

Original Research Article

Mechanism innovation and pathway optimization for the integrated development of university-community volunteer services in Guangdong Province from a symbiosis theory perspective

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Abstract: This study systematically analyzes the practical challenges and optimization pathways for the integrated development of university-community volunteer services in Guangdong Province based on the symbiosis theory framework. Findings indicate that current collaboration faces multidimensional difficulties, including inadequate matching of symbiotic units, inefficient symbiotic models, weak environmental support, and a lack of symmetrical reciprocal relationships. In response, this study proposes an integrated pathway centered on "Digital Empowerment—Platform Reconstruction—Institutional Synergy—Value Symbiosis." Through mechanism innovation and ecosystem cultivation, this approach facilitates the transformation of volunteer services from simple "resource matching" to profound "value co-creation," offering theoretical insights and practical paradigms for advancing modern social governance in the new era.

Keywords: university-community collaboration; volunteer services; symbiosis theory; mechanism innovation; collaborative governance

1. Introduction

As the focus of social governance shifts to the grassroots level, volunteer services have emerged as a vital vehicle for multi-stakeholder collaboration in community governance, with their value and role increasingly recognized. The report of the 20th CPC National Congress set forth explicit requirements for establishing a volunteer service system, providing policy guidance for optimizing the volunteer service framework.

As a frontier of reform and opening-up, Guangdong Province has achieved remarkable results in exploring volunteer service practices. By the end of 2023, the province had over 23 million registered volunteers, accounting for nearly 18% of its population. It has designated 2,202 volunteer service organizations, with more than 130,000 volunteer teams contributing a cumulative total of over 900 million volunteer service hours¹. Higher education institutions, with their abundant youth human resources and professional knowledge reserves, serve as key providers of volunteer services. Communities, meanwhile, bear the burden of delivering concrete livelihood services and addressing public affairs needs, forming the critical arena for volunteer service practice. The deep integration of these two sectors holds significant importance for both universities fulfilling their social service functions and communities enhancing governance effectiveness.

However, current collaboration between universities and communities in Guangdong still faces prominent challenges such as scattered resources, insufficient goal alignment, and weak sustainability, which constrain the overall effectiveness of volunteer services. Symbiosis theory emphasizes how heterogeneous entities form synergistic, co-evolving symbiotic relationships through resource exchange and functional complementarity², providing a vital theoretical perspective for overcoming the "fragmentation" dilemma in volunteer services and establishing multi-stakeholder coordination mechanisms. Building upon this, this study systematically analyzes the intrinsic logic and practical challenges of integrating university and community volunteer services from the core dimensions of symbiosis theory. It constructs a scientifically feasible optimization pathway to advance their high-quality integrated development.

2. Literature review: Theoretical evolution from synergy to symbiosis

2.1. Paradigm shift in volunteer service research

Early volunteer service research primarily focused on micro-level aspects such as individual participation motivations and organizational management mechanisms, emphasizing mobilization models and operational efficiency. In recent years, with the continuous improvement of social governance systems, volunteer service research has gradually expanded to macro-level dimensions including networked governance and ecological construction. Scholar Yang Yueming argues that volunteer services in the new era must transcend the limitations of traditional "project-based operations" and advance toward building a "platform-based ecosystem." This requires stimulating long-term vitality through institutional innovation and technological empowerment, achieving a transformation from "passive response" to "proactive supply" and from "disparate operations" to "collaborative governance."

2.2. Theoretical foundations of university-community collaboration

Research on university-community partnerships has developed multiple theoretical frameworks. Social capital theory emphasizes the central role of trust, norms, and networks in collaboration, positing that robust social capital reduces cooperation costs and enhances effectiveness. Ecosystem theory focuses on the interactive relationship between actors and their environment, arguing that universities and communities—As relatively independent yet interconnected systems—Must achieve synergistic evolution through resource exchange and functional complementarity⁴. Building upon the core tenets of these theories, symbiosis theory further identifies "symmetrical reciprocity" as the cornerstone of sustainable collaboration. It emphasizes that heterogeneous actors develop interdependent, mutually beneficial symbiotic relationships through long-term interaction. By analyzing four dimensions—Symbiosis units, symbiosis patterns, symbiosis environments, and reciprocal relationships—It provides a systematic analytical framework for research.

2.3. Applied extensions of symbiosis theory

Originating from biological research, symbiosis theory has been widely applied in the social sciences, demonstrating significant explanatory power particularly in public services and regional development. In the public service domain, symbiosis theory is frequently employed to analyze resource allocation, interest coordination, and cooperative mechanisms among diverse actors such as governments, enterprises, and social organizations, providing theoretical guidance for constructing multi-stakeholder collaborative public service delivery systems⁵. This study extends symbiosis theory to the university-community volunteer service context, focusing on the interactive relationship between the educational system and the social system. It explores symbiotic mechanisms between these two systems at the levels of resources, functions, and values, thereby enriching the application dimensions of symbiosis theory in specific service domains.

