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Beyond Technological Intelligence: Cultivating Societal Wisdom for Human Flourishing and Its Values, Logic, and Pathways

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Abstract: Smart society has been positioned as a key vehicle for building an innovation-driven nation. However, the arrival of a complex 'singularity era' has brought unprecedented uncertainty and governance challenges to its development. The root of these challenges lies in the linear thinking inherent in technological determinism, a paradigm that has long dominated the field. This study systematically traces the developmental trajectory of smart society and posits that technological iteration, while advancing the liberation of productive forces, inevitably reconfigures the objective ethical relationships among humans, between humans and society, between humans and nature, and even between humans and technology. On this basis, we propose that governance of a smart society centres on fostering a higher-order 'societal wisdom' that transcends technological intelligence and aims for human flourishing. For this purpose, a core of societal wisdom integrating values and logic has been constructed, which combines the three spheres of production, living, and ecology and achieves the five-element synergy of people-centredness, Techno-Wisdom, Socio-Regulation, Physio-Resilience, and Info-Integrity. This study further provides a systematic theoretical framework and corresponding practical pathways. It helps to address the increasingly complex and dynamic risks and challenges of smart societies, and offers theoretical support and policy implications for the modernization of global governance systems and capacities.

Keywords: smart society; societal wisdom; social evolution; people-centeredness; 'Three sphere'-'Five element' nexus

1. Introduction

As a key vehicle for building an innovation-driven nation, smart society promotes industrial intelligence and productivity, yet it also brings profound uncertainty and complexity across technological, value, and governance dimensions. Disruptive technologies are now leading humanity into a complex singularity era, profoundly transforming the core drivers of socioeconomic development. The production, processing, storage, transmission, and exchange of data are continuously expanding new frontiers in economic, social, and governance activities [1]. At the same time, as the radius and depth of these activities advance, unprecedented changes are occurring in production and lifestyle, governance structures, and even the relationship between humans and the natural ecology. Governance of smart societies is thus entering 'deeper waters,' confronting structural contradictions: the coexistence of technological explosion and digital divides; the disconnect between high-level policy drives and grassroots implementation; and the tension between boundless innovation and lagging regulations.

The construction of a smart society is an inevitable response within this grand historical context. Never before has there been such an urgent need for a governance theory capable of embracing both a cosmologically broad vision and a systemic methodology for complexity. Such a framework must navigate two seemingly opposing forces. On one hand, it must embrace change with resilience, vitality, and vigour to adapt and guide the kaleidoscopic waves of innovation and disruption at the surface level. On the other hand, it must maintain strategic resolve to uphold enduring core principles and value commitments, such as a people-centred development philosophy, the bottom lines of national sovereignty and security, and a commitment to the shared well-being of humanity.

The pursuit of 'wisdom' in a smart society lies at the core of modernising national governance systems and capacities. It is more than an aggregation of technological applications; it is a profound social experiment aimed at reshaping the fundamental drivers of global socioeconomic development and cultivating dynamic innovative capacities. This requires the construction of a "super-intelligent" social structure capable of maintaining balance and achieving leadership in highly complex and dynamic environments. This constitutes one of the most formidable challenges humanity has faced in nearly a century. Advancing towards a world of shared human flourishing necessarily demands a foundation of exceptional 'societal wisdom' in the construction of smart societies.Such 'societal wisdom' should be holistic, synergistic, and resilient, capable of transcending national borders and civilisations to offer viable solutions for global governance, guiding human civilisation towards a higher-order intelligent future. Constructing a governance framework that can nurture societal wisdom is of major theoretical and practical significance for improving global public governance systems in the context of artificial intelligence and meeting the complex, dynamic risk governance demands of the intelligent era.

2. Historical Evolution of Social Forms

Smart society represents a more advanced social form, following hunter-gatherer society, agrarian society, machine society, and information-media society. An analysis of the historical evolution of social forms helps to more precisely define the nature and characteristics of smart society. From the perspective of shifting forms of societal 'wisdom', human civilisation has broadly experienced: hunter-gatherer society with embodied wisdom, agrarian societies with tool-based wisdom, machine society with productive wisdom, information-media society with networked wisdom, and now the emergence of smart society driven by artificial intelligence as its core engine. These successive forms represent a progressive process of civilisational development toward higher stages (Figure 1).

