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Smart Cities and Social Disruption: A Study of Changes in The Patterns of Interaction Among Urban Residents in Palangka Raya

Sriyana^{1*}, Wiwik Suprapti², Muhlis³

¹⁻³ Universitas PGRI Palangka Raya, Indonesia

email: riyanupp72@gmail.com¹

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Abstract

The integration of digital infrastructure within the smart city framework of Palangka Raya has fundamentally reconstructed the communication paradigms and sociological structures of its urban residents. This empirical inquiry investigates the complex transition from conventional face-to-face engagements to technologically mediated networks, examining the accompanying social disruptions and emergent community resiliencies. Utilizing a qualitative case study design with a triadic data collection approach, this research identifies an expansion of spatial-social boundaries characterized by highly efficient yet increasingly impersonal relationships. The accelerated adoption of municipal platforms triggers systemic disruptions, manifested through widening digital divides, intensified individualization of daily routines, and a pronounced erosion of organic communal safety nets. Conversely, urban citizens demonstrate active agency by mobilizing self-taught digital literacy, establishing interest-driven cyber spaces, and re-engineering social schedules to balance virtual connectivity with physical cultural rituals. This dynamic synthesis culminates in the conceptualization of an adaptive hybrid society, demonstrating how developing urban populations maintain humanistic resilience and cultural identity while absorbing technocratic modernizations.

Keywords : Smart City, Social Disruption, Interaction Patterns, Community Resilience, Urban Sociology.



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INTRODUCTION

The global trajectory of urban development is increasingly defined by the aggressive integration of digital infrastructures, fundamentally reshaping the fabric of contemporary cities into smart environments that prioritize systemic efficiency and technological ubiquity (Tomàs, 2024; Ye et al., 2023). This paradigm shift transcends mere physical modernization, as it necessitates a deep reconfiguration of the socio-technical assemblages that govern urban life, particularly through the utilization of expansive data ecosystems (Sawitri, 2024). Recent scholarly inquiries have highlighted that the deployment of smart city initiatives serves as a critical catalyst for social transformation, influencing not only the spatial organization of land use but also the fundamental modalities of human engagement within urban settings (Sriyana, 2025; Wanggai et al., 2026). While these technological interventions are often touted as drivers of enhanced connectivity, they simultaneously redefine the boundaries between private and public realms, creating novel, albeit complex, configurations of urban governance and collective existence (Tomàs, 2024).

Empirical findings from previous studies suggest a multifaceted impact of digital integration, where the promise of streamlined urban services is often shadowed by profound shifts in interpersonal dynamics and community cohesion (Simanjourang & Sukmawati, 2022). Research has synthesized that while smart environments may theoretically bolster administrative efficiency, their practical implementation frequently struggles to align with the socio-cultural realities of urban residents, often leading to a misalignment between intended technological outcomes and actual social usage patterns (Sari et al., 2024). Furthermore, the transition towards a digitally-mediated existence has been observed to alter the traditional mechanisms of social support and interaction, forcing communities to navigate new digital architectures that often prioritize transactional interactions over the nurturing of organic, face-to-face social bonds (Simanjourang & Sukmawati, 2022). This synthesis critically underscores that

the adoption of digital technologies is not an additive process but a subtractive one, where traditional communal practices are potentially eroded in favor of automated, data-driven interfaces.

Despite the proliferation of literature regarding smart cities, there remain persistent inconsistencies and conceptual gaps regarding the sociological consequences of these digital transitions on local interactional patterns. Much of the existing discourse remains heavily entrenched in technocratic and instrumentalist frameworks, effectively sidelining the complex, lived experiences of urban residents and the subtle ways in which digital disruption permeates social stratification (Ye et al., 2023). Furthermore, there is a notable absence of empirical focus on rapidly developing urban centers, as the vast majority of research continues to prioritize metropolitan archetypes, thereby neglecting the idiosyncratic social trajectories of secondary cities where modernization and traditional social structures frequently collide (Wanggai et al., 2026; Sari et al., 2024). This empirical narrowness obscures a critical understanding of how digital disruption varies across different cultural landscapes and leaves unresolved questions regarding the agency of residents in navigating these imposed technological shifts.