3. Practical challenges in the integrated development of university-community volunteer services in Guangdong Province

Based on the core dimensions of symbiosis theory, this section systematically deconstructs the practical challenges in the integrated development of university-community volunteer services in Guangdong Province across four levels: Symbiotic units, symbiotic patterns, symbiotic environments, and reciprocal relationships.

3.1. Inadequate compatibility of symbiotic units: Imbalance between resource supply and demand structures

Symbiotic units form the foundation of symbiotic relationships, where the compatibility of resource endowments and functional positioning directly impacts the quality of these relationships. Universities, as major providers of volunteer services, possess abundant youth human resources, specialized knowledge and skills, and research resources, demonstrating significant advantages in policy outreach, cultural services, and skills training. Communities, as demand-side entities, prioritize routine, practical livelihood services such as elder care assistance, neighborhood mutual aid, and community governance support.

Survey data reveals structural discrepancies in supply-demand alignment. University volunteer service projects often prioritize "academic orientation" or "activity orientation," with greater emphasis on brand impact and short-term outcomes. This creates a significant gap with communities' long-term demand for

routine, practical services. Simultaneously, universities conduct insufficient in-depth research into actual community needs, resulting in poorly targeted service provision. This leads to a disconnect between supply and demand in some volunteer projects, failing to fully leverage university resources while also struggling to effectively meet community needs.

3.2. Low efficiency of symbiotic models: Inadequate organizational collaboration and incentive mechanisms

Symbiotic models constitute the concrete forms of interaction between symbiotic units, and their scientific and rational design directly impacts the operational efficiency of symbiotic relationships. Currently, volunteer service collaborations between universities and communities in Guangdong Province are primarily tied to ad-hoc projects, lacking regularized, institutionalized collaboration platforms, resulting in loose cooperation structures. On one hand, university volunteer teams exhibit high turnover, with insufficient systematic training and management, leading to inadequate professionalism and continuity in services. On the other hand, communities have limited capacity for coordinating volunteer services, struggling to effectively integrate and rationally allocate university volunteer resources.

Furthermore, inadequate incentive mechanisms significantly hinder the efficient operation of symbiotic models. Current volunteer certification systems and service hour recognition standards remain inconsistent. Incomplete mechanisms linking university credit conversion, commendation programs, and volunteer service result in volunteers' contributions receiving insufficient recognition and effective incentives. This diminishes their participation enthusiasm, undermining the sustainability and depth of volunteer services.

3.3. Fragile symbiotic environment: Institutional barriers and insufficient resource supply

The symbiotic environment constitutes the external conditions for the formation and development of symbiotic relationships, encompassing multiple dimensions such as the policy environment, resource environment, and social environment. Regarding the policy environment, university and community volunteer services fall under the management of the education system and the civil affairs system, respectively, with differing policy objectives: The education system emphasizes the cultivation of students' practical abilities and ideological and political qualities through volunteer service, while the civil affairs system stresses the role of volunteer service in community governance and livelihood security. This discrepancy leads to issues such as redundant resource allocation and insufficient coordination during policy implementation, creating institutional barriers.

Regarding the resource environment, community volunteer programs largely depend on government funding, with limited channels for social capital participation and a narrow resource supply base. Universities offer relatively constrained financial support and facility access for volunteer activities, failing to meet the needs for sustained program implementation. Simultaneously, societal awareness and participation in volunteerism remain underdeveloped, and the insufficiently robust volunteer culture further constrains the optimization of the symbiotic environment.

3.4. Imbalanced reciprocity: Insufficient value recognition and cultural integration

Symmetrical reciprocity is central to the sustainable development of symbiotic relationships, requiring shared benefits and co-created value during interactions. Currently, universities and communities exhibit distinct value perceptions in volunteer cooperation: university volunteers primarily participate to enhance practical skills, earn credits, or enrich resumes, lacking deep recognition of the social value of volunteering; Communities, however, prioritize tangible outcomes such as resolving livelihood issues and enhancing community governance effectiveness, while paying insufficient attention to volunteers' personal growth needs.

Furthermore, the lack of effective integration mechanisms between the academic culture of universities and the livelihood-oriented culture of communities—Manifested in differences in work philosophies, operational models, and communication styles—Frequently leads to misunderstandings and disagreements during collaboration. This hinders the formation of a cooperative atmosphere characterized by mutual trust and support, thereby constraining the establishment of symmetrical reciprocal relationships.

