



DOI: <https://doi.org/10.38035/jgsp.v4i3>
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Innovation and Organizational Change in The Development of The Dukuh Atas Integrated Transportation Hub as an Implementation of Smart Mobility

Andreas Eno Tirtakusuma¹

¹Master of Public Administration Student, Open University, 501321677@ecampus.ut.ac.id

Corresponding Author: 501321677@ecampus.ut.ac.id¹

Abstract: This study examines organizational innovation and change in the development of the Dukuh Atas integrated transportation hub as an implementation of smart mobility in Jakarta. The research gap lies in the limited literature that links diffusion of innovation theory and innovation-project typology with institutional transformation in Indonesia's public transportation sector, particularly the establishment of PT Moda Integrasi Transport Jabodetabek (MITJ). This study aims to analyze how organizational innovation and change occur in building an integrated transit hub and to identify the challenges and strategies for optimizing its implementation. A qualitative descriptive method with a literature review approach was employed, drawing on secondary data from scientific journals, official institutional publications, government regulations, and course material on innovation and organizational change. The results show that the transformation of Dukuh Atas into an integrated transit-oriented development reflects a shift from fragmented bureaucratic silos toward collaborative, technology-enabled governance, supported by transformational leadership and the diffusion of innovation across institutions. The novelty of this study lies in mapping the innovation-project typology and the incremental-to-disruptive technology spectrum onto the concrete stages of Dukuh Atas's transformation, offering a layered model of public-sector organizational change.

Keywords: Organizational Innovation, Organizational Change, Smart Mobility, Transit-Oriented Development, Diffusion of Innovation

INTRODUCTION

Urban areas in Indonesia, especially Jakarta as the center of government and business, face increasingly complex mobility pressures due to population growth, urbanization, and reliance on private vehicles. To respond to these challenges, the concept *Smart Mobility* developed as part of the framework *Smart City* which optimizes the public transportation system to be integrated with each other to support all community mobility (Young, Evelyn, and Nugraha 2025). One of the concrete manifestations of this concept in Jakarta is the construction of the Dukuh Atas integrated transportation node, which connects electric rail trains (KRL), *Mass Rapid Transit* (MRT), *Light Rail Transit* (LRT), and *Bus Rapid Transit* (BRT) TransJakarta in one transit-oriented area or *transit-oriented development* (TOD).

The success of the physical development of this kind of transportation node cannot be separated from the process of innovation and organizational change that accompanies it. Before the Dukuh Atas node was realized as it exists today, there was a significant institutional fragmentation, where each transportation mode operator PT Kereta Api Indonesia (KAI), PT MRT Jakarta, and PT TransJakarta operated relatively independently with a separate ticketing, information, and management system. To overcome this fragmentation, the government established PT Moda Integrasi Transport Jabodetabek (MITJ) on February 12, 2020 as a joint venture (*Joint Venture*) between PT MRT Jakarta (Perseroda) and PT KAI (Persero), with the mandate to manage the integration of railway transportation and the development of transit-oriented areas in the areas of Jakarta, Bogor, Depok, Tangerang, and Bekasi (Jabodetabek) (PT MITJ, 2020). The establishment of the MITJ is a concrete example of institutional innovation, namely the creation of a new organizational structure in response to systemic needs that cannot be solved by existing organizations individually (Oktorini and Barus 2022).

Research gap The background of this research lies in the limited studies that explicitly link the theory of innovation and change in public sector organizations with case studies of integrated transportation infrastructure development in Indonesia. Most of the previous research on *Smart Mobility* in Jakarta focuses more on the technical aspects and evaluation of transportation policies (Disy et al. 2026), while the organizational transformation aspects behind the development include how innovation diffusion occurs across institutions, how transformational leadership plays a role, and how bureaucratic challenges are overcome have not been widely explored within the framework of innovation theory and organizational change. (Bloch and Bugge 2013) affirms that public sector innovation has different characteristics from private sector innovation, especially in terms of objectives, autonomy, and interface with other actors, so it requires its own analytical framework, while (Bugge and Bloch 2016) adding that public sector innovation is more often a combination of incremental learning and systemic change that runs gradually, rather than a single leap.

Uniqueness (state of the art) This research lies in the merger of two innovation theory frameworks that are rarely combined in the context of Indonesian public transportation. The first framework is the typology of project innovation levels from Mantel, Meredith, Shafer, and Sutton that distinguishes *derivative*, *Platform*, *Breakthrough*, and *R&D projects* (BMP MAPU5104 n.d.). The second framework is a type of technology-based innovation from *Incremental* up to *Disruptive Innovation* according to (Assink 2006). These two frameworks are used to dissect the transformation process of Dukuh Atas from a fragmented transit area to a digital-based integrated node, such as the JakLingko integrated ticket system. This research also integrates the theory of innovation diffusion (García-Avilés 2020) to explain how MITJ's institutional innovation spreads and is accepted across agencies, as well as transformational leadership theories (Rosi, Riswati, and Muninghar 2022) to explain the role of the leader in speeding up the process.

