Validation of the Urban Management Policy Implementation Model Using Structural Equation Modeling

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Abstract

This study was conducted with the aim of validating the urban management policy implementation model. In terms of methodology, the present research is quantitative–descriptive, and in terms of purpose, it is applied research. The statistical population consisted of 500 managers, experts, and employees associated with urban management. Based on Cochran's formula, a sample size of 125 participants was selected using simple random sampling. The research instrument was a researcher-developed questionnaire, the validity of which was assessed using face validity, while its reliability was examined using Cronbach's alpha coefficient; the overall alpha values for all variables were found to be higher than 0.70. Data analysis was conducted using structural equation modeling with SmartPLS software. The results indicated that the path coefficients of strategies to outcomes (0.929), causal conditions to the core category (0.390), the core category to strategies (0.391), contextual conditions to the core category (0.118), intervening conditions to the core category (0.494), contextual conditions to strategies (0.385), and intervening conditions to strategies (0.838) were obtained. To evaluate the model, structural equation modeling was applied using SmartPLS software. All significance values were greater than 1.96, and the standardized coefficients were greater than 0.38, indicating that the model was confirmed. Given that the goodness-of-fit index was obtained as 0.965, the fit of the final model was confirmed. The findings indicate full confirmation of the model derived from the grounded theory approach. It can be concluded that the urban management policy implementation model is valid, and the results of this study can be of interest to authorities responsible for the development and growth of this society.

Keywords: Urban management, policy implementation, grounded theory

1. Introduction

Urban management has increasingly emerged as a central arena in which public policy effectiveness is tested, refined, and contested, particularly in the context of rapid urbanization, environmental pressures, social inequality, and administrative complexity. Cities today function not only as spatial units of governance but also as dynamic systems where policy design, implementation capacity, and institutional coordination intersect. Contemporary scholarship emphasizes that the success or failure of urban policies is determined less by policy formulation itself and more by the quality of policy implementation within complex urban governance structures (Keenan, 2025). As urban systems grow more interconnected and vulnerable to economic, environmental, and social shocks, the need for empirically validated models of policy implementation in urban management has become increasingly pronounced.

Policy implementation in urban contexts involves a wide range of actors, including municipal bureaucracies, political institutions, private stakeholders, and civil society organizations. The interaction among these actors is shaped by administrative structures, regulatory frameworks, organizational culture, and contextual constraints. Studies on administrative restructuring demonstrate that changes in governance arrangements can significantly affect economic outcomes, institutional performance, and workforce behavior, underscoring the importance of coherent implementation mechanisms (Dongkun, 2025). In this regard, urban management policies cannot be assessed solely on normative or legal grounds but must be evaluated through systematic empirical models that capture causal, contextual, and intervening dynamics.

Recent research has increasingly focused on the role of cities in advancing sustainability agendas, particularly within broader international frameworks such as climate governance and green development strategies. Urban policies related to climate resilience, low-carbon transitions, and environmental regulation highlight the critical role of local implementation capacity. Evidence from the EU's Southern Neighbourhood illustrates that climate resilience initiatives succeed only when local institutional frameworks are aligned with policy objectives and implementation tools (Abdullah et al., 2021). Similarly, analyses of low-carbon city policies in China demonstrate that policy effectiveness depends on local administrative coordination, monitoring mechanisms, and organizational learning processes (Wang et al., 2023; Yue et al., 2022).

Urban management policy implementation is also deeply embedded in socio-political and legal contexts. Legal frameworks and socio-political environments shape both the scope of policy action and the discretion available to implementing agencies. Comparative studies from Greece and other European contexts indicate that urban sustainability policies are highly sensitive to institutional legitimacy, political trust, and legal clarity (Pouikli et al., 2020). In cities where regulatory ambiguity or political fragmentation prevails, policy implementation often becomes symbolic rather than substantive, leading to limited tangible outcomes.

A growing body of literature emphasizes that urban policy implementation should be analyzed as a multi-dimensional process involving causal conditions, contextual factors, strategic actions, and observable outcomes. Research on municipal solid waste management in Shanghai reveals that compulsory classification policies yield meaningful results only when enforcement strategies are supported by organizational capacity and public engagement mechanisms (Chu et al., 2023). Similarly, evaluations of parking management policies in Indonesian cities highlight the importance of institutional coordination and stakeholder compliance in achieving policy goals (Agustin et al., 2021; Yuliarso et al., 2024).