The urgency of addressing these unresolved issues is both scientific and practical, as the failure to reconcile digital implementation with the socio-cultural fabric of urban life risks exacerbating social alienation and deepening existing inequalities. Within the framework of urban sociology, there is an imperative to move beyond the superficial analysis of infrastructure and to investigate the profound existential shifts in how urbanites construct, maintain, and negotiate their social worlds in an era of constant connectivity (Giddens, 2013; Damsar, 2017). The pragmatic implications are equally significant, as public service management must evolve beyond purely technological mandates to embrace a more human-centric approach that recognizes the citizen not merely as a consumer of digital services, but as an active agent in a changing sociological landscape (Dwiyanto, 2017). Failing to account for these disruptions threatens the long-term sustainability of the smart city concept itself, as its legitimacy is fundamentally predicated on its capacity to foster, rather than inhibit, meaningful human connection (Kasali, 2018).

This research positions itself as a critical intervention in this scholarly landscape by rigorously examining the interplay between smart city policies and the evolution of social interaction within the specific context of Palangka Raya. By bridging the gap between macro-level urban planning theories and micro-level sociological analysis, this study aims to dismantle the reductionist view that equates digital implementation with societal progress. It intentionally centers the urban resident's experience, treating the smart city not as an isolated technological accomplishment, but as an active participant in the ongoing reconstruction of local social norms and behavioral patterns. In doing so, it serves to challenge the dominant metropolitan-centric bias of current literature, providing a fresh perspective on how digital transformation manifests in regions characterized by rapid socio-economic change.

This study aims to provide a comprehensive analysis of the transformation of social interaction dynamics within Palangka Raya following the implementation of smart city policies. Through this investigation, the research seeks to contribute both theoretically and methodologically to the field of urban sociology and public policy. The study will advance the conceptual understanding of how digitalization acts as a social determinant in reshaping community structures and resident interactions in developing urban settings. Furthermore, by employing a nuanced qualitative approach that prioritizes local perspectives, this work offers a methodological framework for future studies seeking to assess the human dimension of urban technological advancement, ultimately providing actionable insights for policymakers to cultivate more inclusive and socially resilient urban environments.

RESEARCH METHODS

This empirical study employs a qualitative methodology anchored in a case study design to rigorously investigate the transformation of social interaction dynamics within the urban landscape of Palangka Raya. The research focuses on a diverse spectrum of urban residents who maintain active engagement with smart city technologies ranging from digital service users to local community members and government officials. Participants were selected through purposeful sampling to ensure the collection of information rich data that aligns with the theoretical objectives of the inquiry. Data saturation guided the inclusion of 15 to 25 informants who demonstrated varying levels of technological usage and involvement in digital communal spaces. Primary data collection utilized a triadic combination of in depth interviews to elicit personal narratives of social change, participatory observation to record real time social behaviors, and comprehensive documentation analysis.

The research instruments were conceptualized through the researcher acting as the primary human instrument to facilitate deep empathetic engagement and capture nuanced sociological phenomena. Validity and reliability were fortified by applying multi form triangulation where data sources and collection methods were cross checked across different temporal dimensions to ensure analytical robustness. Data analysis followed an interactive model involving cyclical processes of reduction, condensation, presentation, and conclusion drawing to derive strong theoretical abstractions. Credibility was further maintained through member checking procedures where participants verified the accuracy of transcribed narratives and researcher interpretations. Ethical considerations remained paramount throughout the study to protect the integrity of human subjects and ensure that the investigation respected the local socio cultural context while minimizing potential biases.

RESULTS AND DISCUSSION

The Structural Reconfiguration of Urban Communication Trajectories in Palangka Raya

The empirical data gathered from depth interviews and participatory observation reveals that the deployment of digital public services in Palangka Raya has fundamentally altered the communicative landscape of urban residents. The rapid penetration of mobile devices and digital platforms has systematically dismantled traditional face-to-face communication models, forcing a transition toward highly integrated virtual network structures. This shift is not merely a superficial replacement of tools but signifies a profound modification of the spatial-temporal boundaries that previously defined community interactions within the city. Urban spaces that were once anchored by physical presence have now expanded into fluid digital configurations where information flows continuously. Consequently, the sociological essence of neighborhood ties is undergoing a structural redefinition as residents increasingly rely on digital interfaces to maintain local connections.

The migration of urban discourse from the physical town square to digital platforms has established an environment dominated by real-time messaging systems. This communicative transformation amplifies the rationalistic mindset often observed in rapidly modernizing urban areas, where efficiency suppresses spontaneous cultural intimacy. Sociological investigations within the municipality show that interpersonal relations are becoming increasingly stylized, functional, and detached from traditional localized sentiments. In this context, the digital interface acts as a persistent buffer that filters out the organic, spontaneous nuances of human emotion. The resulting interaction patterns prioritize immediate information exchange over the cultivation of deep, shared community experiences.