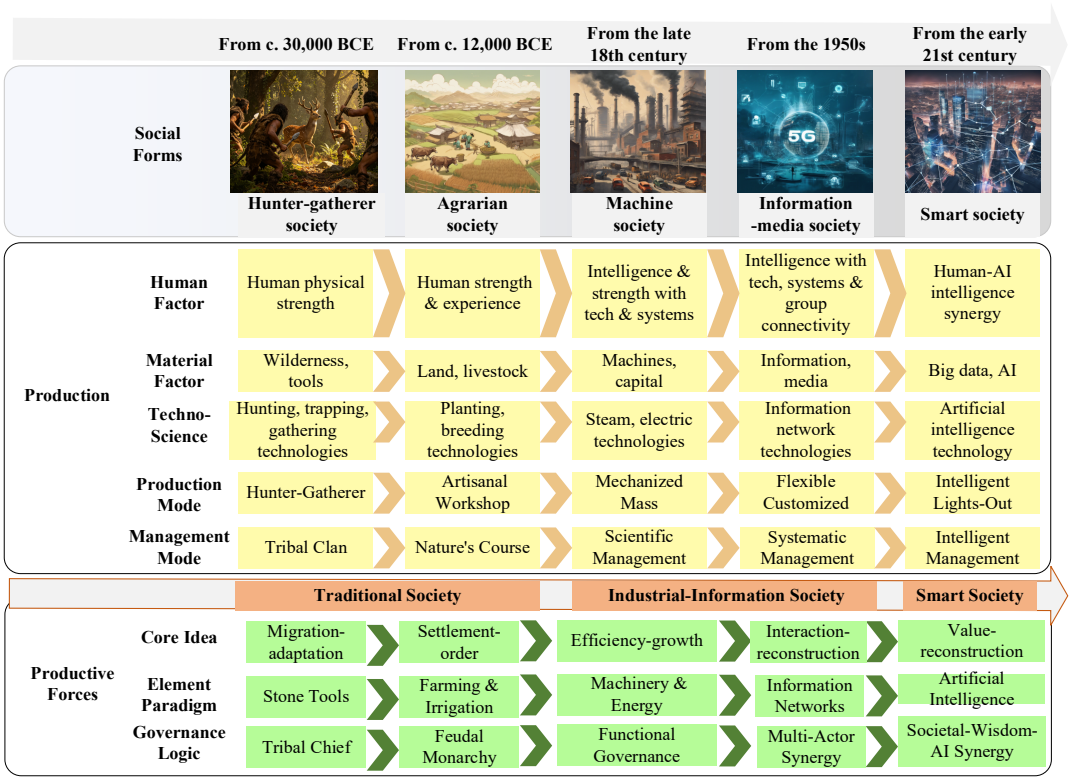

Figure 1. The historical evolution of social forms.

In terms of social form evolution, humanity has experienced five stages, namely hunter-gatherer, agrarian, machine, information-media, and smart society, spanning approximately 30,000 years. Regarding production

characteristics, these five social forms exhibit marked differences in human factors, material factors, science and technology, production modes, and management modes. In terms of productive forces, the transition from traditional society through industrial information society to smart society represents three leaps, manifesting as fundamental shifts in core governance ideas, element paradigms, and governance logic. Each stage of transition is accompanied by a profound restructuring of production characteristics and productive forces, giving rise to corresponding social dilemmas and governance challenges. The essence of these dilemmas lies in the systemic imbalance and conflict between 'power structures' and 'moral imperatives' within a given social form.

The social relationships in hunter-gatherer societies were based on direct kinship and survival bonds. 'Power structure' manifested as simple norms, such as food sharing and collective defence [2], that sustained group survival through kinship and tribal ties. The dilemma lay in the fact that 'morality', as an individual's inner conscience and compassion, often struggled to extend beyond the narrow confines of the 'in-group', while radically different, even cruel, rules might apply to the 'out-group' [3]. The greatest ethical challenge at this stage was how to establish more universal principles and boundaries for in-group relations amid extreme competition for survival [4].

In agrarian societies, settlement and private property gave rise to complex hierarchical human relationships, such as ruler-subject, father-son, and master-servant [5]. 'Power structure' became systematised into an objective, heteronomous, differential order centred on kinship law and ritual propriety [6]. 'Morality' was internalised as absolute, principled demands on the roles of individuals within this order [7]. When rigid hierarchical ethics (objective relationships) suppressed human dignity and developmental needs (subjective morality), it engendered countless tragedies concerning justice, fairness, and resistance [8]. Technologies (such as iron tools) and institutions (such as feudalism) solidified these ethical relations, making change extraordinarily difficult [9].

