digital engagement is the final impact of urban behaviour disruption. Consumers are increasingly utilising self-service technologies and digital platforms, which is reshaping their engagement with businesses and altering urban spaces. This shift is evident in the rising expectation for digital interfaces in hospitality and other urban services by tourists and shoppers, which is impacting the demand for traditional service spaces [75,76]. As restaurants integrate self-service technologies, the demand for large seating areas and physical interactions may decline, potentially leading to the repurposing of commercial spaces. The rise of travel applications and online booking platforms empowers tourists to plan independently, leading to a preference for unorganised tourism and more diverse tourist routes that extend to lesser-known urban areas [77,78]. This dispersion of tourists can challenge local infrastructure, potentially leading to the repurposing of commercial spaces.

The increasing reliance on digital platforms and social networks is shifting decision-making from local interactions to global digital spaces [79]. People engage with urban environments through digital interfaces, and increasingly rely on online information and peer reviews, leading to a preference for self-guided tourism and diverse routes [77]. Metropolitan residents engage in more digital transactions and use online information sources (e.g., reviews, comparison sites) more frequently than rural residents [80]. While the gig economy allows residents to monetise assets through ride-sharing and local tours. Historic city centres experience higher rental prices and displacement of local communities due to increased short-term rental activity. leading to short-term rental booms in tourist-heavy areas. This affects housing availability and affordability for local residents. Increased demand for temporary lodging changes zoning regulations and urban planning priorities.

4.4. How Digital Economy Disrupts Urban Mobility

This section discusses what kind of urban mobility is affected by digital economy development. These disruptions are evident in: (a) commuting mobility; (b) logistic and last-mile delivery; (c) supporting 15-minute city implementation, and (d) car ownership vs on-demand mobility (Table 4).

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Table 4. Urban mobility disruption.

Author	Year	Title	Journal	Method	Finding	Reframe the Use and Value of Urban Form	Region
vom Berg et al	2017	ICT-Platform to Transform Car Dealerships to Regional Providers of Sustainable Mobility Services	Interdisciplinary Journal of Information	Interviews	New mobility services by car dealerships	The floating car sharing are only feasible in urban or confined areas. Suitable for rural areas where public transport services are declining	Germany
Starčević & Konjikušić	2018	Why Millenials as Digital Travelers Transformed Marketing Strategy in Tourism Industry	Tourism in Function of Development of The Republic of Serbia. International Scientific Conference	Meta-analysis	Millennials are price sensitive, not predictable, and seek shareable social media experiences	Offer unique, sharable, and mobile-bookable travel experiences	Europe
Suel & Polak	2018	Incorporating online shopping into travel demand modelling: challenges, progress, and opportunities	Transport Reviews	Literature review	Individual trips to stores may be Replaced by home deliveries by retailers or third-party carriers	The growing importance of urban logistics in planning	Europe
Zahraei et al	2019	A foresight study on urban mobility: Singapore in 2040	Foresight	Scenario planning workshop	The Shared world scenario: Community focus: Safety, cost, local travel & bonds The Virtual world	The Shared world scenario: Local govt key in shaping urban development The virtual world: Society leads tech; govt supports urban change	Singapore

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					scenario: Speed key in travel; distance no longer a barrier		
Ammar et al	2020	Studying of Sharing Economy in Egypt as a Destination for Tourism and Hospitality	JAAUTH	Questionnaires	The sharing economy influences travellers' choice of destinations, frequency of travel, and length of stay	Enhances urban resilience and community revitalization but also poses challenges regarding regulatory frameworks and sustainability	Egypt
Leontev & Magera	2020	Digitalization of the transport industry: social-and psychological emphasis	VIII International Scientific Conference Transport of Siberia	Case study	Social and psychological impacts on digitalisation of transport industry	Cities might evolve towards more flexible, hybrid uses of space, accommodating both physical and virtual functions	Singapore
Silva et al	2020	The Outsourcing Urban Mobility in Industry 4.0 and the Challenges Faced by The Category of Workers In Search Of Rights and Occupational Safety	Journal of Engineering and Technology for Industrial Applications	Interviews	Startups link services & consumers via cheap labour Industry 4.0 safety: Adapt to worker health needs	Urban labour impact: Living costs vs. Wages gap	Brazil
Viri et al	2020	Connected and Multimodal Passenger Transport Through Big Data Analytics: Case Tampere City Region, Finland	20th Working Conference on Virtual Enterprises (PRO-VE),	Case study	Big data reveals passenger behaviour and travel paths.	Improved traffic management	Finland