This behavioral shift demonstrates a broader phenomenon where local communication practices are extracted from their historical spatial anchors. As everyday interaction patterns detach from specific physical locations, the nature of community bonding experiences a parallel dilution. Informants consistently reported that while they feel connected to a broader array of urban actors, the psychological depth of these digital interactions remains remarkably superficial. The velocity of online exchange encourages a culture of brief inquiries rather than extended, contemplative dialogue. Therefore, the urban subject in Palangka Raya navigates a social reality characterized by high communicative frequency but diminished relational substance.

Despite this reduction in emotional depth, the integration of smart city technologies has successfully democratized access to expanded social networks. Digital platforms function as an open civic arena where residents from diverse cultural and socioeconomic backgrounds can engage in immediate dialogue. This structural accessibility fosters the emergence of active digital citizens who leverage technology to voice concerns regarding urban management and public infrastructure. The democratizing effect of these networks provides marginalized groups with an unprecedented mechanism to bypass traditional bureaucratic bottlenecks. Ultimately, the virtual space serves as a crucial incubator for a new type of urban solidarity that is flexible, decentralized, and issue-oriented.

Table 1. Social Interaction Patterns of Urban Residents

Interaction Category	Primary Indicators	Relative Frequency
Physical-Conventional	Face-to-face encounters in communal spaces	Low

Virtual-Digital	Instant messaging and cyber groups	High
Hybrid Interaction	Combination of cyber and physical spaces	Moderate

Data Source: Compiled from empirical interviews and field observations (Sriyana et al., 2026).

The data presented in Table 1 explicitly details the operational shift toward digitized interaction paradigms, illustrating the stark contrast between traditional face-to-face engagements and virtual communication frequencies. This empirical taxonomy underscores the emergence of hybrid social patterns where the physical and virtual spheres converge in the daily routines of the city. However, this transition is heavily contested by demographic variations, as older generations struggle to align with the technical demands of the new administrative infrastructure (Alfaat, 2020). Conversely, younger cohorts adapt almost instantaneously, creating a noticeable friction within multi-generational households regarding appropriate communication norms. This disparity indicates that the benefits of the digital shift are stratified across existing socioeconomic divides within the urban populace.

The modern urban environment inherently accelerates the disintegration of traditional collective values, encouraging a more individualistic lifestyle among city dwellers (Damsar, 2017). In Palangka Raya, this individualization manifests as an acute reliance on digital applications for daily needs, effectively rendering physical proximity irrelevant for survival. The systemic transition from communal reliance to digital self-sufficiency alters the moral economy of the neighborhood, as mutual aid is replaced by commercialized on-demand services. Residents no longer need to maintain dense social ties with neighbors to secure logistical support, which further isolates the household unit. This structural isolation is interpreted by many as progress, even as it erodes the foundational trust that previously sustained the urban community.

The uneven distribution of technological literacy among the population creates a distinct social stratification based on digital competence rather than just financial wealth. Individuals possessing high digital capital easily navigate the smart city landscape, maximizing their access to municipal resources and economic opportunities. On the other hand, citizens lacking these digital skills are progressively marginalized, finding themselves excluded from both new economic spaces and virtual civic discussions. This division is further complicated by historical transitions from river-based communal living to land-based urban settings in Central Kalimantan, which had already destabilized traditional networks (Sriyana, 2025). The introduction of smart technologies acts as a secondary layer of structural transformation that intensifies these pre-existing vulnerabilities.

Furthermore, the implementation of automated urban solutions often overlooks the socio-cultural realities of developing cities, imposing an idealistic framework onto a highly fragmented population. When local governments prioritize digital infrastructure without investing in community readiness, a mismatch occurs between institutional intent and public capacity. The resulting administrative friction often alienates the very citizens the technology was intended to empower. For instance, the introduction of smart cards and digital IDs can inadvertently disrupt long-established informal trade networks that rely entirely on interpersonal trust (Amanda & Firdaus, 2024). Consequently, technological enforcement without cultural sensitivity frequently results in covert resistance or widespread compliance issues among residents.

