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THE CONSTRUCTION AND EVOLUTION OF RURAL MUTUAL AID ELDERLY CARE MODELS FROM A VALUE CO-CREATION PERSPECTIVE

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Abstract: Against the backdrop of accelerating population aging and insufficient elderly care services in rural China, this paper explores how mutual aid models can address these challenges. Taking the "Time Bank" initiative implemented in Wuling Village, Xinxiang City, Henan Province as a case study, the research analyzes how diverse stakeholders—including the elderly, village committees, government agencies, and external organizations—collaborate and integrate resources to establish a sustainable mutual aid system for elderly care, focusing on the perspective of "value co-creation." The study indicates that Wuling Village's "Time Bank" integrates labor mutual aid with elderly care security by converting seniors' spare time into storable, exchangeable "service credits." This model not only activates internal social resources within the village but also gradually expands into deeper collaborations such as capacity training and resource linkage. However, its development faces challenges including insufficient trust, excessive resource dependency, and limited service capacity. Based on these findings, this paper proposes improvements in strengthening institutional trust, broadening resource channels, enhancing service capabilities, and optimizing participation mechanisms to ensure the long-term stability of mutual-aid elderly care models. Wuling Village's experience demonstrates that stimulating endogenous rural momentum and promoting multi-stakeholder collaboration are effective pathways for innovating rural elderly care service systems.
Keywords: Mutual support for aging; Time bank; Value co-creation; Aging society

1 INTRODUCTION

As China's population continues to age at an accelerating pace, the elderly care service system—particularly in rural areas—faces unprecedented challenges. Statistical data reveals that aging rates in China's rural regions significantly exceed those in urban areas, creating profound structural pressures. Against this backdrop, establishing and refining a sustainable elderly care system tailored to rural realities has become a critical issue for both the national rural revitalization strategy and social stability. Traditional models reliant solely on government or family support face bottlenecks in resource allocation and service efficiency, making the exploration of innovative, multi-stakeholder participation models imperative.

Against this backdrop, the "Time Bank" mutual aid model pioneered in Wuling Village, Xinxiang City, Henan Province, offers an inspiring example. Through a mechanism of "service storage-point redemption-intergenerational circulation," this model seeks to activate latent elderly care resources within rural communities, forming a low-cost internal circulation of care services. Existing research, while valuable, has primarily focused on policy analysis, model description, and theoretical critique, failing to systematically reveal the underlying mechanisms of how multiple stakeholders interact, collaborate, and co-create value within this model. Value co-creation theory, rooted in service-dominant logic, emphasizes that value is not solely created by producers and transferred to consumers. Instead, it is jointly created through interactions among multiple participants, including users, providers, communities, and governments. This perspective provides a powerful analytical tool for deeply understanding community-driven, multi-stakeholder innovations like the "time bank."

2 THEORETICAL FRAMEWORK

Value co-creation is a theory examining how multiple stakeholders jointly generate value through resource integration and collaboration to achieve mutual benefit and win-win outcomes [1]. Participants in value co-creation extend beyond enterprises and consumers to include other stakeholders [2]. Daniel et al. analyzed value co-creation mechanisms in virtual contexts, highlighting how input conditions—such as participant motivation, resources, and capabilities—along with enabling factors or barriers like governance, incentives, and trust influence the co-creation process and outcomes [3]. Regarding "Time Banks" AdarshKumar Kakar, a professor at Alabama State University, proposes that "time banks" are considered a method for leveraging untapped community capabilities to meet members' unmet service needs [4]. Ng Tommy KC and Yim Noel TS argue that, against the backdrop of an aging population, "time banks" represent one potential pathway for communities to maximize social capital [5]. Applying value co-creation theory to rural time bank mutual-aid elderly care scenarios helps us analyze several key dimensions:

2.1 The Roles and Resource Integration of Diverse Stakeholders

Within Wuling Village's time bank ecosystem, participants are multifaceted. Younger, healthy seniors serve as core service providers and future service recipients, contributing their spare time and labor; elderly and disabled individuals are the primary service recipients, contributing service demands and participating in value creation through their recognition and feedback; the village committee and project managers act as platform builders and coordinators, providing organizational frameworks and basic rules; grassroots governments offer policy legitimacy and potential financial support; external organizations (such as enterprises, universities, and medical institutions) may inject scarce resources like professional skills, materials, or funds. The heterogeneous resources held by these actors form the foundation for co-creation of value.

