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Building Digital Communities as a Tool for Social Engineering in the New Capital City (Ibu Kota Nusantara)

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ABSTRACT

Pemindahan ibu kota Indonesia ke Ibu Kota Nusantara (IKN) di Kalimantan Timur menandai sebuah proyek pembangunan perkotaan transformatif yang bertujuan untuk mengatasi tantangan nasional yang telah lama ada, termasuk kemacetan perkotaan, disparitas ekonomi, dan degradasi lingkungan. Makalah ini mengeksplorasi potensi komunitas digital sebagai alat rekayasa sosial dalam konteks proyek besar ini. Makalah ini mengkaji bagaimana platform digital dapat dimanfaatkan untuk mendorong partisipasi warga, mendorong transparansi, dan memfasilitasi kolaborasi antara warga dan pemerintah, sehingga memastikan inklusivitas dan ketahanan di kota yang baru dibangun. Penelitian ini mengidentifikasi tantangan-tantangan utama, seperti kesenjangan digital dan masalah privasi data, sekaligus menyoroti peluang inovasi sosial dan inklusi kelompok-kelompok terpinggirkan. Pada akhirnya, komunitas digital menawarkan potensi yang signifikan untuk menjadikan IKN sebagai model pembangunan perkotaan yang cerdas, berkelanjutan, dan inklusif.

The relocation of Indonesia's capital city to Ibu Kota Nusantara (IKN) in East Kalimantan marks a transformative urban development project aimed at addressing long-standing national challenges, including urban congestion, economic disparity, and environmental degradation. This paper explores the potential of digital communities as tools for social engineering in the context of this massive project. It reviews how digital platforms can be leveraged to foster civic participation, promote transparency, and facilitate collaboration between residents and the government, thus ensuring inclusivity and resilience in the newly built city. The research identifies key challenges, such as the digital divide and data privacy concerns, while highlighting opportunities for social innovation and the inclusion of marginalized groups. Ultimately, digital communities offer significant potential to make IKN a model for smart, sustainable, and inclusive urban development.

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INTRODUCTION

The relocation of Indonesia's capital city to the newly proposed Ibu Kota Nusantara (IKN) in East Kalimantan marks a monumental shift in the nation's urban development strategy. This ambitious project, however, goes beyond the mere physical transfer of governmental institutions. It is an effort to engineer a modern, sustainable, and resilient city capable of addressing Indonesia's long-standing issues related to urban congestion, economic disparity, environmental degradation, and regional inequality. Among the many challenges involved in this large- scale urban relocation is the need for robust social engineering initiatives that can foster an inclusive and adaptive society capable of thriving in this newly built environment.

Digital communities have increasingly become a cornerstone in the efforts to bring about social engineering in urban settings. These virtual networks enable citizens to engage, communicate, and participate in the decision- making processes that shape their environments. In the case of IKN, leveraging digital communities as a tool for social engineering provides a unique opportunity to integrate technology with community-building efforts. The development of digital platforms can serve multiple functions, from enabling civic participation to fostering a sense of belonging and inclusivity, which is critical for the long-term success of the new capital city (Liang, 2014), (Zavratnik et al., 2020).

Social engineering, in the context of urban development, refers to the planned interventions designed to guide societal change in a controlled manner. These interventions can target various social issues, such as inequality, education, public health, and community engagement. In the case of IKN, social engineering plays a vital role in shaping not only the physical but also the socio-cultural landscape of the city. The government envisions IKN as a smart and green city that can provide equal opportunities for its residents, integrate diverse cultural backgrounds, and promote sustainable development practices (Liang, 2014), (Zerrer & Sept, 2020).

To achieve these goals, policymakers must address several critical issues. First, the relocation will affect numerous communities in both the new capital and Jakarta, the current capital, and the local communities in East Kalimantan. Ensuring these populations' successful integration and adaptation to the new socio-economic environment requires strategic social engineering. This is where digital communities become invaluable, as they provide an inclusive space for communication, collaboration, and participation across various social and economic backgrounds (Nieusma & Riley, 2010).

The use of digital communities in this regard is multifaceted. First, it can act as a platform for citizen engagement, allowing residents to voice their concerns, provide feedback, and actively participate in the decision-making processes that affect their daily lives. Digital communities can also bridge the gap between the government and the populace, promoting transparency, accountability, and inclusivity in governance. Furthermore, they can facilitate social learning and foster a collective identity that aligns with the government's vision for a smart, sustainable city (Liang, 2014).