The complex nature of these social changes highlights the dual character of technological progress, which simultaneously offers logistical ease and structural fragmentation. To understand these shifts fully, urban planners must look beyond mere infrastructure metrics and examine the shifting realities of human relationships. The empirical evidence from Palangka Raya indicates that while the geographical reach of interactions has expanded, the structural density of local communal ties has weakened. This paradox requires an analytical framework that avoids simplistic binary views of technological change. The scientific novelty emerging from this observation is the conceptualization of hybrid social interaction, which defines the permanent intertwining of physical reality and virtual presence within developing urban centers.

The Anatomy of Digital Social Disruption: Structural Fragmentation and the Erosion of Urban Cohesion

The rapid expansion of the smart city infrastructure in Palangka Raya has fundamentally altered the traditional anchors of communal life, inducing systemic social disruptions across multiple societal strata. The insertion of pervasive digital services into daily civic activities triggers a profound restructuring of collective behaviors, destabilizing established institutional frameworks and community norms. Empirical evidence suggests that this technological shift does not merely modify the mechanics of administrative interactions, but actively dismantles the historical patterns of local socio-cultural cohesion (Annah et al., 2024). Consequently, the urban space experiences an escalating tension between the state's technocratic modernization goals and the organic preservation of traditional communal values.

This systemic disruption manifests intensely through a pronounced digital divide that exacerbates existing urban inequalities and drives new patterns of spatial-social segregation. While affluent demographics seamlessly exploit municipal digital systems to maximize their socio-economic mobility, marginalized populations remain structurally excluded due to deficits in technological literacy and infrastructural resources. The resulting disparity moves beyond mere technical inconvenience, actively generating a rigid socio-technical stratification that fragments the civic body (Caragliu & Del Bo, 2022). As digital platforms become the primary gatekeepers for resources, the uneven distribution of access structurally prevents lower-income households from fully participating in the evolving smart city ecosystem.

The unequal distribution of digital capital destabilizes the democratic fabric of the urban community, splitting the population into highly connected agents and digitally disenfranchised spectators. Empirical narratives from field interviews reveal a growing sense of social alienation among older generations and economically vulnerable sub-districts, where the sudden digital transition feels exclusionary rather than progressive. This structural divergence directly threatens urban cohesion by cultivating distinct, unaligned socio-technical realities within the same geographical borders (Bandauko & Nutifafa Arku, 2023). Therefore, instead of producing a unified smart metropolis, the unmitigated technological push fosters a fragmented urban landscape characterized by new socio-economic boundaries.

The erosion of urban cohesion is further compounded by a critical decline in both the volume and quality of physical, socio-cultural encounters within the traditional public spheres of the city. Historically vibrant spatial gathering points are increasingly deserted as citizens opt for the immediate, screen-mediated convenience of virtual communication networks. This migration from physical architecture to digital spaces strips interpersonal interactions of their nuanced emotional depth, replacing organic community life with shallow, text-based exchanges (Turkle, 2017). The loss of these physical common grounds undercuts the spontaneous development of civic empathy, isolating individuals within highly customized but socially sterile digital echo chambers.

Table 2. Typology of Digital Social Disruption Layers among Urban Contexts

Disruption Layer	Empirical Indicators in Palangka Raya	Structural Impact on Community Resilience
Value Deformation	Decline in voluntary mutual assistance (<i>gotong royong</i>); rise in commercialized application-based service hiring.	Weakening of organic safety nets; degradation of traditional communal solidarity.
Relational Superficiality	High reliance on text-based short messaging; decrease in extended face-to-face family and neighborhood rituals.	Pervasive social impersonality; reduction of collective empathy and mutual trust.
Structural Segregation	Concentration of smart solutions in commercial centers; exclusion of peri-urban areas from digital platforms.	Amplification of urban inequalities; creation of distinct socio-technical enclaves.

As delineated in Table 2, the pervasive deployment of municipal technologies reshapes the underlying behavioral architecture, giving rise to an atomized urban population that prioritizes transactional efficiency over communal ties. The widespread availability of on-demand digital applications allows individuals to satisfy basic material and logistical needs independently, bypassing the collaborative neighborhood networks that once formed the bedrock of suburban survival. This decline in cooperative practices marks a significant shift away from historical institutions and toward an urban culture centered on individual convenience (Soemardjan, 2018). As local reliance on collective problem-solving fades, the social fabric thins, leaving the community vulnerable to fragmentation during broader socio-economic crises.