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Ghonimi	2021	Smart City: A Question of Social Sustainability in Urban Spaces? Assessing The Impacts of ICT on Changing Urban Behavioral Patterns in Urban Spaces of Madinaty, Egypt	Journal of Urban Research	Case study	ICT encourages people to depend on private modes for long-distance trips Minimise urban mobility to short distance trips Services trips will be reduced	Reduce road width and parking requirements The growth of self-contained communities	Egypt
Sonnberger and Graf	2021	Sociocultural dimensions of mobility transitions to come: introduction to the special issue	Sustainability: Science, Practice and Policy	Ethnographic	Sociocultural factors play a crucial role in shaping mobility transitions	The importance of cultural and social innovations in shaping future mobility systems	Germany
Šulskytė	2021	Mobility-As-A-Service: Concepts and Theoretical Approach	IEEE International Conference on Technology and Entrepreneurship (ICTE)	Literature review	Digital illiteracy persists in tech-averse older travellers.	Trigger gentrification processes and displacement risks	Europe
Gonzalez & Quadros	2022	Digital Transformation and New Business Models in Urban Mobility: The Case of Carsharing in Brazil	Proceedings of PICMET '22: Technology Management and Leadership in Digital Transformation	Multiple case studies	Carsharing offer affordable, sustainable, and convenient transportation services	Reduce the need for private car ownership	Brazil

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Gupta et al	2022	Role of Technological Transformation in Shaping Millennials' Travel Behaviour: A Review	10th International Conference on Reliability, Infocom Technologies and Optimization (Trends and Future Directions) (ICRITO)	Literature review	Millennials favour freestyle travel, new experiences, heritage. Millennials rely on tech and social media for travel choices.	Urban areas are being reimagined to include more cultural and social spaces that cater to the experiential preferences of Millennials	Asia
Shatnawi & Zoltan	2022	Digital Transformation during Covid-19 and Its Impact on Transportation and Mobility	IEEE 16th International Symposium on Applied Computational Intelligence and Informatics	Questionnaires	Remote work trend driven by desire to avoid transit	Housing Value will be not affected by the proximity to transit	Budapest & Amman
Zha et al	2022	The impact of digital economy development on carbon emissions--based on the Yangtze River Delta urban agglomeration	Frontiers in Environmental Science	Panel data and multiple econometric models	Showing that as work becomes increasingly remote, traditional peak hour transportation demand is altered, leading to varied usage of transport systems at different times	Reducing commuting demands and reshaping spatial density patterns	China
Baudens et al	2023	Women's (im)mobility strategies and digital	Gender, Technology and Development	Interviews	The women participants chose their transport mode	Highlighting the importance of considering social conditions and cultural bias	India

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		platform adoption: the case study of employees doing desk work in Pune, India			based on their perceptions and personal priorities		
Mentsiev et al	2023	Digital transformation in transport infrastructure energy efficiency: smart cities and sustainable mobility	E3S Web of Conferences 460, 07018	Literature review	AI-powered personalised routing for city residents	Facilitate more polycentric urban development by enabling easier access across urban sub-centers	Russia
Pako¨z & Kaya	2023	Personal Adaptations to Remote Working in the Post-Pandemic City and Its Potential Impact on Residential Relocations: The Case of Istanbul	Transportation Research Record	Online survey and correlation analysis	Remote work impacts travel, energy use, home choice	Proximity to family, housing affordability, and proximity to essential amenities facilitate remote working and relocation processes.	Istanbul, Türkiye
Zhao and Said	2023	The Effect of the Digital Economy on the Employment Structure in China	Economies	Panel data analysis	The digital economy profoundly influences employment structures, leading to shifts in commuting patterns due to the changing work nature.	Potentially decentralising urban cores and flattening land-use intensity gradients	China
Alanazi & Alenezi	2024	Driving the future: Leveraging digital transformation for	Journal of Infrastructure, Policy and Development	Literature review	Digital transformation boosts environmental sustainability. Digital transformation risks:	Urban quality of life improvements boost area value.	Middle East

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		sustainable transportation			privacy, security, ethics.		
Gulc & Budna	2024	Classification of Smart and Sustainable Urban Mobility	Energies	Literature review & case studies	SSUM: electromobility, collective transport 2.0 and low mobility Societies	Promoting compactness, low-mobility societies, and flexible land use patterns	EU
Tartaglia & Petrozziello	2024	Measuring the impact of institutional and territorial drivers for an efficient and smooth Mobility as a Service (MaaS) implementation: a global analysis	European Transport \ Trasporti Europei	Composite set of indicators	The ultimate shift that maas needs is a cultural one, from ownership to usership	Institutional factors key to smooth maas implementation.	Europe

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The first, the digital economy is reshaping urban commuting patterns by shifting employment from manufacturing and construction to service-based jobs, leading to a decreased demand for industrial zones and an increased need for co-working spaces and digital hubs [81]. This shift is further amplified by the rise of remote work, which has significantly reduced daily commutes and reliance on public transport and private vehicles [82]. Consequently, suburban areas are becoming more attractive due to the reduced need for commuting, leading to a shift in housing preferences towards larger homes with workspaces and potentially driving demand for decentralised mobility solutions in previously car-dependent peripheral urban areas.