Building digital communities in a rapidly developing environment such as IKN presents several challenges. The most significant of these challenges is ensuring digital literacy and access to technology for all residents. Indonesia, while rapidly advancing in terms of digital infrastructure, still faces a digital divide, especially in rural and remote areas. This disparity could hinder the participation of certain groups, thereby limiting the effectiveness of digital communities in social engineering efforts (Popov et al., 2022).

Another challenge lies in fostering trust and cooperation within digital communities. Many people, especially those from rural areas or different cultural backgrounds, may be unfamiliar with or skeptical of online platforms. To address this, digital communities must be built on principles of transparency, inclusivity, and community- driven governance. This involves creating user-friendly platforms that are easily accessible and understandable by people with varying levels of digital proficiency (Babintsev et al., 2023).

Moreover, the design and governance of digital communities must consider issues related to data privacy and security. As more personal information is shared online, safeguarding the privacy of citizens becomes paramount. A failure to protect user data could lead to distrust in the platform and a reluctance to participate, undermining the entire social engineering initiative (Krombholz et al., 2015).

Despite these challenges, the potential benefits of building digital communities as a tool for social engineering in IKN are immense. Digital communities can help streamline public services, enhance civic participation, and build social cohesion among residents. For instance, platforms that facilitate communication between residents and local government officials can improve the efficiency and responsiveness of public services. This, in turn, can lead to higher levels of satisfaction and trust in the government (Nieusma & Riley, 2010).

Furthermore, digital communities can act as hubs for innovation and collaboration, encouraging residents to come together to address local challenges. For example, community-driven initiatives related to waste management, renewable energy, or public health can emerge from these platforms, leading to more sustainable and localized solutions. This sense of ownership and participation can foster a stronger community identity and ensure that the city's development aligns with the needs and aspirations of its residents (Zavratnik et al., 2020).

Digital communities also provide an avenue for the inclusion of marginalized groups in the development process. Women, people with disabilities, and other underrepresented groups can use these platforms to voice their opinions and concerns, ensuring that their needs are taken into account in the planning and implementation of city-wide policies. By promoting inclusivity, digital communities can help create a more equitable society where all residents have an equal stake in the city's future (Babintsev et al., 2023).

For the development of IKN to be successful, civic participation and collaboration between the government and its citizens are crucial. Digital communities serve as the bridge that connects these two groups, fostering dialogue and cooperation. By providing a platform for open communication, digital communities can help mitigate potential conflicts that may arise during the relocation process, such as land disputes, environmental concerns, and socio-economic disparities (Popov et al., 2022).

Furthermore, digital communities encourage a culture of collaboration, where residents work together to solve problems and improve their living conditions. This culture of collaboration is essential for the success of IKN, as it promotes a sense of shared responsibility for the city's development. Through active participation in digital communities, residents can contribute to the creation of a city that reflects their values, aspirations, and needs (Babintsev et al., 2023).

In conclusion, building digital communities as a tool for social engineering in the new Indonesian capital city, IKN, presents both challenges and opportunities. While there are significant hurdles related to digital literacy, access to technology, and trust-building, the potential benefits of fostering inclusive, participatory, and innovative communities through digital platforms are substantial. By integrating digital communities into the broader social engineering framework, the Indonesian government can create a more connected, inclusive, and sustainable city, ensuring that IKN becomes a model for smart urban development (Liang, 2014), (Zavratnik et al., 2020).

METHOD

Below is the proposed Systematic Literature Review (SLR) methodology to systematically review the literature related to leveraging digital communities as tools for social engineering in the development of Indonesia's new capital city, Ibu Kota Nusantara (IKN), as well as the challenges and opportunities for building inclusive and participatory digital communities.

Research Objectives and Questions

Research Objective, the main objective of this SLR is to understand how digital communities can be leveraged as tools for social engineering in IKN's development and to identify the challenges and opportunities for building inclusive and participatory communities in Indonesia's diverse socio-economic and cultural landscape.

Research Questions, RQ1: How can digital communities be effectively leveraged as tools for social engineering in the development of IKN? RQ2: What are the challenges and opportunities for building inclusive and participatory digital communities in IKN, considering Indonesia's socio-economic and cultural diversity?