Public sector organizations generally face greater resistance to change than private organizations, given the characteristics of bureaucracy that tends to be rule-oriented and hierarchical decision-making (Huda and Aslami 2024). (El Moudden and Balhadj 2024) It even emphasizes that successful innovation is difficult to develop in traditional bureaucratic models, so an approach that encourages *dismantling* against classical bureaucratic patterns. In the context of the development of Dukuh Atas, this kind of challenge is real, considering that the integration process involves at least four ministries/institutions and three business entities that have different interests, organizational cultures, and operational systems.

Based on the description above, this research was formulated to answer three main questions. The first question is how the process of innovation and organizational change occurs in the construction of the integrated transportation node of Dukuh Atas as an implementation *Smart Mobility*. The second question is, what are the main challenges faced in the institutional transformation and how to overcome them, including the role of public policy that comes with

it (Hartono, Jauhari, and Irdh 2020). The third question is how the role of transformational leadership and information and communication technology (ICT) in driving the successful diffusion of innovation in this integrated transportation ecosystem. These three questions are explained in the Results and Discussion section, and answered briefly in the Conclusion section.

The thinking framework of this study departs from the phenomenon of institutional fragmentation that has been hindering the realization of integrated public transportation in the Dukuh Atas area, where each operator of an electric rail train transportation mode, *Mass Rapid Transit*, *Light Rail Transit*, and *Bus Rapid Transit* operates independently with separate ticketing, information, and governance systems. This phenomenon is then analyzed through two complementary innovation typology frameworks, as shown in Chart 1 and Chart 2 above. The first framework, the project innovation level typology (Chart 1), was used to map the risk scale of each stage of Dukuh Atas transformation starting from construction *Skybridge* to the establishment of PT MITJ as a new institutional entity. The second framework, the spectrum of technological innovation (Chart 2), is used to map the extent to which technology is applied such as systems *E-ticketing* and the JakLingko platform fundamentally changes the way people interact with public transportation services.