In machine societies, the Industrial Revolution freed people from the land, yet embedded them in the order of factories and capital [10]. 'Power structure' evolved into contractual and employment-based labour relations and class relations [11]. 'Morality' then emphasises individual virtues such as diligence, dedication, and punctuality that are adapted to industrial production. The core dilemma was the 'alienation of man': under the objective ethics of the logic of capital (pursuit of efficiency and profit maximisation), workers became appendages of machines, and their subjectivity, creativity, and well-being (inner moral aspirations) were severely neglected. Environmental damage resulting from production activities, a classic externality, first emerged in the form of large-scale public hazards, profoundly revealing the inherent conflict between anthropocentric ethics and nature.

In information-media societies, information became a core resource, and social relations were reconfigured by networks. 'Power structure' expanded into virtual space, generating new, unclear objective relationships and norms concerning data ownership, online privacy, intellectual property, and more [12]. 'Morality' faced the challenge of maintaining integrity, benevolence, and responsibility in the face of anonymity and distance. The dilemma is the 'paradox of connection': technology has brought unprecedented connectivity, yet it has also led to new social fractures such as information cocoons, cyberbullying, and digital divides [13]. The tension between individual privacy (a domain of subjective morality) and commercial and state surveillance (an objective ethical power) generates a new form of ethical dilemma.

Smart society is the stage we currently inhabit. Intelligent technologies driven by algorithms and big data are shaping an entirely new, human-machine hybrid form of 'power structure'. Algorithmic decision-making, platform power, and digital identity constitute an objective but not fully transparent emerging normative system. Meanwhile, human moral judgments—such as fairness, justice, compassion—face the risk of being reduced by data, predicted, or even manipulated by algorithms. The fundamental dilemma is a 'crisis of subjectivity'. When decision-making power is partially delegated to AI systems that lack moral agency, responsibility attribution becomes suspended and ambiguous. When algorithms operate on biased data, what is exposed is not only a technical flaw but also a profound ethical failure. Individual free will and dignity thus become trapped in the 'filter bubbles' constructed by panoptic surveillance and targeted recommendation, facing the real risk of erosion and dissolution.

3. Challenges in Smart Society Construction

Each 'wisdom' transition in social forms, while liberating productive forces, has dramatically reshaped the objective ethical relationships between human and human, human and society, human and nature, and even human and technology. Meanwhile, the subjective moral pursuit of goodness, justice, and dignity rooted in human nature must constantly adjust, resist, and innovate to adapt to and guide these new relationships. The conflict between old and new ethical norms, the lag and maladjustment of moral imperatives, and the encroachment of technical rationality upon value rationality together constitute the deepest and most intractable governance challenges in each stage of transformation.

The current construction of smart society must confront the profound challenges that have emerged throughout the evolutionary trajectory of human socialisation.

From 'capital devouring man' to 'technology devouring man': The convergence of capital logic and technological logic has produced a more advanced form of domination. Algorithm-driven 'dynamic pricing' achieves precise profit maximisation. Platform economies, through data and algorithmic control, have constructed a new type of digital labour-capital relationship. Technological leaps have created insurmountable 'digital divides', fragmenting society into technological elites and the general public, thus forming a novel pattern of value 'predation' in which a high-intelligence class exploits those with disposable income but low cognitive capacity through technological barriers.

'Machine devouring man': When technology materialises as autonomous vehicles, humanoid robots, and lights-out factories, the crisis of substitution moves from theory to reality. This is not merely the replacement of jobs, but a subversion of humanity's core value in production relations. The traditional contradiction between 'entrepreneurs and industrial workers' is, in the unmanned workshop, simplified into a symbiotic relationship between 'capital owners and intelligent machines', while workers are systematically excluded from production processes—a systemic negation of human labour value.

'Culture devouring man': This may be the most invisible yet the most profound erosion. The 'information cocoons' spawned by intelligent recommendation algorithms and the flood of short videos serve as the 'spiritual opium' of the digital age, aimed at keeping the majority of the public immersed in low-cost, instantly gratifying sensory stimulation, thereby dissolving their subjectivity and critical thinking. The confusion of values, moral ambiguity, and online violence in cyberspace fundamentally represent the devouring of social consensus and individual identity by a combination of capital and specific value orientations.