Institutional capacity and organizational characteristics play a decisive role in shaping urban policy outcomes. Bureaucratic behavior, internal power dynamics, and administrative routines influence how policies are translated into practice. Ferreira's analysis of urban land regularization in São Paulo demonstrates that bureaucratic politics can significantly distort policy objectives during implementation, particularly when distributional incentives override programmatic goals (Ferreira, 2023). These findings reinforce the argument that urban policy implementation must be studied through models that capture both formal structures and informal practices.

The integration of justice and equity considerations into urban policy implementation has also gained increasing scholarly attention. Climate justice frameworks adopted by U.S. cities reveal that embedding equity into urban planning requires not only policy commitment but also measurable implementation tools and accountability mechanisms (Diezmartínez & Gianotti, 2022). Without such mechanisms, policy intentions remain aspirational and fail to address structural inequalities. This highlights the importance of outcome-oriented evaluation models that link implementation strategies to social and organizational results.

Technological innovation and smart city initiatives further complicate the landscape of urban policy implementation. While digital governance tools and artificial intelligence offer new opportunities for efficiency and monitoring, their effectiveness is contingent upon institutional readiness and policy coherence. Empirical evidence suggests that smart city policies enhance urban energy efficiency only when technological adoption is integrated with administrative reform and strategic governance (Y. Li et al., 2024; Xu & Wang, 2023). These findings underscore the need for comprehensive models that incorporate technological, organizational, and human factors.

Environmental and economic policies implemented at the urban level also demonstrate the importance of causal and intervening variables. Studies on energy-saving and emission-reduction policies reveal that local business behavior and regional

economic structures significantly mediate policy outcomes (Bi et al., 2024; Tang et al., 2023). Similarly, market-oriented environmental regulations influence carbon emission performance through complex institutional pathways that require rigorous structural analysis (X. Li et al., 2024). Such evidence supports the use of advanced analytical methods, such as structural equation modeling, to validate multidimensional policy implementation frameworks.

Urban policy implementation is further influenced by social and cultural dynamics. Research on social security policy in Ho Chi Minh City shows that cultural norms, social trust, and political context shape public acceptance and administrative effectiveness (Dieu, 2024). In the realm of urban agriculture and food security, community engagement and informal institutional arrangements play a critical role in determining policy success (Kiribou et al., 2024). These findings highlight the necessity of incorporating intervening social and cultural factors into implementation models.

The diffusion of urban policies across jurisdictions also raises important questions regarding policy learning and imitation. Studies on public–private partnerships demonstrate that cities often adopt policies based on perceived similarities rather than empirical effectiveness, which can lead to implementation mismatches (Xiong et al., 2025). Likewise, national spatial planning reforms illustrate that policy transfer without contextual adaptation may undermine implementation outcomes (Yang et al., 2024). These insights reinforce the need for locally validated models of policy execution.

From a planning and development perspective, long-term urban resilience and inclusion depend on coherent implementation strategies aligned with institutional capacities. Evidence from Singapore indicates that integrated planning frameworks succeed when policy goals, organizational structures, and evaluation mechanisms are systematically aligned (Kempton et al., 2023). Conversely, fragmented governance arrangements often weaken policy impact, even when policy design is technically sound.

In the context of urban economic development, policies related to administrative restructuring, land use regulation, and development rights allocation further demonstrate the complexity of implementation dynamics. Studies on administrative division adjustments and land circulation policies in China reveal that economic and social outcomes are strongly mediated by local governance quality and institutional enforcement (Li et al., 2022; Zhang et al., 2022). These findings emphasize that policy outcomes cannot be fully understood without examining the internal mechanisms of implementation.

Despite the growing body of empirical research on urban policies, a significant gap remains in the validation of integrated implementation models that systematically link causal conditions, contextual factors, strategies, intervening variables, and outcomes within a unified analytical framework. While individual studies have examined specific policy domains—such as energy efficiency, land use, education quality, or disaster management (Jiang et al., 2024; Lee & Hong, 2024; Murni et al., 2024)—there is limited empirical work that validates comprehensive urban management policy implementation models using robust quantitative techniques.