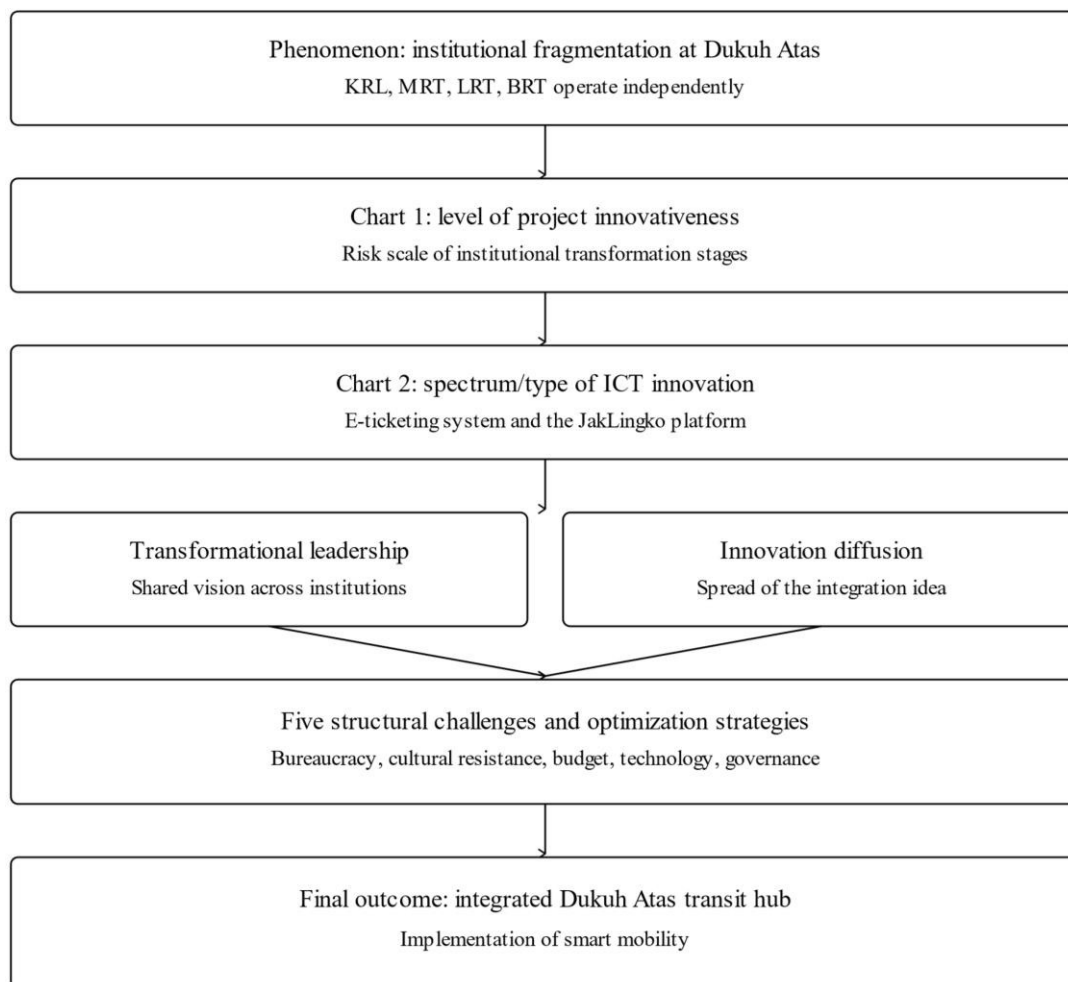


Chart 1. Frame of Mind

The two frameworks are then analyzed together with two main driving factors, namely cross-institutional transformational leadership that plays a role in communicating a shared vision and encouraging collaboration between organizations that previously ran separately, and the process of diffusion of innovation that explains how the idea of integration spreads through

formal communication channels and cross-dialogue forums *Squirrel*. At the same time, this transformation process is also faced with five structural challenges of cross-institutional bureaucracy, cultural resistance, budget limitations, technological gaps, and complexity of agglomeration governance, each of which requires a specific optimization strategy so that the innovation process can run sustainably.

This line of thinking ultimately boils down to one main conceptual model, namely that the successful construction of integrated transportation nodes as an implementation *Smart Mobility* is the result of a combination of three dimensions of organizational change that are layered and mutually supportive: the risk dimension of the innovation project (Chart 1), the dimension of the technology spectrum (Chart 2), and the dimension of the social process of leadership and diffusion of innovation. These three dimensions are the main conceptual contribution of this research in explaining how institutional transformation of Indonesia's public transportation sector can occur systemically and sustainably.

METHODS

This study uses a descriptive qualitative approach with a literature study method (*Literature Review*). This approach was chosen as the most appropriate and most feasible method, considering that the object of the study of the innovation process and organizational change in the construction of the Dukuh Atas integrated transportation node is conceptual and institutional, so it is more appropriate to analyze through an in-depth review of literature, official documents, and teaching materials, rather than through the collection of primary data that requires direct access to the internal of the relevant organization.

The object of this research is the process of institutional transformation in the construction of the Dukuh Atas integrated transportation node, focusing on the role of PT MITJ as an entity resulting from organizational innovation. The data sources used are all in the form of secondary data, consisting of four categories. The first category is scientific publications in the form of articles in national and international journals regarding *Smart Mobility*, *transit-oriented development*, public sector innovation, and organizational change. The second category is official institutional documents, including PT MITJ's publications, press releases from the Ministry of Transportation, and institutional reports *think tank* transportation such as the Institute for Transportation and Development Policy (ITDP) Indonesia. The third category is relevant laws and regulations, such as Presidential Regulation Number 103 of 2015. The fourth category is teaching materials for innovation and organizational change (BMP MAPU5104 n.d.), which is a reference for the two innovation typology frameworks used in the analysis.

The data collection technique was carried out through a systematic search of academic databases and official institutional websites, with relevant keywords such as "Dukuh Atas TOD", "MITJ", "*Smart Mobility* Jakarta", "public sector innovation", and "innovation diffusion". Data analysis was carried out qualitatively with descriptive-analytical techniques, namely systematically explaining the phenomenon of institutional transformation, then interpreting it through the framework of the typology of the project's level of innovation, the spectrum of technological innovation, the theory of innovation diffusion, and the theory of transformational leadership. Source triangulation is carried out by comparing findings from various publications to ensure the consistency of information regarding the chronology and characteristics of the development of Dukuh Atas as an integrated transportation node.

RESULTS AND DISCUSSION

Transformation of Dukuh Atas towards an Integrated Transportation Node Based on Smart Mobility

The Dukuh Atas area has long been known as the meeting point of various modes of transportation in Jakarta, but before 2019, intermodal integration in this area was still purely

physical and not supported by an integrated management system. Sudirman KRL Station, Dukuh Atas BNI MRT Station, TransJakarta Dukuh Atas 1 stop, and later Jabodebek LRT Station are within a close radius, but each is managed by a different operator with a non-uniform ticketing system, travel information, and service standards. This condition is what prompted the birth of the Dukuh Atas TOD concept, which began to operate gradually since 2019 and is managed by PT MITJ (Dukuh Atas TOD 2019). The implementation of TOD in this region is part of efforts to realize *Smart Mobility* in DKI Jakarta, one of the six main pillars of the Jakarta program *Smart City* together *Smart Governance*, *Smart Economy*, *Smart People*, *Smart Living*, and *Smart Environment* (Young et al. 2025).