4. Innovative pathways for the integrated development of university and community volunteer services in Guangdong Province

Addressing the aforementioned practical challenges, this study proposes a four-dimensional integration

model—Digital Empowerment, Platform Reconstruction, Institutional Synergy, and Value Symbiosis—Based on symbiosis theory. This model provides a systematic optimization pathway for the integrated development of university and community volunteer services.

4.1. Digital empowerment: Facilitating precise matching of symbiotic units

Establish an intelligent matching platform leveraging big data, internet, and other digital technologies to create a provincial-level university-community volunteer service platform. Integrate university volunteer resources (e.g., volunteers' professional expertise, availability, project types) with community demand information (e.g., service content, time slots, required quantities). Utilize algorithmic matching to achieve precise alignment between supply and demand, reducing information asymmetry costs while enhancing the relevance and effectiveness of volunteer services.

Implementing a "dual-mentor system" integrates theoretical guidance with practical application. This involves forming collaborative guidance teams comprising university faculty and community workers. University faculty focus on providing professional knowledge support and project design guidance, while community workers handle needs assessment, practical scenario alignment, and service execution guidance. This approach fosters deep integration between theoretical knowledge and practical requirements, enhancing the quality and feasibility of volunteer service projects.

4.2. Platform reconstruction: Optimizing the efficiency of symbiotic models

Develop an integrated governance platform by consolidating existing volunteer service resources. Construct a provincial-level integrated governance platform that combines functions such as resource allocation, project management, impact assessment, credit certification, and volunteer training, enabling standardized management throughout the entire volunteer service process. Standardize volunteer certification criteria, service hour calculation rules, and credit conversion mechanisms through the platform to elevate the professionalism and standardization of volunteer services.

Establish a project incubation mechanism by introducing competitive incentive models like the "horse race system." Encourage university faculty, students, and community workers to jointly propose volunteer service projects. Provide incubation services—including funding support, technical guidance, and resource matching—for high-quality projects to stimulate innovation in volunteer services. Simultaneously, actively engage enterprises, social organizations, and other social forces in project incubation and operation. Build a multi-stakeholder collaborative model integrating "universities + communities + social forces" to enhance the sustainability of volunteer services.

4.3. Institutional synergy: Cultivating a favorable symbiotic environment

Establish Cross-Departmental Coordination Mechanisms: Led by the government, establish a cross-departmental liaison meeting system involving relevant agencies such as education, civil affairs, and the Communist Youth League. This system will coordinate policy formulation, resource allocation, and goal setting for university-community volunteer services, eliminating institutional barriers between departments to create policy synergy. Simultaneously, develop specialized policy documents for the integrated development of university-community volunteer services, clarifying mutual rights and obligations, cooperation mechanisms, and evaluation standards to provide institutional safeguards for collaboration.

Refine Resource Supply Mechanisms: Establish a dedicated fund for university-community volunteer service collaboration, utilizing diversified funding sources including government allocations, corporate donations, and public fundraising to support project implementation, platform development, and volunteer training. Implement resource-sharing mechanisms to open university facilities, equipment, and faculty resources to communities while sharing community-based practical scenarios and needs information with universities, achieving efficient resource utilization.

4.4. Quantifying value and building a shared community

Establish a value assessment system: Develop a scientific and reasonable volunteer service value assessment index. Evaluate the effectiveness of volunteer services comprehensively across multiple dimensions—Social value (e.g., improved livelihoods, enhanced governance), personal value (e.g., skill development, character cultivation), and organizational value (e.g., enhanced university social service capabilities, optimized community governance efficiency). This transforms intangible social benefits into quantifiable evaluation metrics, providing a basis for mutual value recognition between partners.

Strengthening Cultural Integration and Community Building: Create signature "university-community

collaboration" cultural events, such as "Community Cultural Festivals," "Intangible Cultural Heritage Outreach Programs," and "Youth Deliberation Forums." These initiatives promote cultural exchange, deepen mutual cultural recognition, and strengthen emotional bonds between partners. Through regular interaction and exchange, guide university volunteers to establish sound volunteer service values and focus on actual community needs. Encourage communities to fully respect volunteers' personal growth requirements, providing them with broad practical platforms and development space to build a value community characterized by "mutual empowerment and reciprocal benefit."

5. Conclusion and outlook

The integrated development of university and community volunteer services must evolve from instrumental collaboration to value-based symbiosis. By leveraging digital technology to enable precise resource allocation, restructuring collaboration through platform-based approaches, breaking down institutional barriers through systemic innovation, and fostering a sense of community through cultural integration, a sustainable and mutually beneficial collaborative mechanism can be established. Future research may further explore cutting-edge topics such as cross-border mutual recognition of volunteer service standards and metaverse technology-enabled virtual collaboration, thereby amplifying the value of volunteer services in advancing modern governance.

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