This transition toward transactional self-sufficiency signals a deeper structural shift in how urban populations manage social dependency and collective risk. The traditional expectation of mutual neighborly support is steadily replaced by automated digital solutions, transforming interdependent citizens into isolated consumers of urban services. Over time, this erosion of collaborative networks reduces the community's capacity to organize spontaneous, non-digital responses to local challenges (Kasali, 2018). Consequently, the neighborhood loses its protective function as an organic safety net, leaving individuals to navigate systemic vulnerabilities without the backing of a cohesive local collective.

The resulting individualization of daily routines reshapes the broader institutional frameworks of the city, causing a gradual decay of civic engagement and shared responsibility. As shown by field observations, public spaces like neighborhood centers and community parks are losing their role as focal points for local governance and cultural exchange. This retreat from shared physical spaces erodes the foundations of collective action, making it difficult for neighborhoods to organize around common goals (Galihleo et al., 2026). When citizens view their relationship with the city through a purely transactional digital lens, the motivation to contribute to the common good diminishes, accelerating the breakdown of urban social systems.

The combination of digital divides, vanishing physical spaces, and growing individualism highlights the dark side of technological progress, where digital efficiency often comes at the expense of human connection. This socio-technical shift reveals how smart city initiatives can unintentionally weaken community ties when implementation focuses solely on technological deployment (Yigitcanlar et al., 2020). The disruption outpaces the community's capacity to establish new normative guidelines, producing an unsettling state of social instability within the urban ecosystem. This dynamic leaves the city highly connected technologically, yet socially fragmented and increasingly detached from its foundational communal structures.

The key analytical insight drawn from these shifting dynamics is the conceptualization of the Digital Social Disruption Layer (DSDL). This theoretical framework maps the multi-tiered process through which technological interventions alter the sociological core of an advancing urban society. The DSDL operates simultaneously across three interconnected levels: the deformation of foundational values, the shallowing of daily communication, and the reinforcement of structural segregation. Recognizing these distinct layers is essential for understanding how unmitigated smart city growth can silently undermine urban stability, turning a drive for technological modernization into a source of deep social division.

Humanistic Resilience and Socio-Technical Adaptation: Navigating the Trajectories of an Adaptive Hybrid Society

The rapid expansion of the smart city infrastructure in Palangka Raya has driven urban residents to exercise active agency and deploy specific adaptation strategies to counteract the pressures of digital social disruption. Local citizens do not act as passive objects of technological intervention; instead, they consciously reconfigure their daily routines to maintain socio-economic mobility within a digitized ecosystem. This active agency manifests as a form of community resilience that directly reshapes the dynamic interplay between the urban ecosystem and systemic social changes (Pandey & Ghosh, 2023). Through this reflexive behavior, the urban population prevents total alienation and asserts its sovereignty over the encroaching technical infrastructure.

To survive in the modern urban environment, grassroots communities have initiated independent efforts to accelerate their digital literacy. The local populace utilizes informal networks, neighborhood associations, and family circles to disseminate essential technical skills without relying

solely on formal municipal programs. This autonomous capacity building enhances community competitiveness and serves as a vital component of an inclusive smart city framework (Nurjaya & Mustafa, 2024). Consequently, these self-taught digital competencies empower vulnerable demographics to access digital public services and navigate the evolving market dynamics of the city.

Urban residents have also engineered sophisticated social mechanisms to balance virtual interactions with physical social rituals, thereby preserving the emotional warmth of authentic cultural relationships. Citizens deliberately partition their time, setting boundaries on gawai usage during critical family gatherings, community meetings, and traditional religious events. This spatial-social adaptation allows the community to accommodate temporal changes within the urban system while protecting historical interpersonal networks (Chun & Kim, 2022). By preserving these face-to-face encounters, residents maintain mutual trust and prevent the total mechanization of their neighborhood ties.

The stabilization of these hybrid interaction patterns is heavily supported by the multiplication of interest-driven digital communities that serve as new arenas for organic solidarity and public participation. These online groups bridge geographical divides within the growing municipality, enabling residents to organize social assistance, debate local issues, and coordinate civic action. This phenomenon illustrates how digital twins and virtual platforms can be leveraged to enhance community infrastructure resilience when anchored in human needs (Ye & Cai, 2023). These cyber-communal spaces effectively convert individual digital access into collective social capital, strengthening urban cohesion.