Structural equation modeling, particularly variance-based approaches such as Partial Least Squares Structural Equation Modeling (PLS-SEM), offers a powerful methodological tool for addressing this gap. PLS-SEM enables the simultaneous examination of complex causal relationships, measurement validity, and predictive power, making it particularly suitable for policy implementation research in dynamic urban contexts. Prior studies in governance and policy analysis increasingly advocate for such methods to capture the multidimensional nature of policy processes (Keita & Kourouma, 2023; Maidi et al., 2024).

Given the increasing demands placed on urban management systems and the strategic importance of effective policy implementation for sustainable urban development, there is a clear need to empirically validate comprehensive models that explain how urban management policies are executed and produce outcomes. Such validation not only advances theoretical understanding but also provides practical insights for policymakers and urban administrators seeking to enhance governance effectiveness, accountability, and social trust.

Accordingly, the aim of this study is to validate a comprehensive model of urban management policy implementation using structural equation modeling to examine the relationships among causal conditions, contextual factors, intervening variables, strategies, and outcomes.

2.   Methods and Materials

In terms of purpose, this study is applied research, and in terms of nature and method, it is descriptive–survey research. Given that the main objective was to validate the proposed policy implementation model, the Partial Least Squares Structural Equation Modeling (PLS-SEM) approach was employed. The statistical population consisted of 500 managers, experts, and employees associated with urban management. To determine the sample size, Cochran's formula for a finite population was used. Based on the calculations, the required sample size was determined to be 125 participants. The data collection instrument was a researcher-developed questionnaire based on the model extracted from the qualitative phase (causal conditions, contextual conditions, environmental conditions, strategies, and outcomes). The items were designed using a five-point Likert scale ranging from "strongly disagree" to "strongly agree."

The validity of the research instrument was evaluated through a multi-layered process. First, face validity and content validity were assessed by reviewing the questionnaire with 10 experts in the fields of public policy and urban management, and their corrective feedback was incorporated into the final version of the questionnaire. Subsequently, to assess construct validity, the indicators related to the measurement model were examined using SmartPLS software. At this stage, factor loadings, average variance extracted (AVE), and discriminant validity were analyzed using the Fornell–Larcker criterion and the heterotrait–monotrait ratio (HTMT) to ensure that the constructs were sufficiently distinct from one another and that each construct appropriately measured its intended dimensions.

The reliability of the questionnaire was also evaluated using Cronbach's alpha, composite reliability (CR), and rho_A (ρ_A). All variables achieved values above the acceptable threshold of 0.70, indicating adequate internal consistency of the instrument.

Data analysis was conducted in two main stages. In the measurement model stage, factor loadings, composite reliability, Cronbach's alpha, convergent validity (AVE), and discriminant validity (Fornell–Larcker and HTMT) were examined. In the structural model stage, using SmartPLS 4 software, path coefficients, the significance of relationships through the bootstrap method with 5,000 resamples, model fit index (SRMR), explained variance of endogenous variables (R^2), predictive relevance of the model (Q^2), and effect size (f^2) were assessed. Finally, ethical considerations—including voluntary participation of respondents, confidentiality of personal information, and the use of data solely for scientific purposes—were fully observed, and the research findings were reported in an aggregated and non-identifiable manner.

3.   Findings and Results

Table 1 presents the components and indicators of the research model, derived from the qualitative phase and organized based on the logic of grounded theory. The table systematically classifies the extracted concepts into the core category and its related conditions, strategies, intervening factors, and outcomes, thereby providing an integrated framework for understanding the dimensions of urban management policy implementation.