The transformation of Dukuh Atas from a fragmented transit area to an integrated node can be understood as a multi-layered organizational innovation process. In the first layer, there is a physical innovation in the form of the construction of intermodal connecting infrastructure, such as multipurpose crossing bridges (*Skybridge*) which connects MRT Station with Sudirman KRL Station and TransJakarta bus stop. In the second layer, there was institutional innovation in the form of the establishment of PT MITJ as a new entity specifically mandated to manage the integration, instead of letting each mode operator solve the integration problem individually. In the third layer, there is a service innovation in the form of the implementation of JakLingko's integrated ticket and fare system, which allows passengers to change modes with one card or application (Ministry of Transportation of the Republic of Indonesia 2021). These three layers of innovation complement each other, and without institutional innovation in the second layer, it is difficult to imagine that service innovation in the third layer can be realized consistently.

PT MITJ explicitly identifies six dimensions of integration as the foundation of its work, namely physical integration, services, information, management, ticketing, and *Branding* (PT MITJ, n.d.). These six dimensions reflect a comprehensive approach to innovation, touching on the hard aspect (*Hard infrastructure*) in the form of buildings and connecting lines, as well as soft aspects (*Soft Infrastructure*) in the form of service standards, information systems *real-time*, shared management governance, unified payment systems, and uniform visual identities. This approach is in line with the TOD principles of (McManus et al. 2000), which emphasizes that the success of transit-oriented areas does not depend solely on the density of buildings around the station, but on the creation of a transportation system that truly reduces dependence on private vehicles through easy intermodal accessibility.

Table 1. Comparison of Transportation Conditions of Upper Hamlet Before and After Institutional Integration

Aspects	Before Integration (Before 2019)	After Integration (PT MITJ, 2019–present)
Institutional	Three operators run independently (KAI, MRT Jakarta, TransJakarta)	One entity managing cross-modal integration (PT MITJ)
Ticketing system	Separate for each mode of transport	Integrated through JakLingko
Physical infrastructure	Distance between modes is not directly connected	Connected via an <i>integrated skybridge</i> and pedestrian path
Travel information	Not available cross-mode in <i>real-time</i>	Available through an integrated information system
Regional identity (branding)	Varies according to each operator	Uniform as TOD area of Dukuh Atas

Source: Processed from PT MITJ (2020, n.d.); (Dukuh Atas TOD 2019); (Ministry of Transportation of the Republic of Indonesia 2021).

Typological Framework of Project Innovativeness Level in Reading the Change Process in Dukuh Atas

To understand the level of risk and scale of change that occurred in the construction of the Dukuh Atas integrated transportation node, this study used the project innovation level framework developed by Mantel, Meredith, Shafer, and Sutton as outlined in BMP MAPU5104

Module 9. The framework divides innovation projects into four levels: *derivative projects* that only involves small-scale process changes with low risk, *Platform Projects* which involves intermediate changes to the existing system, *Breakthrough Projects* that involve extensive changes with high risk, and *R&D projects* which is an entirely new concept development. The full outline is visualized in the following Chart 1.