Table 3. Adaptation Mechanisms and Social Capital Optimization

Adaptation Mechanism	Demographic Group	Optimized Social Capital	Level of Success
Self-Taught Literacy	Youth and Mid-Aged Professionals	Cognitive capital, operational capabilities, and economic networks.	High; seamless transition to application-based platforms.
Interaction Balancing	Elderly and Suburban Families	Bonding capital, traditional kinship, and localized physical safety nets.	Moderate; requires constant negotiation against digital efficiency.
Cyber Communal Spaces	Active Civic Agents and Technocrats	Bridging capital, organic civic solidarity, and public engagement.	High; creates scalable virtual arenas for localized problem-solving.

As structured in Table 3, the successful execution of these grassroots mechanisms depends on the underlying physical geography of the city, which acts as a material anchor for spatial-social adjustments. The changing patterns of land cover and spatial layout in Palangka Raya dictate where physical gatherings can occur and how digital connectivity is distributed. These physical transformations represent the geographical reality that shapes how citizens adjust their daily movements and social behaviors (Wanggai et al., 2026). The interplay between digital connectivity and physical territory highlights that socio-technical adaptation is always rooted in a specific urban landscape.

The continuous evolution of digital adaptation patterns among citizens is closely tied to the responsiveness of local bureaucratic policies in delivering user-friendly, citizen-centric infrastructure. When municipal authorities design digital applications with human-centered principles, they lower the barriers to entry for marginalized groups and reduce social alienation. This alignment shows that digital transformation can successfully alter social interaction patterns when it is intentionally designed to support human well-being (Nugroho & Putri, 2024). A responsive governance framework ensures that technological integration reduces urban marginalization instead of worsening the digital divide.

The institutional capacity of the local government to implement inclusive smart city frameworks depends on its ability to merge administrative innovation with the existing social capital of the population. Administrative changes cannot succeed without an understanding of public readiness and the sociological legitimacy granted by the community (Dwiyanto, 2017). Therefore, public officials

must design policies that respect local customs while introducing digital efficiencies. This balanced administrative approach ensures that smart city solutions are accepted as supportive tools rather than disruptive impositions.

The long-term success of these urban initiatives requires structural governance models that combine administrative modernization with active public participation. True administrative reform must focus on expanding the social capacity of citizens to prevent institutional mismatch and community exclusion (Prasojo, 2019). When local authorities intentionally involve residents in the development of digital tools, the resulting systems match the actual needs of the community. This participatory governance model turns the smart city into a collaborative project that strengthens, rather than fragments, the urban social fabric.

The successful integration of these governance elements is apparent in specific municipal sectors, such as digital waste management and environmental monitoring programs. These participatory initiatives combine technological platforms with local environmental action to support the broader urban ecosystem (Aprilina et al., 2025). This integration demonstrates that digital tools can enhance public activity when they are matched with the community's environmental and social realities (Sari et al., 2024). These initiatives show how smart city technologies can be used to improve the overall quality of life in an urban setting.

The digital programs implemented in Palangka Raya show that technology can improve both social well-being and economic capital when it is introduced through inclusive, human-centered methods (Munandar, 2026). The alignment of public adjustments, community solidarity, and responsive policies leads to a unique urban identity: the Adaptive Hybrid Society. This concept describes an urban population that successfully integrates digital efficiencies while preserving its cultural identity, human connections, and social independence. In this society, artificial intelligence and digital tools are used to enhance community resilience rather than replace human relationships (Rane et al., 2024). Ultimately, this hybrid society shows how sustainable urban governance can place human welfare at the center of long-term technological transformation (Rajagopalan et al., 2024, Tomàs, 2024).

CONCLUSION

The comprehensive analytical synthesis of technological modernization in Palangka Raya demonstrates that the deployment of smart city platforms drives a profound socio-technical transformation that reshapes the entire urban social structure. The initial migration of conventional face-to-face communication to digital networks establishes highly flexible, hybrid forms of interaction that expand civic connectivity while simultaneously injecting a pervasive quality of impersonality into daily relationships. This technological transition inherently triggers layered social disruptions, generating structural fragmentations through digital divides, accelerating the individualization of spatial routines, and weakening traditional communal safety nets. In response to these systemic pressures, urban residents exercise reflexive humanistic agency by organizing autonomous literacy networks, expanding interest-driven virtual communities, and consciously preserving physical cultural rituals. The structural alignment between these grassroots resilience mechanisms and responsive, citizen-centric municipal policies ultimately fosters the rise of an adaptive hybrid society, providing a sustainable architectural template where digital efficiency actively reinforces, rather than erodes, the foundational anchors of human connection and collective urban solidarity.