Table 1. Research Components and Indicators

Selective Code (Category)	Theoretical Code (Conditions)
Observance of values	Contextual conditions
Development of behavioral principles	
Creation of work-attachment infrastructures	Causal conditions
Individuals' intrinsic orientation toward growth	
Improvement of skill levels through continuous training	
Characteristics of policy formulators	
Formulation of a policy charter to ensure adherence to policy principles	Organizational strategies
Implementation and execution of essential managerial processes	
Control of urban management policy	
Intra-organizational characteristics	Core phenomenon (core category)
Policy-oriented decision-making	
Ability to resolve conflicts around policy objectives	
Institutional participation and support	
Institutionalization of organizational culture	
Organizational structure	
Employees' skills and knowledge	
Progress orientation and meritocracy	Outcomes or results
Organizational justice and equality	

Reduction of organizational corruption	
Performance system evaluation	
Improvement of urban management leaders' behavior	
Observance of labor rights	
Social interaction and relations with others	
Environmental stimuli	Intervening conditions
Rule of law	
Cultural factors	
Social factors	
Political factors	
Economic factors	

As shown in Table 1, the research model is structured around the core phenomenon of urban management policy implementation, with its dimensions systematically categorized into contextual conditions, causal conditions, organizational strategies, intervening conditions, and outcomes. Contextual conditions emphasize value observance and behavioral principles, while causal conditions focus on individual growth orientation, skill development through continuous training, and the characteristics of policy formulators. Organizational strategies are reflected in policy charter formulation, execution of managerial processes, and policy control mechanisms. The core phenomenon is manifested through intra-organizational characteristics such as policy-centered decision-making, conflict resolution capacity, institutional support, organizational culture, structure, and employee competencies. The outcomes highlight meritocracy, organizational justice, corruption reduction, performance evaluation, leadership behavior improvement, labor rights observance, and social interaction. Finally, intervening conditions—including environmental, legal, cultural, social, political, and economic factors—play a moderating role in shaping the effectiveness of policy implementation within urban management systems.

Table 2. Normality Distribution of the Variables

Research Variables	Kolmogorov–Smirnov Statistic	Significance Value (p)
Causal conditions	1.582	0.013
Contextual conditions	2.122	0.000
Intervening conditions	1.377	0.045
Organizational strategies	2.531	0.000
Core category	1.135	0.002
Outcomes	1.414	0.037

As presented in Table 2, the results of the Kolmogorov–Smirnov test indicate that the distribution of all research variables deviates from normality, as the significance values for causal conditions, contextual conditions, intervening conditions, organizational strategies, the core category, and outcomes are all below the 0.05 threshold. Accordingly, the assumption of normal distribution is not supported for any of the variables, justifying the use of variance-based structural equation modeling approaches, such as Partial Least Squares Structural Equation Modeling (PLS-SEM), for subsequent data analysis.

Table 3. Cronbach's Alpha Coefficients

Variables	Cronbach's Alpha
Causal conditions	0.961
Contextual conditions	0.966
Intervening conditions	0.986
Organizational strategies	0.957
Core category	0.987
Outcomes	0.990

As shown in Table 3, the Cronbach's alpha coefficients for all research variables are substantially higher than the commonly accepted threshold of 0.70, indicating a very high level of internal consistency reliability. The alpha values range from 0.957 for organizational strategies to 0.990 for outcomes, demonstrating that the measurement items associated with each construct are highly consistent and reliably capture the underlying concepts within the urban management policy implementation model.

Table 4. Composite Reliability (CR)

Variables	Composite Reliability
Causal conditions	0.978
Contextual conditions	0.988
Intervening conditions	0.990
Organizational strategies	0.973
Core category	0.991
Outcomes	0.993

According to Table 4, the composite reliability values for all constructs exceed the recommended minimum value of 0.70, confirming the robustness of the measurement model. The composite reliability coefficients range from 0.973 for organizational strategies to 0.993 for outcomes, reflecting strong construct reliability and further supporting the stability and precision of the measurement instruments used in this study.

Table 5. Average Variance Extracted (AVE) and Composite Reliability

Variables	AVE	Composite Reliability
Causal conditions	0.936	0.978
Contextual conditions	0.977	0.988
Intervening conditions	0.945	0.990
Organizational strategies	0.923	0.973
Core category	0.940	0.991
Outcomes	0.951	0.993

As reported in Table 5, the average variance extracted (AVE) values for all constructs are well above the recommended threshold of 0.50, indicating strong convergent validity of the measurement model. In addition, the corresponding composite reliability values exceed 0.70 for all variables, further confirming that the indicators reliably represent their respective latent constructs and that the model demonstrates adequate internal consistency and convergent validity.