The second, the rise of online shopping is substituting physical trips, which has led to a decline in shopping-related travel and has affected public transport ridership and road congestion [83]. This shift requires updating traditional travel demand models to reflect how digital platforms influence when, where, and how people travel for shopping. As people manage social and commercial activities through digital platforms, public spaces see a decline in casual movement, while increased home deliveries have shifted urban mobility patterns, necessitated new models of urban freight distribution and potentially causing congestion with the rise of same-day delivery and e-commerce logistics hubs [84]. The increased demand for logistics and last-mile delivery hubs is also shifting land use patterns from retail-centric to warehousing, prompting cities to rezone areas for micro-fulfillment centres and distribution hubs to support rapid delivery services. With more people working remotely and using shared transport, parking lots and car-dependent infrastructure may become obsolete. Urban planners might convert underutilised parking spaces into green spaces, pedestrian-friendly zones, or mixed-use developments.

The third, as commuting decreased, people compensated with more local, non-work-related travel, leading to increased neighbourhood-level mobility and demand for high-quality public spaces. This shift supported the rise of 15-minute cities and self-sustaining, mixed-use districts where daily needs are met within short distances [85]. Enhanced by digital economies, these urban clusters promote localised living and reduce the need for cross-city travel, with mobility dominated by autonomous buses, personal mobility devices, cycling, and walking [86]. As a result, urban policies are increasingly focused on reducing car dependency, enhancing walkability, and reallocating road space for green and functional urban areas.

The final, Digital platforms are transforming travel behaviour by promoting convenience and efficiency over car ownership, with users favouring pay-per-use models enabled by app-based services [87,88]. Millennials, as tech-savvy digital natives, drive demand for flexible, technology-driven transport options like Uber and Lyft, reducing reliance on private vehicles and disrupting traditional transportation systems [89,90]. Features like voice search and AI recommendations further shape travel choices. While women often prefer these digital solutions for safety and time control, access remains unequal, with financial barriers potentially widening mobility gaps [91].

Mobility-as-a-Service (MaaS) supports compact, mixed-use urban development by reducing reliance on private cars and enhancing access to jobs and services through integrated, multimodal transport hubs [92]. These hubs connect public transit, shared mobility, and micromobility options, prompting cities to redesign infrastructure and zoning policies—such as exclusive parking for shared vehicles—to support seamless travel [93]. Cities like Zurich, Basel, Paris, and San Francisco are leading these efforts. MaaS platforms also use demand-based pricing, influencing travel behaviour and land use, while offering potential solutions for declining public transport in rural and suburban areas through shared mobility alternatives [94].

5. Findings and Discussion

This section presents and discusses the core findings of this systematic review by thematically synthesising how the digital economy disrupts three fundamental aspects of urban systems—i.e., urban activities, human behaviours, and mobility. The implications for land use and land value are examined in each theme to demonstrate how traditional spatial-economic models are being transformed in the digital age.

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5.1. Disruptions to Urban Activities

The digital economy has transformed the nature and spatial organisation of urban activities, challenging conventional planning paradigms anchored in proximity, density, and centrality. Key disruptions include spatial segregation, privatisation of public space, corporatisation of urban governance, the revaluation of central and peripheral areas, and a reconfiguration of the tourism economy.

Spatial Segregation and Gentrification: Smart city developments and digital infrastructure projects often concentrate in economically privileged urban districts, contributing to spatial inequality. These developments raise land and property values, pricing out low-income populations and exacerbating residential displacement. As Praharaj [95] notes, such projects can create 'digital enclaves'—spaces of advanced connectivity and services that exclude those lacking digital access or literacy. Displacement from digital transformation is not only economic but also social and cultural. Marginalised residents are not only pushed out of gentrifying precincts but lose access to employment, social networks, and essential urban amenities [96]. These outcomes demand proactive housing and equity policies that integrate affordability protections within digital development frameworks [97].