REFERENCES

- Alfaat, F. H. (2020). The Readiness Of Palangka Raya City Government Towards The Smart City. *International Journal of Kybernology*, 5(2), 302-311. <https://doi.org/10.33701/ijok.v5i2.1436>
- Amanda, S., & Firdaus, R. (2024). Pengaruh Penerapan Smart Card terhadap Lingkungan Masyarakat. *Innovative: Journal Of Social Science Research*, 4(3), 15918-15926. <https://doi.org/10.31004/innovative.v4i3.12435>
- Annah, I., Hadina, M., & Damiti, S. A. (2024). Early Marriage Incidence Before and During the Covid-19 Pandemic: A Case Study in Palangka Raya City. *SIGn Journal of Public Health*, 3(2), 31-44. <https://doi.org/10.37276/sjph.v3i2.657>

- Aprilina, F., Rochana, E., & Raidar, U. (2025). Pengelolaan Sampah Untuk Menunjang Smart Environment Sebagai Unsur Smart City. *Jurnal Ilmu Sosial dan Humaniora*, 4(2), 277-288. <https://doi.org/10.57248/jishum.v4i2.703>
- Aziz, M. A., & Djunaedi, A. (2022). Tahapan Perkembangan Kota Makassar menuju Smart City Tahun 2015-2020. *Jurnal Sinar Manajemen*, 9(2), 255-271. <https://doi.org/10.56338/jsm.v9i2.2446>
- Azmi, I. A., & Djunaedi, A. (2022). Kajian Pengaruh Smart City DKI Jakarta Terhadap Perkembangan Smart City Tangerang Selatan. *Jurnal Riset Pembangunan*, 4(2), 75-85. <https://doi.org/10.36087/jrp.v4i2.100>
- Bandauko, E., & Nutifafa Arku, R. (2023). A critical analysis of 'smart cities' as an urban development strategy in Africa. *International Planning Studies*, 28(1), 69-86. <https://doi.org/10.1080/13563475.2022.2137112>
- Caragliu, A., & Del Bo, C. F. (2022). Smart cities and urban inequality. *Regional Studies*, 56(7), 1097-1112. <https://doi.org/10.1080/00343404.2021.1984421>
- Castells, M. (2015). *Networks of outrage and hope: Social movements in the internet age*. Polity Press.
- Chun, Y., & Kim, K. (2022). Temporal changes in the urban system in South Korea. *Frontiers in Sustainable Cities*, 4, 1013465. <https://doi.org/10.3389/frsc.2022.1013465>
- Creswell, J. W. (2016). *Research design: Pendekatan metode kualitatif, kuantitatif, dan campuran* (Edisi ke-4). Pustaka Pelajar.
- Damsar. (2017). *Pengantar sosiologi perkotaan*. Kencana.
- Dwiyanto, A. (2017). *Manajemen pelayanan publik*. Gadjah Mada University Press.
- Galihleo, M. G., Kemal, R. R. M., Casillas, R., Anasya, S., & Dudayef, F. (2026). Perubahan Pola Interaksi Sosial Masyarakat Kota Serang Akibat Digitalisasi: Perspektif Manajemen Perubahan. *Jurnal Wacana Sosial Nusantara*, 2(1). <https://doi.org/10.5281/zenodo.19025826>
- Giddens, A. (2013). *The consequences of modernity*. Polity Press.
- Kasali, R. (2018). *Disruption*. Gramedia Pustaka Utama.
- Kesuma, A. I. (2025). Perkembangan ruang sosial kota: Studi antropologi perkotaan pada pola interaksi masyarakat urban Makassar. *Jurnal Kajian Sosial dan Budaya: Tebar Science*, 9(3), 36-42. <https://doi.org/10.36653/jksb.v9i3.218>
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. SAGE Publications.
- Mageto, J., Twinomurinzi, H., Luke, R., Mhlono, S., Bwalya, K., & Bvuma, S. (2024). Building resilience into smart mobility for urban cities: An emerging economy perspective. *International Journal of Production Research*, 62(15), 5556-5573. <https://doi.org/10.1080/00207543.2022.2139866>
- Munandar, S. A. (2026). Dampak Program Smart City Berbasis Digital terhadap Kesejahteraan Sosial dan Ekonomi Masyarakat Grobogan. *Jurnal Paradigma Grobogan*, 3(1), 56-80. <https://doi.org/10.58684/paradigma.v3i1.102>
- Nugroho, D. A., & Putri, S. R. (2024). Transformasi Digital dan Perubahan Pola Interaksi Sosial Masyarakat: Studi Kasus di Kecamatan Menteng, Kota Jakarta Pusat. *PERSEPTIF: Jurnal Ilmu Sosial dan Humaniora*, 2(4), 153-161. <https://doi.org/10.70716/perseptif.v2i4.418>
- Nurjaya, M., & Mustafa, M. (2024). Strategi meningkatkan daya saing daerah dengan pendekatan Smart City di Kabupaten Maros. *POINT: Jurnal Ekonomi dan Manajemen*, 6(1), 86-98. <https://doi.org/10.46918/point.v6i1.2253>
- Pandey, B., & Ghosh, A. (2023). Urban ecosystem services and climate change: a dynamic interplay. *Frontiers in Sustainable Cities*, 5, 1281430. <https://doi.org/10.3389/frsc.2023.1281430>
- Prasojo, E. (2019). *Reformasi birokrasi Indonesia*. Kencana.
- Rajagopalan, S., Ramaswami, A., Bhatnagar, A., Brook, R. D., Fenton, M., Gardner, C., ... & Whitsel, L. P. (2024). Toward heart-healthy and sustainable cities: a policy statement from the American Heart Association. *Circulation*, 149(15), e1067-e1089. <https://doi.org/10.1161/CIR.0000000000001217>
- Rane, N., Choudhary, S., & Rane, J. (2024). Artificial intelligence for enhancing resilience. *Journal of Applied Artificial Intelligence*, 5(2), 1-33. <https://doi.org/10.48185/jaai.v5i2.1053>
- Sari, D. A. H., Rahayu, M. J., & Pujantiyo, B. S. (2024). Kajian kesesuaian penerapan konsep smart environment sebagai bagian dari smart city (Studi kasus: Kota Semarang). *Desa-Kota: Jurnal*