Table 6. Square Root of Average Variance Extracted ($\sqrt{AVE}$)

Constructs	AVE	$\sqrt{AVE}$
Causal conditions	0.936	0.967
Contextual conditions	0.977	0.988
Intervening conditions	0.945	0.972
Organizational strategies	0.923	0.961
Core category	0.940	0.970
Outcomes	0.951	0.975

Table 6 presents the square root of the AVE for each construct, which is used to assess discriminant validity based on the Fornell–Larcker criterion. The results show that the square root of AVE for each variable is high, indicating that each construct shares more variance with its own indicators than with other constructs. This finding supports the presence of adequate discriminant validity among the latent variables in the urban management policy implementation model.

Table 7. Coefficients of Determination (R^2) for the Model Variables

Variables	R^2
Organizational strategies	0.987
Core category	0.998
Outcomes	0.863

As shown in Table 7, the coefficients of determination (R^2) indicate a very high explanatory power of the structural model. Organizational strategies and the core category exhibit exceptionally strong levels of explained variance, with R^2 values of 0.987 and 0.998, respectively, while outcomes show a substantial explained variance of 0.863. These findings demonstrate that the exogenous constructs in the model are highly effective in explaining variance in the endogenous variables, confirming the strong predictive capability of the proposed urban management policy implementation model.

