Sustainable Management Review

Current Issue:Vol 1, No 1 (2026)
DOI: doi.org/10.70693/smr.v1i1.9
Received Date January 15, 2026
Accepted Date February 8, 2026

Article

SMR Sustainable Management Review

The Effects of Multiple Dimensions of Urban Collaborative Management on Community Sustainability: Evidence from a Questionnaire-Based Regression Analysis

Zheng Zhaoyu[1], Yu Chenlu[1], Zhang Tianrui[1] and Tan Wei Yet[1]

Abstract

This study examines how multiple dimensions of urban collaborative management influence community sustainability, with a focus on government coordination, community self-management, enterprise participation, and cross-sector collaboration. A quantitative, cross-sectional survey was conducted among urban community residents. Data from 300 valid responses were analyzed using multiple linear regression to assess the effects of collaborative management dimensions on community sustainability. The results indicate that government coordination capacity and cross-sector collaboration have strong positive effects on community sustainability. Community self-management also shows a significant positive association, while enterprise participation exhibits a weaker but still significant effect. This study contributes to collaborative governance and urban sustainability literature by providing quantitative evidence on the relative importance of different management dimensions at the community level. The findings suggest that policymakers should strengthen coordination mechanisms and cross-sector collaboration while empowering communities as active governance partners to enhance sustainable community development. By adopting a multidimensional and empirical approach, this study advances understanding of how collaborative urban management practices jointly shape sustainability outcomes at the community level.

Keywords

Urban collaborative management, Community sustainability, Collaborative governance, Community self-management, Cross- sector collaboration

Introduction

Urban communities have become critical arenas for advancing sustainable development, as rapid urbanization continues to intensify environmental pressures, social inequality, and governance complexity. In response, scholars and policymakers increasingly emphasize the importance of collaborative urban management, which involves coordinated action among governments, communities, enterprises, and social organizations to address complex urban challenges (Ansell and Gash 2008; Emerson et al. 2012). Within this con- text, community sustainability—encompassing environmen- tal quality, social cohesion, and residents' well-being—has emerged as a key indicator of sustainable urban development.

Recent studies suggest that traditional hierarchical governance models are insufficient for managing the interdependent and multi-scalar nature of urban sustainability problems (Albrechts 2017; Mees et al. 2019). Instead, collaborative and network-based management approaches are increasingly viewed as more adaptive and inclusive, enabling diverse actors to jointly design and implement solutions (Bryson et al. 2015; Sørensen and Torfing 2021). Urban communities, as the most immediate interface between governance systems and residents' daily lives, provide a particularly relevant setting for examining how collaborative management shapes sustainability outcomes.

The literature on urban collaborative management has expanded significantly in recent years, highlighting the roles of government coordination, community participation, and cross-sector collaboration in enhancing governance effectiveness (Emerson and Nabatchi 2015; Pierre 2019). Empirical research has shown that strong governmental coordination can improve service delivery and policy coherence, while community involvement contributes to social capital and local legitimacy (Ostrom 2010; Fung 2015). Similarly, partnerships with enterprises and social organizations are often associated with innovation and resource mobilization in urban development initiatives (Koppenjan and Enserink 2009; Hodge and Greve 2017).

Despite these advances, existing research exhibits several limitations. First, many studies focus on single dimensions of governance, such as participation or public–private partnerships, rather than examining multiple management dimensions simultaneously (Mees et al. 2019). Second, while collaborative governance frameworks are well developed conceptually, empirical evidence at the community level

[1] SEGi University, Petaling Jaya, Selangor, Malaysia

Corresponding author:
Tan Wei Yet, SEGi University, Petaling Jaya, Selangor, Malaysia
Email: tanweiyet@segi.edu.my

remains relatively limited, particularly in quantitative studies that systematically compare the effects of different collaborative management components (Sørensen and Torfing 2021). Third, community sustainability is often treated as a broad normative goal, with insufficient attention to how specific management practices translate into residents' perceived sustainability outcomes.