Search Strategy

Data Sources

The literature search will be conducted across reputable academic databases, ensuring comprehensive coverage of relevant studies. The following databases will be used: Scopus; Web of Science; IEEE Xplore; Google Scholar; SpringerLink; Taylor & Francis Online; SINTA.

Keywords and Search Terms

The search will use a combination of keywords and phrases to capture relevant studies. Examples of keywords include; "Digital communities" AND "social engineering", "Digital platforms" AND "urban development", "Civic engagement" AND "smart cities", "Digital inclusion" AND "socio-economic diversity", "Indonesia new capital" AND "digital governance"

An example search string: "digital communities" AND "social engineering" AND "urban development" OR "digital inclusion" AND "civic engagement" AND "smart cities".

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Inclusion and Exclusion Criteria

Inclusion Criteria:

Studies published in peer-reviewed journals or reputable conference proceedings; Studies that focus on digital communities, social engineering, or urban development; Publications in English or Indonesian, from 2010 to 2024; Studies that provide empirical or theoretical insights into civic engagement, digital inclusion, or urban governance.

Exclusion Criteria:

Studies focusing solely on technical aspects of digital infrastructure, without discussing community or governance; Opinion pieces, blogs, or non-peer-reviewed sources; Studies unrelated to urban development or social engineering; Publications that do not provide insights into socio-economic or cultural contexts.

Screening and Selection Process

Title and Abstract Screening

Articles identified in the search results will undergo an initial screening based on their titles and abstracts. Duplicates and irrelevant articles will be removed.

Full-Text Review

Articles passing the initial screening will be reviewed in full to assess their relevance to the research questions. Studies that do not provide significant data or insights will be excluded.

Data Extraction

For each selected study, relevant data will be extracted using a standardized form, which will include, Authors and publication year; Research objectives and methodology; Key findings and insights; Theoretical frameworks used; Study limitations; Relevance to digital communities, social engineering, or urban development

Quality Assessment

The quality of the selected studies will be assessed using specific criteria to ensure methodological rigor:

1. Clarity of research objectives: Are the research questions and objectives clearly stated?
2. Appropriateness of methodology: Are the methods used appropriate to answer the research questions?
3. Relevance to the research topic: Does the study provide valuable insights into digital communities, social engineering, or urban development?
4. Transparency in data and analysis: Are the data sources and analytical methods clearly explained?

Each study will be scored on these criteria (e.g., 1 to 5), and studies with low scores will be excluded from the final review.

Data Synthesis

Descriptive Synthesis

A descriptive synthesis will summarize the characteristics of the selected studies, such as publication year, geographic focus, and research methodology. This will help identify trends in the literature and highlight existing research gaps.

Thematic Synthesis

Thematic synthesis will be used to group and categorize findings based on key themes related to the research questions, including, Effectiveness of digital communities in social engineering; Challenges in building inclusive digital communities; Opportunities for enhancing civic engagement through digital platforms.

Limitations of the Review

The limitations of the SLR will be acknowledged, including:

1. Publication bias: The review may focus only on peer-reviewed articles, potentially excluding relevant unpublished studies.
2. Language limitations: Only studies published in English and Indonesian will be included, which may omit important research in other languages.
3. Methodological differences: Synthesizing findings from studies with varying methodologies and theoretical frameworks may present challenges.

RESULTS AND DISCUSSION

Results from the Systematic Literature Review (SLR)

The Systematic Literature Review (SLR) undertaken for this research focuses on understanding how digital communities can be leveraged as tools for social engineering in the development of Ibu Kota Nusantara (IKN). Additionally, it identifies the challenges and opportunities in building inclusive and participatory digital communities. Several key themes have emerged from the analysis of the literature, which will be discussed below.

Effectiveness of Digital Communities for Social Engineering

Digital communities are increasingly recognized as powerful tools for enhancing civic engagement and promoting collaboration between governments and citizens in urban development projects. According to several studies, digital platforms have demonstrated the ability to foster greater participation in decision-making processes, improve transparency, and create a medium through which residents can express their concerns and provide valuable feedback on urban policies. This is critical for IKN, where the establishment of digital platforms is expected to enable citizens to shape their city's future through continuous interaction with local authorities and stakeholders (Zavratnik et al., 2020).