Figure 1. Model with Beta Values

Figure 2. Model with T-Values
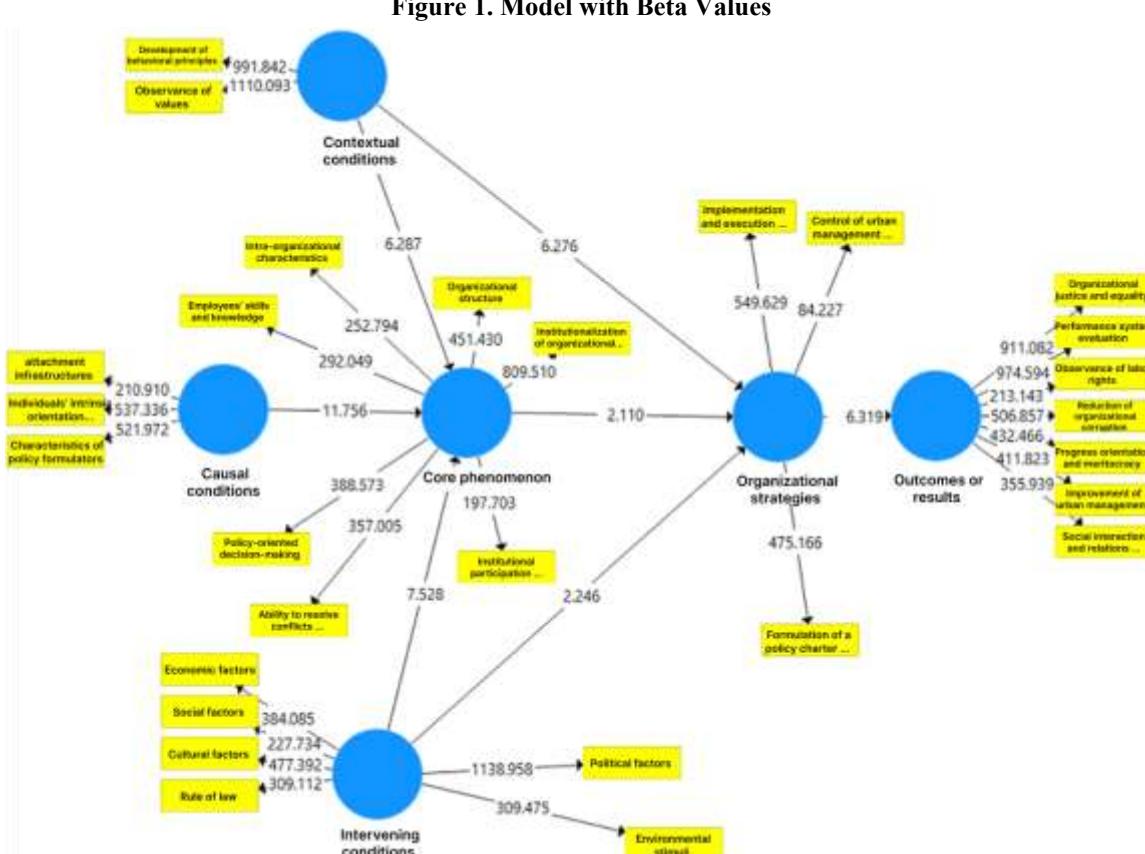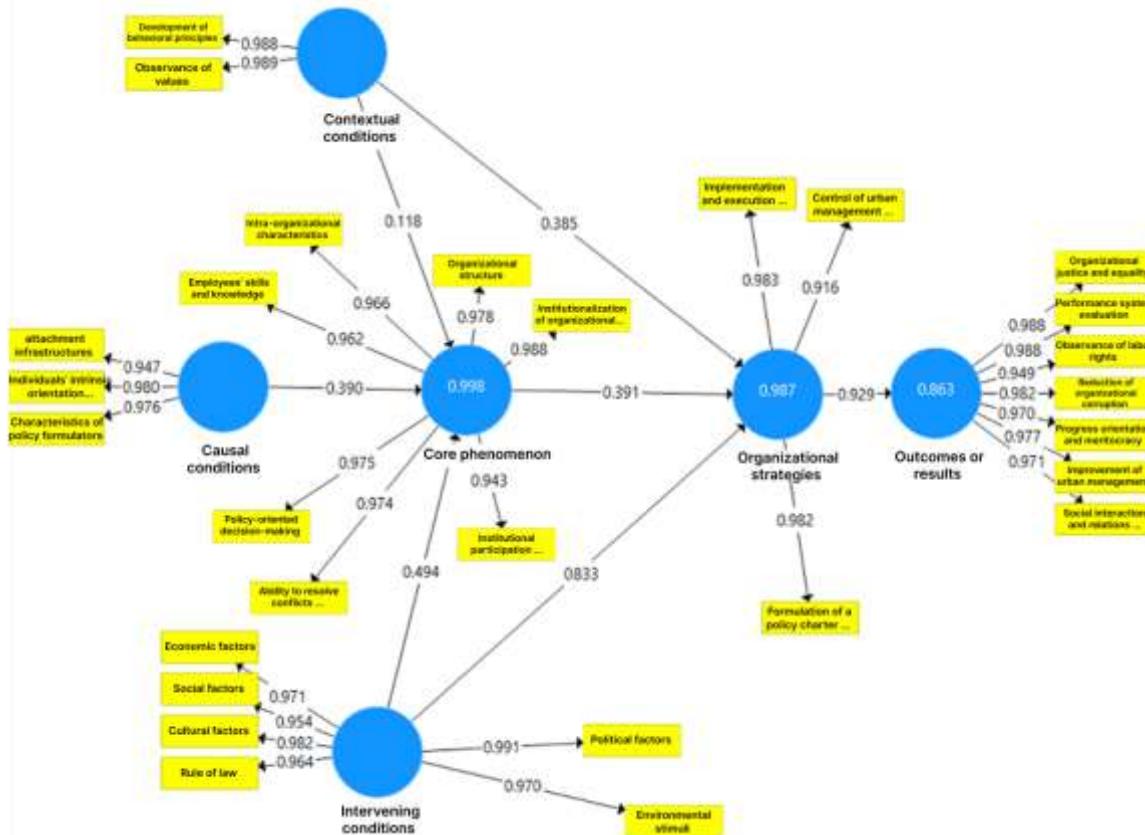
Table 8. Redundancy and Communality Indices of Latent Variables

Variables	R²	Communality	Redundancy
Causal conditions	–	0.967	–
Contextual conditions	–	0.977	–
Intervening conditions	–	0.989	–
Organizational strategies	0.987	0.967	0.986
Core category	0.998	0.990	0.998
Outcomes	0.863	0.992	0.863
Mean	0.949	0.980	0.949

Table 8 presents the communality and redundancy indices for the latent variables in the model. The communality values for all constructs are notably high, indicating that a large proportion of variance in the indicators is explained by their respective latent variables. Furthermore, the redundancy indices for the endogenous constructs—organizational strategies, the core category, and outcomes—demonstrate strong predictive relevance, with values closely aligned with their corresponding R² coefficients. The high mean values across indices further confirm the overall robustness and predictive adequacy of the structural model.