Privatisation of Public Space: The digital economy is also altering the nature of public space. As activities such as work, retail, learning, and entertainment migrate online, physical public spaces lose foot traffic and visibility, making them vulnerable to commercial redevelopment. Digitally mediated environments—like app-based coworking spaces and private delivery hubs—transform traditional commons into controlled, pay-to-access areas [98]. Li et al [99] warn that such privatisation erodes civic identity and reduces social mixing, while Erdmann-Goldoni [100] emphasises the importance of preserving inclusive urban spaces as sites of community belonging. Aprilia [101] and Lee [102] further caution that this shift risks deepening social fragmentation, especially where digital access is uneven.

Corporatisation of Urban Governance: Platform urbanism represents a paradigm shift in how cities are governed. With tech companies playing an increasing role in managing data, infrastructure, and services, the boundaries between public and private governance are blurring. D'Amico et al. [103] show how urban planning is now often shaped by algorithmic insights produced by corporations, not municipalities. This corporatisation undermines traditional democratic accountability. Graham [104] and Ferreri & Sanyal [19] argue that platform-led governance prioritises efficiency and profit, often at the expense of public values such as equity, accessibility, and sustainability. Van Doorn [105] conceptualises platforms as new urban institutions that mediate relations between the state, market, and citizens. Without regulatory intervention, these arrangements may exacerbate power asymmetries in decision-making.

Revaluation of Urban and Suburban Areas: The digital economy is reshaping urban geography. Central business districts, once prized for proximity to workplaces, are declining in relative value due to the normalisation of remote work. Conversely, suburban areas are becoming more attractive due to affordable housing, lower congestion, and enhanced connectivity [106]. This shift is visible in the emergence of digital suburbs with smart infrastructure and home-office-friendly housing. However, these transformations require significant planning investment—particularly in transport, public services, and mixed-use zoning—to avoid digital sprawl [107,108]. The redistribution of economic activity also redefines land valuation patterns, with digitally connected areas gaining appreciation over traditional commercial zones.

Digital Tourism Disruption: Tourism economies are being reconfigured by digital platforms such as Airbnb and TripAdvisor. These technologies allow tourists to access customised, real-time experiences, reshaping demand and spatial flows within cities [109,110]. However, the commodification of neighbourhoods into tourist destinations displaces local communities and disrupts housing markets [111,112]. The resulting "touristification" drives up land prices and reduces housing availability for long-term residents. Policymakers must address these disruptions by regulating short-term rentals, supporting local culture, and balancing tourism development with residential needs.

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5.2. Disruptions to Urban Behaviour

Digital technologies are transforming urban residents' consumption, work, socialisation, and engagement behaviours—reshaping urban land demand and value in the process.

Gig Work and Digital Nomadism: The rise of gig platforms has decoupled work from fixed locations. Digital nomadism and freelance gig work are now common among younger, mobile workers [113,114]. This shift alters spatial preferences, increasing demand for flexible housing, coworking hubs, and high-speed digital connectivity across urban and suburban areas. Wulansari et al. [115] highlight how digital nomads prioritise work-life balance, while Blázquez et al. [116] note risks to labour rights and well-being. These evolving lifestyles change how people interact with cities, altering land use patterns—e.g., converting apartments into work-live studios—and impacting local labour markets and amenities.

Changing Consumption Patterns: E-commerce, digital wallets, and real-time shopping interfaces are reshaping urban consumption behaviours. Physical retail is declining while demand for warehousing, logistics, and last-mile infrastructure is surging [70,117]. As traditional retail zones become obsolete, land use must shift to accommodate new hybrid commercial spaces. Moreover, the rise of ethical and sustainable consumption is influencing the spatial economy of cities. Consumers now favour producers and retailers that support local, low-carbon, and transparent supply chains, which may impact zoning for local markets, production facilities, and green urban logistics [118,119].

Access-Based Consumption and the Sharing Economy: Ownership is giving way to access. Ride-sharing, home-sharing, and subscription-based models reduce the need for personal vehicle ownership or property investments, shifting demand from private assets to shared infrastructure [120,121]. However, the impact of sharing economies on sustainability and equity is mixed. In some cities, car-sharing aligns with environmental goals and reduces emissions. In others, short-term rentals inflate rents and displace locals. Enochsson et al. [122] call for nuanced governance strategies that distinguish between collaborative and extractive platform models.