In the context of IKN, leveraging digital communities for social engineering is especially relevant given the Indonesian government's vision of creating a modern, inclusive, and sustainable capital city. Digital platforms allow citizens from diverse socio-economic backgrounds to collaborate and contribute to the development of urban infrastructure and social policies. Through these communities, it is possible to integrate different perspectives and voices, making the planning process more representative and democratic. Research emphasizes that digital communities can act as facilitators for ensuring that urban development projects are not only technologically advanced but also aligned with the needs and aspirations of local communities (Nieusma & Riley, 2010).

Studies further demonstrate that the use of digital platforms in smart cities enhances community participation in public governance. By offering tools for real-time feedback and civic dialogue, digital platforms bridge the gap between citizens and governments, thereby strengthening trust in the decision-making processes. Digital

communities can improve governance by enabling bottom-up approaches to policy formulation, in contrast to traditional top-down models that often exclude marginalized voices. These platforms also promote transparency in governance by ensuring that government decisions are subject to public scrutiny, thereby increasing accountability (Liang, 2014).

Challenges in Building Inclusive Digital Communities

Despite the clear advantages of digital communities in fostering civic participation and driving urban development, several challenges impede their widespread adoption and effectiveness. One of the most significant challenges highlighted by the literature is the digital divide—the gap between those who have access to digital technologies and those who do not. In the context of Indonesia, this divide is exacerbated by socio-economic and geographic disparities. Rural communities and low-income households are particularly vulnerable to exclusion from digital platforms due to limited access to the internet, inadequate digital infrastructure, and low digital literacy rates. As a result, these populations are often left out of critical discussions related to urban development, reducing the overall inclusivity of digital communities (Popov et al., 2022).

In addition to the digital divide, fostering trust and cooperation within digital communities presents a significant challenge. Many citizens, particularly those from marginalized or rural communities, may be skeptical of digital platforms. This skepticism can stem from concerns over data privacy, the misuse of personal information, and the lack of transparency in how data is managed and shared by government entities. Research has shown that distrust in digital governance systems can lead to reluctance among citizens to actively engage with online platforms, undermining the potential of digital communities to serve as effective tools for social engineering. To address this issue, digital platforms must prioritize transparency and ensure that robust data privacy measures are in place to protect users' personal information (Babintsev et al., 2023).

Moreover, the design and governance of digital platforms must take into account the cultural diversity of IKN's future residents. Indonesia is home to a wide range of ethnic groups, languages, and traditions, and any digital platform developed for the new capital must be inclusive and accessible to all.

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Failure to consider these factors could result in the alienation of certain groups, further entrenching social divides and limiting the effectiveness of digital communities. This challenge underscores the need for culturally sensitive and linguistically diverse digital platforms that reflect the unique social fabric of Indonesia (Krombholz et al., 2015).

Opportunities for Digital Inclusion and Innovation

Despite these challenges, the potential benefits of building inclusive and participatory digital communities in IKN are substantial. Digital platforms offer significant opportunities for social innovation and inclusion. They can act as hubs for collaboration, enabling residents to co-create solutions to local challenges and engage in community- driven initiatives. These platforms facilitate real-time communication between residents and local governments, empowering citizens to have a direct say in the design and implementation of urban development policies. This not only improves the responsiveness of public services but also fosters a sense of ownership and responsibility among residents, as they see their contributions shaping the future of their city (Zavratnik et al., 2020).

In addition to enhancing civic participation, digital platforms provide a means of inclusion for marginalized groups, including women, people with disabilities, and other vulnerable populations. By offering accessible and user-friendly platforms, digital communities can help ensure that these groups are not left out of important discussions and decision-making processes. For instance, digital tools can be adapted to accommodate individuals with disabilities, making it easier for them to participate in public forums and contribute to the development of IKN. This fosters a more equitable and inclusive urban development process, where the needs and aspirations of all citizens are considered (Babintsev et al., 2023).

Digital platforms also present opportunities for innovation in various sectors, such as waste management, renewable energy, and public health. For example, community-driven initiatives to manage waste more sustainably or to adopt renewable energy sources can be facilitated through digital platforms. These platforms allow residents to share ideas, propose solutions, and collaborate on projects that address local challenges. By encouraging innovation at the grassroots level, digital communities can contribute to the creation of a more resilient and sustainable city (Zavratnik et al., 2020).