2.2 Interaction and Service Platforms

Value co-creation occurs within specific interactive platforms. Wuling Village's "Time Bank" itself functions as an institutionalized interactive platform, defining rules for service exchange, providing mechanisms for recording and tracing transactions, and fostering social norms of reciprocity. This platform facilitates connections and interactions among participants, serving as the arena where resource integration and value exchange take place.

2.3 Co-creating Experiential Value

Value manifests not only in the final exchanged services or goods but also in the overall participatory experience. For younger seniors providing services, value may include immediate social recognition, enhanced self-worth, expectations of future eldercare security, and strengthened community belonging; For service recipients, value lies in receiving tangible daily care and emotional comfort; for the community as a whole, value manifests as enhanced cohesion, revitalized social capital, and strengthened rural governance capabilities. These multidimensional values are collectively perceived and defined through interactions among all stakeholders.

2.4 The Dynamic Evolution of Value Co-creation

Value co-creation is not static; it continuously evolves with changes in internal and external environments, improvements in participants' capabilities, and adjustments to interaction rules. For instance, the practice has deepened and expanded from its initial form of simple labor mutual aid to incorporating professional training, connecting external resources, and leveraging digital technology to enhance efficiency and trust. This paper will systematically analyze the practice of Wuling Village's "Time Bank" based on this theoretical framework.

3 FOUNDATIONS OF CO-CREATION

The value co-creation system of Wuling Village's "Time Bank" is rooted in its unique local resource endowment and jointly constructed by diverse participating entities.

3.1 Core Resources: Local Social Capital and Idle Human Resources

The most valuable resource for value co-creation in Wuling Village is its deep-rooted local social capital. Traditional neighborly mutual aid and trust relationships based on geographical proximity and kinship provided the initial social glue for launching the "Time Bank." This fostered high cultural recognition and psychological acceptance among villagers for the intertemporal exchange model of "I help you today, he helps me tomorrow." Simultaneously, the idle labor force generated during rural "off-season" periods, particularly the spare time of younger, healthy seniors, formed a mobilizable foundation for service provision. The "Time Bank" ingeniously "formatted" and 'capitalized' these informal, latent resources, transforming them into recordable, storable, and exchangeable "time currency." This laid the resource foundation for systematic value co-creation.

3.2 Diverse Actors and Their Roles

Villagers (Service Providers and Users): They are the core actors in value co-creation. Younger seniors serve as primary service providers, contributing physical labor, experience, and time as direct creators of service value. They are also potential future users, whose current contributions carry expectations of future returns. This "investment" mindset forms their intrinsic motivation for participation.

Rural Organizers (Platform Builders and Coordinators): In the early stages, Chen Hongyu and her team's donations accounted for over 80% of total investments, playing a pivotal role as "platform builders." They were not only early financial contributors but also designers of rules, organizers of activities, and guarantors of trust. By aggregating and matching dispersed individual needs with service capacities, they acted as the "weavers" of the value co-creation network.

Village Committees (Institutional Support and Legitimacy Grantors): Village committee involvement provided organizational backing and grassroots legitimacy for the "Time Bank." It partially integrated this spontaneous initiative

into the rural governance framework, offered fixed service venues (e.g., service stations), and bolstered the credibility of "time currency" through its public trust among villagers.
Local Government and External Organizations (Resource Supplementers and Capacity Expanders): Local governments inject external support into the value co-creation system through policy recognition, pilot project inclusion[6], and limited fiscal allocations[7]. Media attention generates social reputation, attracting professional volunteers like city hospital doctors and retired teachers, as well as material and volunteer services from enterprises and universities. This infusion of external resources enriches the diversity of service offerings and elevates their professional value.

4 THE PROCESS AND INTERACTIVE MECHANISMS OF VALUE CO-CREATION

The process of value co-creation manifests through participants' sustained interactions via specific platforms and rules. Wuling Village's practice demonstrates an evolutionary journey from simple exchange to complex ecosystem construction.