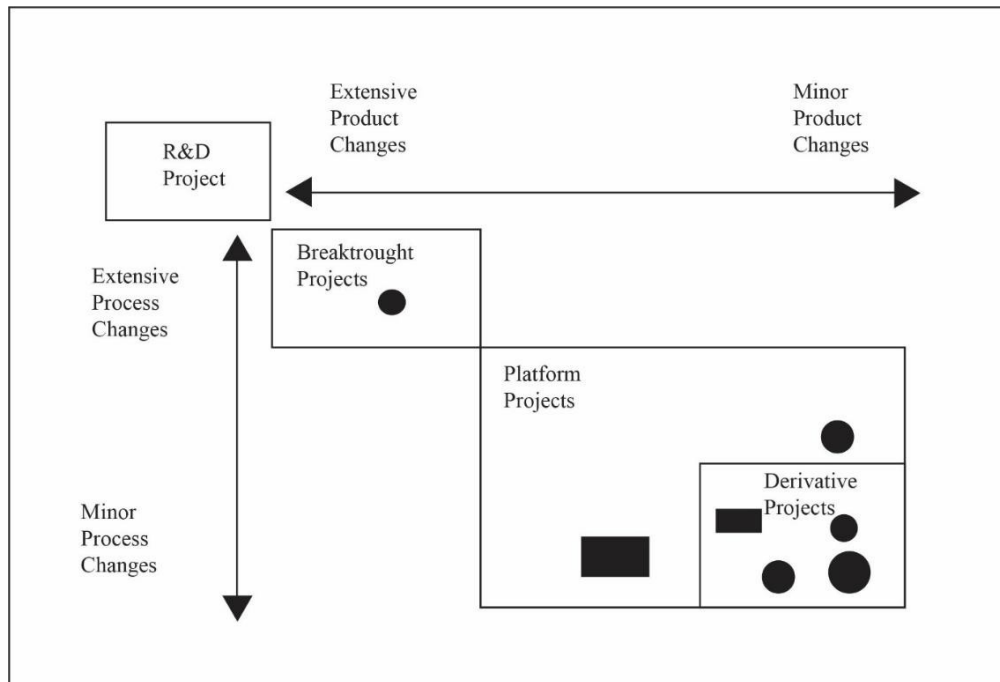


Chart 2. Project Innovativeness Level

Based on Chart 1, innovation in the bureaucracy does not always have to be direct in the form of *Breakthrough* or *R&D projects* which is high risk and requires extensive change. The government can start it through *derivative projects* with minor process changes to minimize the risk of failure in the early stages. If mapped in the case of Dukuh Atas, the development of *Skybridge* Interstation connections can be categorized as *Platform Project*, because it leverages existing infrastructure but creates significant new connectivity without fundamentally changing the operational systems of each mode. Meanwhile, the establishment of PT MITJ as a cross-institutional integration management entity can be categorized as *Breakthrough Project*, because it involves extensive structural changes, namely the formation of new business entities as a result of the collaboration of two SOEs/BUMDs that previously operated independently with a high level of institutional risk, considering that they must align the interests, work culture, and governance systems of different parent organizations. The development of JakLingko's integrated ticketing system that relies on digital payment technology and cross-modal databases can be categorized as approaching *R&D project*, because it is the development of a new system that has never been implemented before on a national scale.

This gradual approach is in line with the recommendation that innovation in the bureaucracy should start with small-scale changes to minimize the risk of failure in the early stages of implementation. In the context of Dukuh Atas, the sequence of development that starts from minor physical improvements (connecting bridges), then towards institutional formation (MITJ), and finally towards complex digital systems (JakLingko), reflects a pattern of gradual innovation that implicitly follows the logic of risk mitigation as recommended in the framework. This gradual pattern is also relevant to the findings (Bugge and Bloch 2016) and (Bloch and Bugge 2013) which confirms that public sector innovation is rarely *Breakthrough*

Pure, but more often it is a combination of incremental learning and systemic changes that occur gradually over time.

Innovation Implementation Challenges and Optimization Strategies

Although the achievements of Dukuh Atas integration are quite significant, the transformation process cannot be separated from various structural challenges that are commonly faced by public sector organizations in implementing innovation. Referring to the study on the diffusion of innovation in the Indonesian public sector (Huda and Aslami 2024), there are three fundamental challenges that are in line with the context of the development of this integrated transportation node, as summarized in Table 2 and its optimization strategies.

Table 2. Challenges and Strategies for Optimizing the Implementation of Innovation in the Integration of Dukuh Atas Transportation

No.	Challenge	Brief Explanation	Optimization Strategy
1	Standard-oriented cross-agency bureaucracy	Four ministries/agencies and three business entities have different approval systems, so slow joint decisions and operational changes risk violating the parent institution's procedures	The application of <i>the agile bureaucracy approach</i> through a cross-sector coordinating body with special authority, such as the Jabodetabek Transportation Management Agency/BPTJ (Presidential Regulation Number 103 of 2015)
2	Cultural resistance of employees between operators	Each operator has a long-standing work culture and institutional loyalty, so integration has the potential to raise concerns of losing an organisational identity	Structured change management, <i>project-based learning programs</i> , and alignment of key performance indicators (KPIs) between institutions with the achievement of joint integration (Dewi & Kurniawan, 2019)
3	Limited budget and physical resources	The development of physical infrastructure and integrated digital systems requires significant capital investment, while the State Budget/Regional Budget is limited	Cross-entity partnership schemes through joint ventures (<i>Public-Private Partnership/resource sharing</i>), such as the establishment of PT MITJ by PT KAI and PT MRT Jakarta (PT MITJ, 2020)

Source: Processed from (BMP MAPU5104 n.d.); Presidential Regulation Number 103 of 2015; (Huda and Aslami 2024); PT MITJ (2020).