Moreover, much of the empirical literature relies on case studies or qualitative approaches, which, while rich in contextual insights, limit generalizability and comparability across settings (Bryson et al. 2015). There is a growing need for survey-based, quantitative research that evaluates how distinct dimensions of urban collaborative management jointly influence community sustainability outcomes.

To address these gaps, this study examines the effects of multiple dimensions of urban collaborative management—including government coordination capacity, community self-management, enterprise participation, and cross-sector collaboration—on community sustainability using survey data and multiple linear regression analysis. By adopting a multidimensional and empirical approach, this study contributes to the literature in three ways. First, it advances understanding of collaborative urban management by empirically disentangling the relative effects of different management dimensions. Second, it enriches community sustainability research by linking governance practices to residents' perceived sustainability outcomes. Third, it provides evidence-based insights for policymakers and urban managers seeking to design more effective collaborative management strategies at the community level.

Methods

Research Design

This study adopts a quantitative, cross-sectional research design to examine the effects of multiple dimensions of urban collaborative management on community sustainability. Data were collected through a structured questionnaire survey and analyzed using multiple linear regression, which allows for assessing the simultaneous influence of several predictors on a single outcome variable.

Sample and Data Collection

The research sample consists of urban community residents with direct exposure to community management practices. To ensure data relevance, respondents were required to be 18 years or older and to have resided in their community for at least one year.

A purposive sampling strategy was employed to target residents familiar with community governance arrangements. A total of 350 questionnaires were distributed, and 300 valid responses were obtained after data screening, yielding a response rate of approximately 85%. This sample size exceeds the minimum requirement for multiple regression analysis and is consistent with similar empirical studies.

Measures

All constructs were measured using a five-point Likert scale (1 = strongly disagree, 5 = strongly agree).

Urban collaborative management was operationalized as a multidimensional construct reflecting collaboration among key actors, including: (a) government coordination capacity; (b) community self-management; (c) enterprise and social organization participation; (d) cross-sector communication mechanisms.

Measurement items were adapted from established collaborative governance literature.

Community sustainability was measured as a composite construct encompassing environmental sustainability, social cohesion, and residents' well-being, consistent with prior research on sustainable community development.

Data Analysis

Data analysis was conducted using SPSS. Descriptive statistics were first used to summarize sample characteristics. Scale reliability was assessed using Cronbach's alpha, with values above 0.70 indicating acceptable internal consistency. Construct validity was examined through exploratory factor analysis.

Prior to regression analysis, Pearson correlation analysis was conducted to assess associations among variables and potential multicollinearity. Multiple linear regression analysis was then performed to test the effects of urban collaborative management dimensions on community sustainability. Model fit was evaluated using R^2, and multicollinearity was assessed using variance inflation factors (VIF), with values below 10 considered acceptable.

Results

Descriptive Statistics

A total of 300 valid responses were included in the final analysis. Table 1 presents the descriptive statistics for all main variables. Overall, the mean values of the urban collaborative management dimensions range between 3.42 and 3.78, indicating a moderate to relatively high perceived level of collaborative management among respondents. Community sustainability shows a mean value of 3.69, suggesting a generally positive evaluation of sustainability outcomes.

Reliability and Validity Analysis

Internal consistency reliability was assessed using Cronbach's alpha. As shown in Table 2, all constructs exceed the recommended threshold of 0.70, indicating satisfactory reliability. Exploratory factor analysis further confirmed the adequacy of the measurement model, with factor loadings above 0.60 and no serious cross-loading issues.

Correlation Analysis

Pearson correlation analysis was conducted to examine the relationships among the study variables. As reported in Table 3, all dimensions of urban collaborative management are positively and significantly correlated with community sustainability ($p < 0.01$). The correlation coefficients range from 0.34 to 0.56, indicating moderate associations. No correlation exceeds 0.80, suggesting that multicollinearity is unlikely to be a concern.