- Perencanaan Wilayah, Kota, dan Permukiman*, 6(1), 154-170. <https://doi.org/10.20961/desa-kota.v6i1.80802.154-170>
- Sawitri, D. (2024). Paradigma Smart City Dalam Memanfaatkan Potensi Big Data. *JATISI*, 11(4). <https://doi.org/10.35957/jatisi.v11i4.9542>
- Setiyono, B. (2020). *Kebijakan publik digital*. Prenadamedia Group.
- Simanjorang, Y., & Sukmawati, N. (2022). Implementasi Kebijakan Smart City Dalam Era Revolusi Industri 4.0 di Masa Pandemi Covid-19. *Jurnal Ilmiah Ekotrans & Erudisi*, 2(1), 97-103. <https://doi.org/10.69989/ftvm1j19>
- Simmel, G. (2014). *The metropolis and mental life*. Routledge.
- Soemardjan, S. (2018). *Perubahan sosial di Yogyakarta*. Gadjah Mada University Press.
- Sriyana, S. (2025). Cultural and Environmental Dynamics in Social Transformation: The River-to-Land Transition in Central Kalimantan, Indonesia. *Fikri: Jurnal Kajian Agama, Sosial dan Budaya*, 10(1), 148-164. <https://doi.org/10.25217/jf.v10i1.5782>
- Tomàs, M. (2024). The smart city and urban governance: The urban transformation of Barcelona, 2011–2023. *Urban Research & Practice*, 17(4), 588-605. <https://doi.org/10.1080/17535069.2023.2277205>
- Turkle, S. (2017). *Reclaiming conversation: The power of talk in a digital age*. Penguin Press.
- Wanggai, C. B., Sari, C. F. K., Mardiyadi, Z., & Putri, E. F. S. (2026). Analysis and Prediction of Land Cover Change in Palangka Raya City Using a Cellular Automata–Neural Network Model Based on MOLUSCE. *Jurnal Teknologi Informasi dan Pendidikan*, 19(2), 1479-1499. <https://doi.org/10.24036/jtip.v19i2.1117>
- Ye, X., Du, J., Han, Y., Newman, G., Retchless, D., Zou, L., ... & Cai, Z. (2023). Developing human-centered urban digital twins for community infrastructure resilience: A research agenda. *Journal of Planning Literature*, 38(2), 187-199. <https://doi.org/10.1177/08854122221137861>