In addition to these three main challenges, the study also identifies two additional challenges that are more specific in geographical and technological contexts. The fourth challenge is the gap in information technology systems between operators, given that each mode of transportation initially develops its ticket and travel information systems independently with different technology architectures, so data and payment integration requires complex technical alignment. The optimization strategy is the development of a single platform such as JakLingko that functions as an integration layer (*Integration layer*) on top of each operator's system, without having to replace the entire existing technology infrastructure (M.M and Press Indonesia 2025). The fifth challenge is the complexity of urban agglomeration governance, considering that the need for transportation integration not only covers the administrative area of DKI Jakarta, but also the Bodetabek area which is under the jurisdiction of different local governments, with more than 1.5 million commuter trips made from Bodetabek to Jakarta every day (Institute for Transportation and Development Policy (ITDP) Indonesia 2026). The optimization strategy is to strengthen the framework of the Jakarta Agglomeration Area Development Master Plan (RIPKA) which is specifically designed to synchronize transportation planning across regions and sectors.

The Role of Transformational Leadership in the Diffusion of Cross-Institutional Innovation

The success of the diffusion of institutional innovation as reflected in the formation and operationalization of PT MITJ cannot be separated from the role of transformational leadership at the policy-making level. Transformational leadership acts as a catalyst or agent of reform in

the diffusion of innovation, where leaders do not just rule, but change the work culture across organizations through clear vision communication, intellectual stimulation, and empowerment of all stakeholders so that the process of adapting innovation spreads faster from the leadership level to the forefront of public services (Sari, Dema, and Irwan 2024). Table 3 summarizes the two main roles of transformational leadership along with concrete examples, which are then analogized to the context of Dukuh Atas integration.

Table 3. The Role of Transformational Leadership in the Diffusion of Innovation and Its Analogy to Dukuh Atas Integration

The Role of a Transformational Leader	Common Concrete Examples	Analogy on Dukuh Atas Integration
Encouraging critical thinking: challenging old assumptions of subordinates	Leaders do not directly provide solutions, but rather challenge the team to design prototypes of new services and tolerate errors in the trial stage	The board of directors across SOEs/BUMDs encourages the technical team to design a prototype of the ticket and information integration system before it is fully implemented
Equalizing vision: articulating the importance of innovation for society at large	Leaders consistently take to the field and use strong narratives to convince stakeholders to adopt innovation	The Minister of Transportation, the Minister of SOEs, and the Governor of DKI Jakarta jointly inaugurated the integration of Greater Jakarta transportation at Tebet Station, affirming the vision of intermodal connectivity to the public

Source: Processed from (Sari et al. 2024); (Ministry of Transportation of the Republic of Indonesia 2021).

The launch of Jabodetabek transportation integration, which was inaugurated directly by the Minister of Transportation together with the Minister of SOEs, the Governor of DKI Jakarta, and the three directors of related SOEs/BUMDs in September 2022 at Tebet Station is a concrete example of how cross-sector leaders jointly articulate the vision of intermodal connectivity to the public, while affirming the institutional commitment to the sustainability of the integration program (Ministry of Transportation of the Republic of Indonesia 2021). (Rosi et al. 2022) emphasized that transformational leadership has a significant effect on improving the performance of government employees, because this type of leader is able to create a work climate that encourages collective initiative and responsibility, not just administrative compliance. In the context of the integration of Dukuh Atas, this is reflected in how employees across transportation mode operators are encouraged to collaborate to formulate common service standards, instead of just carrying out instructions from each parent institution separately.

In addition, the diffusion of MITJ institutional innovation is also inseparable from the role of a cross-dialogue forum *Squirrel* which regularly brings together ministries, local governments, transportation operators, associations of transport entrepreneurs, academics, and civil society organizations to discuss the challenges of integrated transportation institutions (Institute for Transportation and Development Policy (ITDP) Indonesia 2026). This kind of forum serves as a horizontal diffusion channel for innovation, where ideas and good practices from one institution can spread to another through shared learning, rather than simply through vertical instruction from the highest leaders. This horizontal diffusion pattern is in line with the characteristics of the innovation diffusion process proposed (Rogers, Singhal, and Quinlan 2019), which emphasizes that the spread of innovation is heavily influenced by the communication channels between parties and the social systems in which the innovation is introduced, rather than solely by the technical advantages of the innovation itself.

The Role of Information and Communication Technology in Smart Mobility in Dukuh Atas

Information and communication technology (ICT) acts as a support as well as the main accelerator in the transformation of the Dukuh Atas transportation node into a regional *Smart*

Mobility. ICT overhauls the structure, processes, and way operators and passengers interact with the transportation system. To understand the level of technological transformation that occurs, this study uses a framework of the type of innovation from (Assink 2006), which divides technology-based innovations into a spectrum ranging from *Incremental Innovations* up to *Disruptive Technologies*, as visualized in the following Chart 2.