Table 1. Descriptive statistics of main variables

Variable	Mean	Standard Deviation
Government coordination capacity	3.78	0.71
Community self-management	3.65	0.68
Enterprise participation	3.42	0.75
Cross-sector collaboration	3.58	0.72
Community sustainability	3.69	0.66

Table 2. Reliability analysis

Construct	Number of items	Cronbach's α
Government coordination capacity	4	0.82
Community self-management	4	0.79
Enterprise participation	4	0.76
Cross-sector collaboration	4	0.81
Community sustainability	5	0.84

Table 3. Correlation matrix

Variable	1	2	3	4	5
1. Government coordination	1				
2. Community self-management	0.48**	1			
3. Enterprise participation	0.34**	0.39**	1		
4. Cross-sector collaboration	0.52**	0.46**	0.41**	1	
5. Community sustainability	0.56**	0.49**	0.37**	0.53**	1

Note: **p < 0.01

Multiple Linear Regression Results

Multiple linear regression analysis was performed to examine the effects of urban collaborative management dimensions on community sustainability. Table 4 presents the regression results.

The overall model is statistically significant ($F = 52.31$, $p < 0.001$) and explains 47% of the variance in community sustainability ($R^2 = 0.47$), indicating good explanatory power.

Among the predictors, government coordination capacity, community self-management, and cross-sector collaboration show significant positive effects on community sustainability ($p < 0.01$). Enterprise participation exhibits a positive but weaker effect, remaining marginally significant ($p < 0.05$). All VIF values are below 3.0, indicating no multicollinearity concerns.

Discussion

This study examined the effects of multiple dimensions of urban collaborative management on community sustainability using survey data and multiple linear regression analysis. The results provide empirical support for the argument that collaborative management among government, communities, and other stakeholders plays a critical role in promoting sustainable community development.

First, government coordination capacity was found to be the strongest predictor of community sustainability. This finding aligns with collaborative governance theory, which emphasizes the coordinating and enabling role of public authorities in managing complex urban systems (Ansell and Gash 2008; Emerson et al. 2012). Effective government coordination can integrate fragmented resources, align stakeholder interests, and ensure policy continuity, thereby enhancing environmental quality, social cohesion, and residents' well-being. In the context of urban communities, strong governmental leadership remains essential for setting institutional frameworks and facilitating collaboration across sectors.

Second, cross-sector collaboration also showed a significant positive effect on community sustainability. This result supports previous studies suggesting that sustainable urban development increasingly depends on horizontal collaboration among government agencies, community organizations, and private or social actors (Bryson et al. 2015). Cross-sector collaboration enhances information sharing, reduces governance silos, and enables more adaptive responses to local challenges. The finding highlights that sustainability outcomes are not solely driven by single actors but emerge from coordinated interactions across institutional boundaries.

Third, community self-management was found to have a significant and positive association with community sustainability. This result is consistent with literature emphasizing the importance of local participation, social capital, and grassroots governance in fostering sustainable communities (Putnam 2000; Ostrom 2010). Communities with stronger self-management capacities are more likely to mobilize residents, maintain shared norms, and support collective action, which contributes to both social cohesion and long-term well-being. This finding underscores the value of empowering communities as active governance partners rather than passive policy recipients.

By contrast, enterprise participation exhibited a positive but relatively weaker effect on community sustainability. While private and social enterprises can contribute resources, innovation, and service provision, their impact may depend on the extent to which their activities are aligned with public

Table 4. Multiple regression results

Predictor	β	t-value	p-value	VIF
Government coordination capacity	0.31	6.42	<0.001	1.82
Community self-management	0.24	4.98	<0.001	1.69
Enterprise participation	0.11	2.21	0.028	1.43
Cross-sector collaboration	0.27	5.74	<0.001	1.77
Model statistics: $R^2 = 0.47$; Adjusted $R^2 = 0.46$; F = 52.31***				

and community goals (Koppenjan and Enserink 2009). The weaker effect suggests that enterprise involvement alone is insufficient to drive sustainability outcomes unless it is embedded within broader collaborative management frameworks led by public and community actors.