Table 9. Friedman Test Results

Variables	Friedman Test Statistic
Causal conditions	2.202
Contextual conditions	4.68
Intervening conditions	1.76
Organizational strategies	5.97
Core category	4.09
Outcomes	2.48

According to the results presented in Table 9, the Friedman test reveals differences in the relative ranking of the research variables. Organizational strategies obtained the highest mean rank, indicating their dominant role in the urban management policy implementation process, followed by contextual conditions and the core category. Intervening conditions received the lowest rank, suggesting a comparatively weaker perceived influence. These results highlight the differential importance of model components and underscore the central role of strategic dimensions in the effective implementation of urban management policies.

4.   Discussion and Conclusion

The findings of this study provide strong empirical support for the proposed urban management policy implementation model and confirm the suitability of using a grounded theory–derived framework validated through PLS-SEM. The structural model results indicate that causal conditions, contextual conditions, and intervening factors play differentiated yet complementary roles in shaping organizational strategies, which in turn exert a decisive influence on policy outcomes. The very high path coefficient between organizational strategies and outcomes demonstrates that strategic actions function as the primary transmission mechanism through which policy intentions are translated into tangible organizational and societal results. This finding is consistent with the argument that policy effectiveness in urban settings depends less on formal policy texts and more on the strategic capacity of municipal organizations to operationalize those policies within complex administrative environments (Keenan, 2025).

The significant effect of causal conditions on both the core category and organizational strategies highlights the importance of human and institutional foundations in policy execution. Factors such as individual growth orientation, continuous training, and the characteristics of policy formulators were shown to meaningfully shape the internal dynamics of urban management organizations. This aligns with evidence suggesting that administrative restructuring and human capital characteristics directly influence organizational performance and income-related outcomes in public institutions (Dongkun, 2025). The present findings reinforce the view that without competent and motivated actors, even well-designed urban policies are unlikely to achieve their intended effects.

Contextual conditions also exhibited a meaningful relationship with the core category and strategies, although their effects were comparatively weaker than those of causal and intervening factors. This suggests that shared values, behavioral principles, and organizational norms provide an enabling environment rather than acting as direct drivers of action. Similar conclusions have been reported in studies of urban sustainability and climate planning, where contextual alignment was found to be a necessary but insufficient condition for effective implementation (Diezmartínez & Gianotti, 2022; Pouikli et al., 2020). In

such cases, contextual coherence enhances policy legitimacy and acceptance but must be complemented by strategic capacity and operational tools.

Intervening conditions emerged as one of the most influential determinants of organizational strategies, indicating that external environmental, legal, cultural, social, political, and economic factors substantially shape how urban management policies are implemented. This strong relationship underscores the sensitivity of urban policy execution to forces beyond organizational boundaries. Empirical studies on low-carbon city policies and environmental regulation similarly demonstrate that external regulatory pressures and market conditions can amplify or constrain local implementation efforts (X. Li et al., 2024; Wang et al., 2023). The results of the present study suggest that urban management organizations actively adapt their strategies in response to these intervening conditions, rather than operating in isolation from their broader environment.

The core category, representing intra-organizational characteristics such as decision-making processes, conflict resolution capacity, institutional participation, organizational culture, and employee competencies, was found to mediate the effects of causal and contextual conditions on strategies. This finding supports the theoretical assumption that organizational structures and internal processes serve as a critical interface between environmental inputs and strategic outputs. Similar dynamics have been observed in studies of municipal solid waste management, where internal coordination and organizational learning determined the extent to which compulsory policies produced behavioral change (Chu et al., 2023). The present findings thus confirm the centrality of organizational capacity in translating policy frameworks into coordinated action.