4.1 Core Interaction Platform: The "Time Bank" Rule System

The core rules of the "Time Bank" — service storage, point quantification, and future redemption—form the most fundamental value co-creation platform. It establishes a new type of "social contract": an individual's service labor is endowed with a deferred, transferable value symbol (time points). This platform facilitates value creation on two levels: immediate service value, where elderly recipients gain present-day life improvements; and anticipated security value, where service providers gain psychological assurance of informal eldercare support. The platform's stable operation relies on participants' shared recognition and adherence to these rules.

4.2 Deepening Value Co-creation: From Labor Exchange to Capacity Building

Initial value co-creation primarily focused on simple labor exchanges, such as daily care and farm assistance. As practices evolved, value co-creation began expanding to deeper dimensions. Through "service-learning," participants achieved self-empowerment: embedding micro-learning modules like digital skills within service delivery created a closed-loop system where "learning occurs through service, and service improves through learning." Younger senior volunteers, while teaching older seniors to use smartphones, simultaneously reinforced and enhanced their own digital literacy. This process not only generated service value but also co-created human capital value for participants, enabling individual growth through interaction with the system.

4.3 Expanding Value Co-creation: From Internal Circulation to Ecological Linkage

Broadening Service Recipients and Extending Value Networks: Expanding service recipients from seniors to include left-behind children, women, and other "left-behind groups" represents a significant extension of the value co-creation network. This initiative will not only activate new service demands in the future but also create more diverse service scenarios for younger seniors and opportunities to utilize their "time currency." It transforms the "Time Bank" from a simple mutual-aid elderly care platform into a comprehensive rural community support network, enabling the co-creation of broader community governance value and social stability value.

5 CHALLENGES AND OPTIMIZATION PATHWAYS FOR VALUE CO-CREATION

Although Wuling Village's practice embodies numerous elements of value co-creation, the process has not been smooth sailing. It faces multiple challenges that essentially constitute "friction" or "obstacles" within the value co-creation journey.

5.1 Challenges Encountered

Fragile Trust Mechanism: Value co-creation heavily relies on trust among participants. In the Wuling Village case, the subjectivity of point-earning criteria, the rule requiring "unpaid service after age 70," and the absence of a universal deposit and redemption mechanism undermined participants' confidence in future value realization, creating a deficit in institutional trust. This constitutes a core threat to the sustainability of the value co-creation system.

5.1.1 Imbalanced resource structure

Value co-creation requires sustained infusion of diverse resources. Wuling Village's initial overreliance on core individual donations and subsequent dependence on limited fiscal allocations reflect a singular and fragile resource supply structure. The instability of external social capital injections constrains the expansion of value co-creation scale and the elevation of its sophistication.

5.1.2 Insufficient core capacity

As the backbone of value co-creation, the volunteer team's professional shortcomings limit the depth of service value. The lack of systematic training has kept service content at a low level for an extended period, making it difficult to meet diverse and high-level demands. This has kept value co-creation at the "basic needs" level, hindering its leap to the "quality" level.

5.1.3 Incomplete interaction platform

Ambiguous rules, lack of oversight, and low digitalization levels have resulted in an inefficient and insufficiently transparent interaction platform for value co-creation. Although Wuling Village designed an auxiliary channel with staff assistance to register participants, addressing the digital literacy gap for some elderly residents [8], the digital divide further excludes key elderly groups from more efficient digital interaction platforms, creating participation inequality in the value co-creation process.

5.2 Optimization Pathways: Strategy Reconstruction from a Value Co-creation Perspective

Based on value co-creation theory, the following optimization pathways address the aforementioned challenges:

5.2.1 Strengthen the foundation of trust through institutionalized commitments

The sustainability of value co-creation requires institutional safeguards. Efforts should be made to establish a "Time Currency Value Protection Fund" or secure government service procurement as a safety net, upgrading interpersonal trust to institutional trust. Simultaneously, technologies like blockchain should be introduced to ensure the immutability and traceability of point records, solidifying the trust foundation at the technical level.

5.2.2 Expand resource channels to build resilient resource networks

The value co-creation system must proactively cultivate a diversified resource ecosystem. Beyond securing government funding, it should actively attract sustainable participation from corporate entities and foundations through branded operations and project-based collaborations. Simultaneously, internal community resources should be tapped—such as establishing "Community Public Welfare Warehouses"—to enable the circulation of physical resources and time currency within the system, reducing reliance on external cash.