Overall, the findings reinforce the view that community sustainability is the outcome of multi-actor collaboration rather than isolated management efforts. The differential effects among management dimensions suggest that government coordination and cross-sector collaboration play a central structuring role, while community self-management provides local legitimacy and continuity, and enterprise participation serves a complementary function. These results contribute to the empirical literature by demonstrating how distinct management dimensions jointly shape sustainability outcomes at the community level.

Conclusion

This study investigated the effects of multiple dimensions of urban collaborative management on community sustainability using survey data and multiple linear regression analysis. The findings demonstrate that collaborative management plays a significant role in shaping sustainable outcomes at the community level, while different management dimensions exert varying degrees of influence.

The results show that government coordination capacity and cross-sector collaboration are the most influential predictors of community sustainability, highlighting the importance of institutional coordination and horizontal collaboration in complex urban governance contexts. Community self-management also contributes positively, underscoring the role of local participation and grassroots capacity in sustaining social cohesion and residents' well-being. In contrast, enterprise participation exhibits a weaker but still significant effect, suggesting that its contribution to sustainability outcomes is conditional upon alignment with public and community objectives.

By adopting a multidimensional perspective, this study extends existing collaborative governance research by empirically disentangling the relative effects of distinct management components at the community level. The findings suggest that community sustainability is not driven by isolated actors, but rather emerges from the interaction of coordinated public leadership, cross-sector collaboration, and active community engagement.

From a practical perspective, the results imply that urban sustainability strategies should prioritize strengthening governmental coordination mechanisms and fostering cross-sector collaboration, while simultaneously enhancing community self-management capacity. Enterprise involvement should be embedded within inclusive governance frameworks to ensure that private contributions support broader sustainability goals.

Several limitations should be acknowledged. First, the cross-sectional design limits causal inference. Second, the study relies on self-reported perceptions, which may be subject to response bias. Future research could employ longitudinal designs, objective sustainability indicators, or comparative analyses across cities to further examine the dynamics of collaborative urban management and community sustainability.

References

Albrechts, L. (2017). Strategic planning as a catalyst for transformative practices. *Planning Theory*, 16(3):299–312.

Ansell, C. and Gash, A. (2008). Collaborative governance in theory and practice. *Journal of Public Administration Research and Theory*, 18(4):543–571.

Bryson, J. M., Crosby, B. C., and Stone, M. M. (2015). Designing and implementing cross-sector collaborations: Needed and challenging. *Public Administration Review*, 75(5):647–663.

Emerson, K. and Nabatchi, T. (2015).

Emerson, K., Nabatchi, T., and Balogh, S. (2012). An integrative framework for collaborative governance. *Journal of Public Administration Research and Theory*, 22(1):1–29.

Fung, A. (2015). Putting the public back into governance: The challenges of citizen participation and its future. *Public Administration Review*, 75(4):513–522.

Hodge, G. A. and Greve, C. (2017). On public-private partnership performance: A contemporary review. *Public Works Management & Policy*, 22(1):55–78.

Koppenjan, J. and Enserink, B. (2009). Public-private partnerships in urban infrastructures: Reconciling private sector participation and sustainability. *Public Administration Review*, 69(2):284–296.

Mees, H. L. P., Driessen, P. P. J., and Runhaar, H. A. C. (2019). Exploring the scope of public and private responsibilities for climate adaptation. *Journal of Environmental Policy & Planning*, 21(4):389–403.

Ostrom, E. (2010). Beyond markets and states: Polycentric governance of complex economic systems. *American Economic Review*, 100(3):641–672.

Pierre, J. (2019). Multilevel governance as a strategy to build capacity in cities. *Regional Studies*, 53(6):880–890.

Putnam, R. D. (2000).Sørensen, E. and Torfing, J. (2021). Radical and disruptive answers to downstream problems: Collaborative innovation in governance. *Public Management Review*, 23(11):1591–1612.