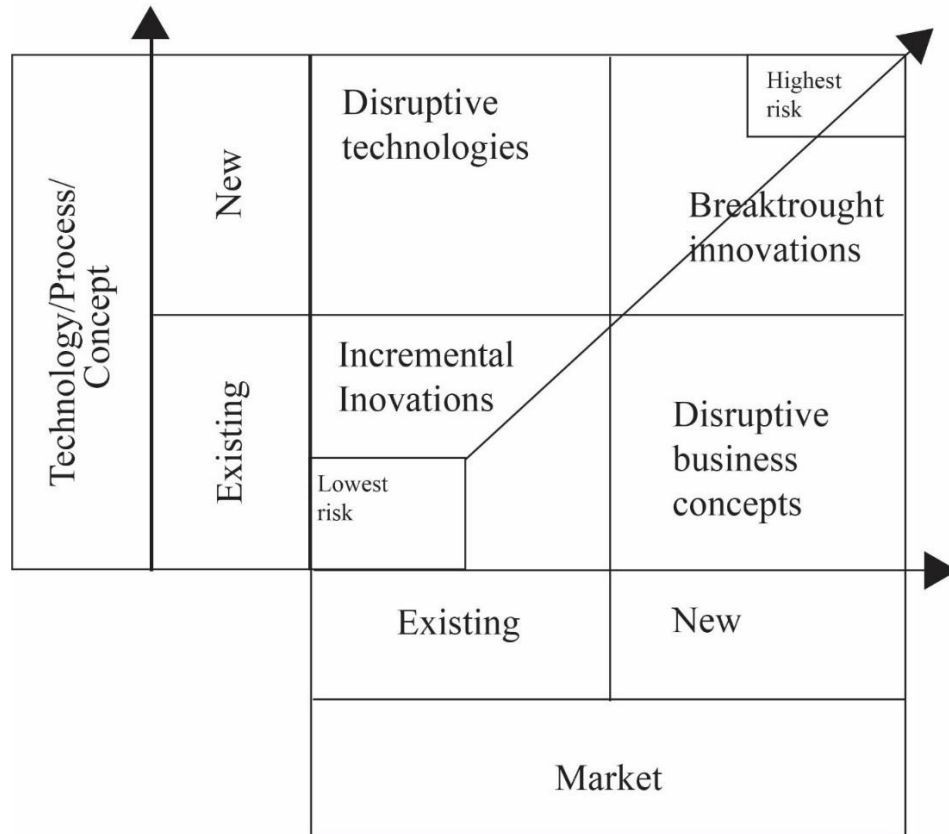


Chart 3. Types of Innovation

Based on Chart 2, the implementation of ICT in the public sector can be classified from *Incremental Innovations* Improving existing systems with new technologies is low-risk to *Disruptive Technologies* which completely overhauled the concept of physical services to be fully digital. In the context of Dukuh Atas, the application of the *E-ticketing* and travel information services *real-time* on the Jakarta MRT can be categorized as *Incremental Innovation*, because it improves the existing manual ticketing system with digital technology without changing the basic concept of rail transportation services themselves (Disy et al. 2026). On the other hand, the development of the JakLingko system as a cross-modal fare and ticket integration platform can be categorized as approaching *Disruptive Technology*, as it fundamentally changes the way passengers interact with the entire public transport ecosystem from previously having to buy separate tickets in each mode, to simply using a single card or app for the entire multimodal journey. This transformation is in line with the definition *Smart Mobility* which emphasizes the optimization of the public transportation system through ICT so that services become easily accessible, safe, convenient, fast, and affordable (Almassawa et al. 2024).

The benefits and potential obstacles to ICT utilization in the Dukuh Atas ecosystem are summarized in the following Table 4, which is compiled based on a synthesis between studies *Smart Mobility* Jakarta and public sector innovation teaching materials.

Table 4. Benefits and Potential Obstacles to ICT Utilization in the Dukuh Atas Smart Mobility Ecosystem

Aspects	Benefits	Potential Obstacles
Service efficiency	Cutting the chain of physical bureaucracy and repetitive ticket queues; The average daily commute time can be reduced to less than 20 minutes (Margaretha and Nugroho 2023)	Digital literacy gap in vulnerable groups such as the elderly or low-income people
Transparency & accountability	A digital journey trail enables <i>real-time</i> monitoring of movement patterns for fleet schedule and capacity adjustments	Data security risks due to the integration of cloud-based services that collect the personal data of millions of users
Decision-making	Aggregate data on cross-modal travel can be analysed to formulate more targeted transport network expansion policies	The risk of duplication of applications between agencies without <i>adequate database</i> integration, which actually inconveniences passengers ("pseudo-innovation")

Source: Processed from (Disy et al. 2026)

The above obstacles emphasize that the success of ICT-based innovation does not depend solely on technological sophistication, but also on the social readiness and data governance that accompanies it. (Sururi 2019) emphasizing that effective public sector organizational policy innovation needs to be measured through leadership, finance, human resources, culture, and government responsibility approaches simultaneously, not just through technology indicators. This principle is relevant to ensure that digital transformation in the Dukuh Atas ecosystem does not create new gaps among community groups with different levels of digital literacy.