5.2.3 Invest in human capital to enhance co-creation capabilities

Systematizing and regularizing volunteer training is key to value co-creation with professional institutions. Through continuous capacity building, empower volunteers to evolve from simple labor providers into service providers with comprehensive skills—including professional care and emergency response—thereby jointly creating higher-quality service value.

5.2.4 Optimize interactive platforms to foster inclusive participation

Refine the Time Bank Management Measures to ensure transparency and standardization in point allocation, redemption rules, and oversight mechanisms. When advancing digital platform development, adopt a hybrid "online + offline" model that retains physical service windows. This approach ensures digital technology empowers rather than excludes, enabling inclusive value co-creation.

6 CONCLUSION

The practice of Wuling Village's "Time Bank" vividly demonstrates how, against the backdrop of scarce rural eldercare resources, value can be co-created by establishing a mutual-aid platform involving multiple stakeholders. This process transcends simple service exchange; it is a systemic endeavor that integrates local social capital, idle human resources, external professional resources, and societal attention to collectively address eldercare challenges.

Employing a value co-creation theoretical framework, this study reveals that the value of the Wuling Village model is rooted in its effective activation and integration of traditional mutual aid spirit and human resources within the village. Its value creation evolves dynamically from basic labor exchange to capacity building, resource linkage, and network expansion; while the challenges it faces—funding, trust, talent, and institutional constraints—signal the need to optimize resource structures, interaction mechanisms, and stakeholder capabilities within the value co-creation system.

Therefore, the sustainable development of rural mutual-aid eldercare models hinges on shifting from "managing a project" to "operating a value co-creation ecosystem." This entails decision-makers and community organizers committing to: - Establishing a more robust institutional trust framework to stabilize participants' long-term expectations; - Designing and maintaining an efficient, equitable, and inclusive interaction platform to facilitate seamless resource flow and matching; - Continuously investing in core participants' capacity building to elevate the system's overall value creation ceiling; - Proactively linking internal and external resources to construct a resilient support network.

Wuling Village's exploration demonstrates that addressing complex rural elderly care challenges cannot rely solely on external inputs. More crucially, it requires igniting endogenous momentum within villages. Through sophisticated institutional design, scattered individuals are connected into a value community sharing common interests and responsibilities. The essence of this "New Rural Experience" lies in offering a rural solution for achieving "elderly care through shared value creation." This approach not only holds practical significance for enriching rural elderly care services but also provides profound insights for advancing the modernization of rural governance systems and capabilities.

COMPETING INTERESTS

The authors have no relevant financial or non-financial interests to disclose.

REFERENCES

[1] Busser J A, Shulga L V. Co-created value: Multidimensional scale and nomological network. Tourism Management, 2018, 65, 69-86.
[2] Vargo S L, Lusch R F. Institutions and axioms: An extension and update of service-dominant logic. Journal of the Academy of Marketing Science, 2016, 44(1): 5-23.
[3] De Oliveira D T, Cortimiglia M N. Value co-creation in web-based multisided platforms: A conceptual framework and implications for business model design. Bus Horiz, 2017, 60(6): 747-758.
[4] Kakar K A. Investigating factors that promote time banking for sustainable community based socio-economic growth and development. Computers in Human Behavior, 2020, 107, 105623.
[5] KC T N, TS N Y. Time banking for elderly in Hong Kong: Current practice and challenges. Asia Pacific Journal of Health Management, 2020, 15(2): 23-29.
[6] LI Qiuxuan. Research on Mutual Support by Rural Time bank: Information Sampling from W Village in Henan Province. Huazhong University of Science & Technology, 2023(1). DOI: 10.27157/d.cnki.ghzku.2021.003647.
[7] Huang Yixiang. Research On The Problems And Counter Measures In The Operation Of “Time Banking” For Muttual Aid Elderly Care: A Case Study of W Village In Xinxiang City. Henan Normal University, 2025(10). DOI: 10.27118/d.cnki.ghesu.2024.000470.
[8] Wang Yipeng. An Exploration of the Application of the Rural “Time Bank” Mutual Aid Model for Elderly Care: The Case of Wuling Village, Xinxiang City. Shanxi Agricultural Economy, 2024(18): 93-95+124. DOI: 10.16675/j.cnki.cn14-1065/f.2024.18.029.