The exceptionally high explained variance (R^2) values for organizational strategies and the core category indicate that the model captures the key determinants of policy implementation dynamics in urban management. This level of explanatory power is comparable to, and in some cases exceeds, that reported in prior policy evaluation studies using structural modeling approaches (Keita & Kourouma, 2023; Maidi et al., 2024). The strong predictive relevance (Q^2) and redundancy indices further suggest that the model is not only statistically robust but also practically meaningful in explaining how policy processes unfold in real-world urban settings.

The significant relationship between organizational strategies and outcomes confirms that strategic coherence is the most direct predictor of positive policy results. Outcomes such as meritocracy, organizational justice, corruption reduction, improved leadership behavior, labor rights protection, and enhanced social interactions were strongly associated with effective strategic implementation. These findings resonate with research showing that well-coordinated urban policies contribute to improved governance quality and social trust, particularly in the domains of environmental management and public service delivery (Bi et al., 2024; Tang et al., 2023). The results further suggest that strategic actions act as a leverage point through which urban managers can influence both organizational performance and broader societal outcomes.

The Friedman test results provide additional insight into the relative importance of model components. The higher ranking of organizational strategies and contextual conditions indicates that respondents perceive strategic and normative dimensions as more salient than purely structural or environmental factors. This perception is consistent with studies on policy implementation readiness, which emphasize the role of organizational commitment and strategic clarity in shaping implementation success (Ickes et al., 2020). At the same time, the lower ranking of intervening conditions does not diminish their structural importance but may reflect their indirect and less visible influence on daily organizational practices.

Taken together, the findings of this study support an integrated and dynamic understanding of urban management policy implementation. Rather than viewing policy execution as a linear process, the results confirm that implementation emerges from the interaction of internal capacities, strategic choices, and external pressures. This multidimensional perspective is consistent with contemporary urban governance literature, which highlights the need for adaptive, context-sensitive, and strategically oriented policy frameworks (Kempton et al., 2023; Trane et al., 2025). By empirically validating such a

framework, the present study contributes to bridging the gap between qualitative theory-building and quantitative model testing in urban policy research.

One of the key contributions of this study lies in its validation of a grounded theory–based model using rigorous quantitative techniques. While previous studies have examined isolated aspects of urban policy—such as energy efficiency, land use, education quality, or disaster management (Jiang et al., 2024; Lee & Hong, 2024; Murni et al., 2024)—the present research demonstrates the feasibility and value of integrating these dimensions into a unified implementation model. This integrative approach enhances both theoretical coherence and practical relevance, offering a more comprehensive explanation of how urban management policies are enacted and sustained.

Despite its contributions, this study is subject to several limitations. First, the data were collected from a single urban management context, which may limit the generalizability of the findings to other cities or governance systems with different institutional arrangements. Second, the cross-sectional research design restricts the ability to capture dynamic changes in policy implementation over time. Third, reliance on self-reported data may introduce response bias, particularly in the assessment of organizational performance and outcomes. Finally, although the model demonstrates strong statistical validity, qualitative insights from frontline implementers could further enrich the interpretation of the results.

Future research could address these limitations by applying the validated model across multiple cities or countries to examine its robustness under different socio-political and administrative conditions. Longitudinal studies would also be valuable in capturing how policy implementation dynamics evolve over time, particularly in response to institutional reforms or external shocks. In addition, future studies could integrate mixed-methods designs that combine structural modeling with in-depth qualitative interviews to provide a richer understanding of implementation mechanisms. Exploring the role of emerging technologies, such as digital governance platforms and artificial intelligence, as moderating variables within the model would also represent a promising avenue for further investigation.

From a practical perspective, the findings of this study offer several implications for urban managers and policymakers. Strengthening human capital through continuous training, enhancing strategic coherence, and fostering participatory organizational cultures appear to be critical levers for improving policy outcomes. Urban management authorities should also pay close attention to external environmental, legal, and economic conditions when designing implementation strategies, ensuring that policies are adaptable and context-sensitive. Finally, systematic performance evaluation and feedback mechanisms should be institutionalized to sustain learning and accountability within urban management systems.

Ethical Considerations

All procedures performed in this study were under the ethical standards.

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Conflict of Interest

The authors report no conflict of interest.

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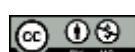
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