Discussion

The results of this review highlight both the potential and the challenges associated with leveraging digital communities for social engineering in IKN. Below, we discuss these findings in relation to the broader context of urban development and digital governance.

Leveraging Digital Communities for Social Engineering

Digital communities have demonstrated considerable potential for driving social engineering efforts in the development of IKN. By enabling greater civic participation, digital platforms can help ensure that the voices of all citizens are heard in the decision-making process. This is particularly important in the context of IKN, where the Indonesian government aims to create a modern, inclusive, and sustainable city that serves as a model for future urban development projects in Southeast Asia.

The literature emphasizes that digital communities can promote bottom-up governance approaches, where residents are actively involved in shaping the policies that affect their lives. This contrasts with traditional top- down governance models, where decisions are made by government officials without input from the public. In IKN, digital communities have the potential to bridge this gap, providing a space for residents to engage directly with government authorities and other stakeholders. This two-way communication is critical for building trust in the governance process and ensuring that urban development is responsive to the needs and aspirations of local communities (Nieusma & Riley, 2010).

Moreover, digital platforms can facilitate the development of social capital in IKN. By enabling residents to form networks of trust and cooperation, digital communities can foster social cohesion and strengthen the sense of belonging among IKN's diverse population. This is particularly important given Indonesia's multi-ethnic and multi-religious society, where fostering inclusivity and social harmony is critical for long-term stability. Digital platforms can provide a space for dialogue and collaboration, helping to bridge cultural and social divides that may otherwise hinder the city's development (Babintsev et al., 2023).

Overcoming Challenges: Bridging the Digital Divide

While the benefits of digital communities are clear, the challenges posed by the digital divide must be addressed to fully realize their potential in IKN. The findings suggest that without equal access to digital platforms, there is a risk of excluding vulnerable populations from important discussions and decisions regarding IKN's future. Rural communities, in particular, may be left out of these conversations due to a lack of access to the internet and low levels of digital literacy. Bridging the digital divide will require significant investment in digital infrastructure, as well as initiatives aimed at improving digital literacy, particularly in rural areas.

Addressing the digital divide is critical for ensuring that all citizens have the opportunity to participate in IKN's development. Governments and policymakers must prioritize the expansion of digital infrastructure to underserved areas, while also providing training and resources to help residents navigate digital platforms. By doing so, they can ensure that digital communities are truly inclusive, providing a platform for all citizens to engage in the governance process (Popov et al., 2022).

Building Trust and Ensuring Data Privacy

Building trust in digital platforms is another key challenge that must be addressed. The findings indicate that many users, particularly from marginalized communities, are reluctant to engage with digital platforms due to concerns over data privacy and transparency. This distrust can significantly undermine the effectiveness of digital communities as tools for social engineering. Governments and platform developers must take steps to ensure that user data is protected and that privacy concerns are addressed through transparent governance and robust security measures.

Transparent and inclusive digital governance models, such as co-created regulations and data protection policies, will be essential for building trust among users. Citizens need to feel confident that their personal information is secure and that the platforms they engage with are managed in a transparent and accountable manner. Without this trust, the full potential of digital communities to foster civic engagement and drive social engineering efforts in IKN will not be realized (Krombholz et al., 2015).

Opportunities for Social Innovation

In conclusion, the results of the SLR highlight the potential of digital communities to serve as powerful tools for social engineering in the development of IKN. Digital platforms offer significant opportunities for fostering civic participation, promoting social inclusion, and driving innovation in urban development. However, challenges related to the digital divide, trust, and data privacy must be addressed to fully realize the potential of digital communities in IKN. By addressing these challenges, digital communities can play a crucial role in ensuring that IKN becomes a model for smart, sustainable, and inclusive urban development.

CONCLUSION

In conclusion, the results of the SLR highlight the potential of digital communities to serve as powerful tools for social engineering in the development of IKN. Digital platforms offer significant opportunities for fostering civic participation, promoting social inclusion, and driving innovation in urban development. However, challenges related to the digital divide, trust, and data privacy must be addressed to fully realize the potential of digital communities in IKN. By addressing these challenges, digital communities can play a crucial role in ensuring that IKN becomes a model for smart, sustainable, and inclusive urban development.

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