Digital Engagement and Spatial Behaviour: Digital engagement has become a key driver of urban behaviour. Mobile apps, social networks, and digital platforms mediate how residents access services, navigate space, and participate in civic life [123]. These platforms increase efficiency and responsiveness but may also reduce spontaneous social interaction and deepen surveillance [124]. As Singh et al. [125] and Muharam et al. [126] note, digital engagement is shaped by demographics, literacy, and platform design. Cities must ensure that public spaces and services remain accessible both physically and digitally to avoid reinforcing inequalities.

5.3. Disruptions to Urban Mobility

Urban mobility is undergoing profound shifts driven by remote work, digital logistics, localised travel, and shared mobility platforms. These changes are altering land use dynamics and reshaping the spatial configuration of cities.

Suburban Attraction and Digital Gentrification: Remote work has reduced the need to live near employment hubs, prompting many to move to suburbs and rural fringes. This has led to a phenomenon termed "digital gentrification," where digitally connected migrants raise local land values and reshape neighbourhood cultures [127,128]. These trends call for renewed suburban investment in transport, schools, and public services to support more diverse and denser populations. The creation of suburban economic hubs further decentralises cities, requiring revised land valuation frameworks that reflect digital connectivity over physical proximity [129].

Logistics and Last-Mile Delivery: The growth of e-commerce has increased demand for last-mile delivery infrastructure. Consumers expect rapid, contactless, and trackable delivery, which in turn drives up demand for urban logistics hubs, micro-fulfillment centres, and smart delivery networks [130,131]. This trend has land use implications: traditional commercial areas may need to be rezoned for warehousing, while traffic congestion and emissions from delivery vehicles necessitate environmental regulations and urban design adaptations [132].

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15-Minute Cities and Localised Mobility: The digital economy facilitates the realisation of the 15-minute city model, where all essential needs are accessible within a short walk or ride. Data-driven mobility services—such as e-scooters, shared bikes, and local super apps—can enhance accessibility and reduce car dependency [133,134]. Such urban forms demand land use strategies that integrate housing, services, and mobility infrastructure. Cities must redesign zoning codes and spatial planning policies to support hyper-local, mixed-use developments that align with digital lifestyles.

On-Demand and Shared Mobility: Ride-hailing, carpooling, and micro-transit services offer flexible alternatives to car ownership. They challenge public transit systems while simultaneously filling service gaps, particularly in low-density areas [135]. These services influence land use by reducing parking requirements, altering traffic flows, and changing accessibility norms. Yet without regulation, on-demand mobility can worsen urban sprawl, encourage reliance on private services, and raise concerns around equity, privacy, and labour conditions [136,137]. Policymakers must integrate such services into public mobility ecosystems while addressing sustainability, spatial equity and digital access barriers [138-140].

6. Conclusion

This study provides a comprehensive synthesis of the ways in which the digital economy is reshaping the foundations of urban systems, with profound implications for land use and land value. By systematically reviewing recent academic literature, we identified key disruptions across three interconnected domains—urban activities, human behaviour, and mobility—highlighting how digital transformations are decoupling land value from traditional locational determinants such as proximity to services, employment centres, and infrastructure.

The findings demonstrate that the rise of e-commerce, remote work, platform urbanism, and digital service delivery has redefined the spatial and economic logic of cities. Urban activities are becoming increasingly detached from fixed locations, giving rise to new typologies such as innovation hubs, logistics centres, and virtual marketplaces. At the behavioural level, shifts toward gig work, digital nomadism, access-based consumption, and immersive digital engagement are reshaping consumption and settlement patterns, while also exacerbating socio-spatial inequalities. Urban mobility is undergoing a parallel transformation, with the decline of private vehicle ownership and the rise of on-demand, shared, and autonomous mobility systems, challenging existing transport infrastructure and land use frameworks.

Critically, these transformations signal the need to reconfigure urban planning, land valuation models, and regulatory frameworks. Traditional land use policies, which assume stable and spatially fixed patterns of economic activity, risk becoming obsolete in an era where virtual connectivity competes with physical accessibility. The uneven adoption of digital technologies also raises new challenges in ensuring equitable access to urban opportunities, particularly for marginalised communities.

Moving forward, urban planners and policymakers must adopt more adaptive, inclusive, and anticipatory approaches. This includes integrating digital infrastructures into land use planning, safeguarding equitable access to public goods, and revising zoning regulations to accommodate hybrid and flexible urban functions. Moreover, future research should empirically validate the theoretical frameworks presented in this review by investigating case studies across different socio-economic and geographical contexts.

In sum, the digital economy is not merely adding a new layer to urban systems—it is fundamentally restructuring the way our cities function, are governed, and are valued. A rethinking of urban land use and valuation practices is therefore essential to create resilient, just, and future-ready cities.

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