Novelty: Layered Organizational Change Models in the Smart Mobility Ecosystem

The findings of this study confirm that the success of the construction of the Dukuh Atas integrated transportation node cannot be explained through just one single theoretical framework, but requires a multi-layered organizational change model that integrates three dimensions at once: the risk typological dimension of the innovation project (Chart 1), the dimension of the technological innovation spectrum (Chart 2), and the dimension of the social process of innovation diffusion driven by cross-institutional transformational leadership. These three dimensions are intertwined: institutional innovation at scale *Breakthrough* such as the establishment of MITJ can only run effectively if supported by transformational leadership that is able to bridge organizational cultural differences between institutions, while technological innovation *disruptive* such as JakLingko can only be widely accepted if the diffusion process takes into account the readiness of digital literacy and public trust in data security, as summarized in Table 4.

Novelty (*novelty*) This research lies in offering a conceptual model that links the typology of public sector organizational innovation projects with the concrete stages of integrated transportation infrastructure development, something that has rarely been explicitly discussed in the literature *Smart Mobility* Indonesia, which tends to focus on policy evaluation or service effectiveness alone (Kaledi and Herwangi 2019). This model shows that the transformation of public sector organizations towards more services *Smart* It is not a single event, but rather a series of gradual innovation processes that start with low-risk change, progress to high-risk institutional change, and ultimately lead to technological transformations that fundamentally change the way society interacts with public services.

CONCLUSIONS AND SUGGESTIONS

Conclusion

This study shows that the construction of an integrated transportation node in Dukuh Atas as an implementation *Smart Mobility* It is the result of a multi-layered process of organizational innovation and change, including physical innovation, institutional innovation,

and technology-based service innovation. The establishment of PT MITJ as a joint venture company across SOEs and BUMDs is an institutional innovation in the category *Breakthrough Project* within the framework of Mantel, Meredith, Shafer, and Sutton, which is the foundation for the realization of physical integration, services, information, management, ticketing, and *Branding* in the Dukuh Atas area. Key challenges in this transformation process include slow cross-agency bureaucracy, cultural resistance between operators, budget constraints, technology system gaps, and the complexity of urban agglomeration governance, each of which can be addressed through the establishment of cross-sectoral coordinating bodies, structured change management, joint venture schemes, single integration platforms, and strengthening of agglomeration area master plans. Cross-institutional transformational leadership and ICT utilization have proven to be two of the main driving factors that accelerate the diffusion of institutional innovation, although it is still necessary to be aware of potential obstacles in the form of digital literacy gaps, data security risks, and duplication of inter-agency applications that can reduce integration benefits for end-users.

Limitations

This study has several limitations that need to be considered in interpreting its findings. First, this study only focuses on a single case study, namely the integrated transportation node of Dukuh Atas, so the results cannot be generalized to other integrated transportation nodes in Indonesia that have different institutional and geographical characteristics. Second, this research is entirely sourced from secondary data in the form of scientific publications, official institutional documents, and teaching materials, without the support of primary data from direct interviews with internal parties of PT MITJ or related transportation mode operators, so that the interpretation of the dynamics of organizational change is still external. Third, the innovation theory framework used, although relevant, has not fully captured the dynamics of changes that occur in the long term, considering that the process of transportation integration in Greater Jakarta is still developing to date.

Suggestions

Based on these findings and limitations, the next research is suggested to expand the scope of the research object by comparing the organizational innovation process in several other integrated transportation nodes in Indonesia, such as transit nodes in Yogyakarta or Surakarta, in order to gain a more comprehensive understanding of the pattern of institutional transformation of the public transportation sector nationally. Further research is also recommended using a qualitative approach with in-depth interviews with internal stakeholders of PT MITJ and related transportation mode operators, to explore the dynamics of resistance and acceptance of change in more depth from the perspective of direct actors. In addition, the use of longitudinal or *System Dynamics* can provide a deeper understanding of how the process of diffusion of institutional innovation develops and adapts over time, especially in anticipation of the expansion of integration to new transit nodes in the Greater Jakarta area in the future.

Author's Contribution

Author contributed significantly to this research. Contributions include research conceptualization, theoretical framework, search and analysis of secondary data, interpretation of results, manuscript writing, scientific revision, and final approval of manuscripts to be published. Author declare that they have read and approved the final version of the article.

Acknowledgment (Optional)

The author expresses his gratitude to all parties who have provided support, direction, and constructive input in the preparation of this article, including the author's affiliated

institutions that have facilitated access to the literature and teaching materials needed in this research.

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