Therefore, the core contradiction facing the governance of today's smart societies lies in the fact that the evolutionary pace of governance systems still falls far short of the fundamental requirements, namely systemic integrity, pro-social orientation, and controllability, demanded by the core paradigm of 'societal wisdom'. At this historic turning point, the fundamental question that smart society construction must answer is: How should the relationship between humans and technology, and between society and intelligence, be positioned in the process of development? Will humanity become a 'digital object', disciplined by technology, calculated by capital, anaesthetised by culture, or will it become a 'value subject' of the intelligent era, capable of steering technology, reinforcing ethics, and promoting humanism? This demands a fundamental shift in governance thinking, from a reactive, 'problem-driven' approach to a proactive, 'system-building' mode of shaping.

4. The Logical Core of 'Societal Wisdom' in Smart Society Construction

The essence of 'wisdom' in smart society construction lies in driving a governance revolution at the foundational level. It requires moving beyond the initial stage of treating technology merely as a governance tool towards a systemic restructuring of national governance institutions, organisational forms, and process models, underpinned by an inclusive value logic, with data sovereignty as a key factor, 'human-centred' algorithms and sustainable computing power as core drivers, and controllable platforms as the basic infrastructure. This is precisely the core logic of achieving the fundamental modernisation of national governance systems and capacities.

It drives a shift in governance philosophy from 'value separation' to 'value consensus', moves governance logic from local optimisation towards global prosperity, and promotes a cognitive elevation among diverse actors from 'individual rationality' to 'collective rationality' and from 'zero-sum games' to 'symbiotic development', ultimately achieving a pro-social unification of the value core and systemic synergy.

It drives a restructuring of the governance system from 'compartmentalised fragmentation' to 'holistic synergy'. By establishing a unified data foundation and a shared business platform, it fundamentally breaks down entrenched barriers between departments and regions, transforming the governance structure from a fragmented, closed traditional fence system into an integrated, symbiotic organic whole.

It drives a leap in governance capacity from 'experience-expansion driven' to 'data-learning driven'. Guided by the value orientation of 'societal wisdom', it enables real-time sensing, intelligent analysis, and precise assessment of massive social operations data, upgrading governance decision-making from a 'reactive' model that relies on scattered subjective experience and lagging information to a 'proactive anticipatory' model grounded in comprehensive insight and profound inference. This will greatly enhance the scientific rigour, precision, and effectiveness of public policy and, more specifically, interface policy.

It drives the evolution of governance models from 'bounded interests' to a 'community of shared interests'. In highly complex and dynamic social environments, the governance logic of smart society construction transcends the traditional boundaries of individuals, departments, and even nations. Based on cross-boundary data flows and

value sharing, it enables the construction of a new governance paradigm characterised by equity and openness, perceptibility and insight, accessibility and controllability. This paradigm, by emphasising the technological equality of people underpinned by 'societal wisdom', allows the governance system to function like a living organism: achieving equal self-consistency, sensing and perceiving environmental changes in real time, responding swiftly to systemic disturbances, and demonstrating greater systemic resilience, adaptive vitality, and sustainable development capacity when facing multiple risks and challenges. Ultimately, it achieves a fundamental shift from local control to global win-win.

The 'wisdom' dimension of smart society construction directly addresses the reshaping of the underlying logic of national governance. It is not merely technological empowerment but a profound process of value reconstruction, institutional innovation, and organisational transformation. By forging value consensus, consolidating a data foundation, connecting governance networks, and optimising decision-making mechanisms, it paves a new 'value strategy map', 'digital highway', and 'intelligent operating system' for the modernisation of state governance. This is the fundamental pathway to achieving a qualitative leap in modern governance systems and capacities, moving from mere 'availability' to genuine 'quality', and serves as the deep guarantee for smart society construction to achieve steady and sustained progress in the era of complex singularity.

The core of smart society construction consistently revolves around the fundamental value axis of 'people-centredness', emphasising that the development of technology and governance must closely serve the holistic development of human beings and the public social well-being. Its practical framework is built upon the five-element synergy of people-centredness, Techno-Wisdom, Socio-Regulation, Physio-Resilience, and Info-Integrity (Figure 2).

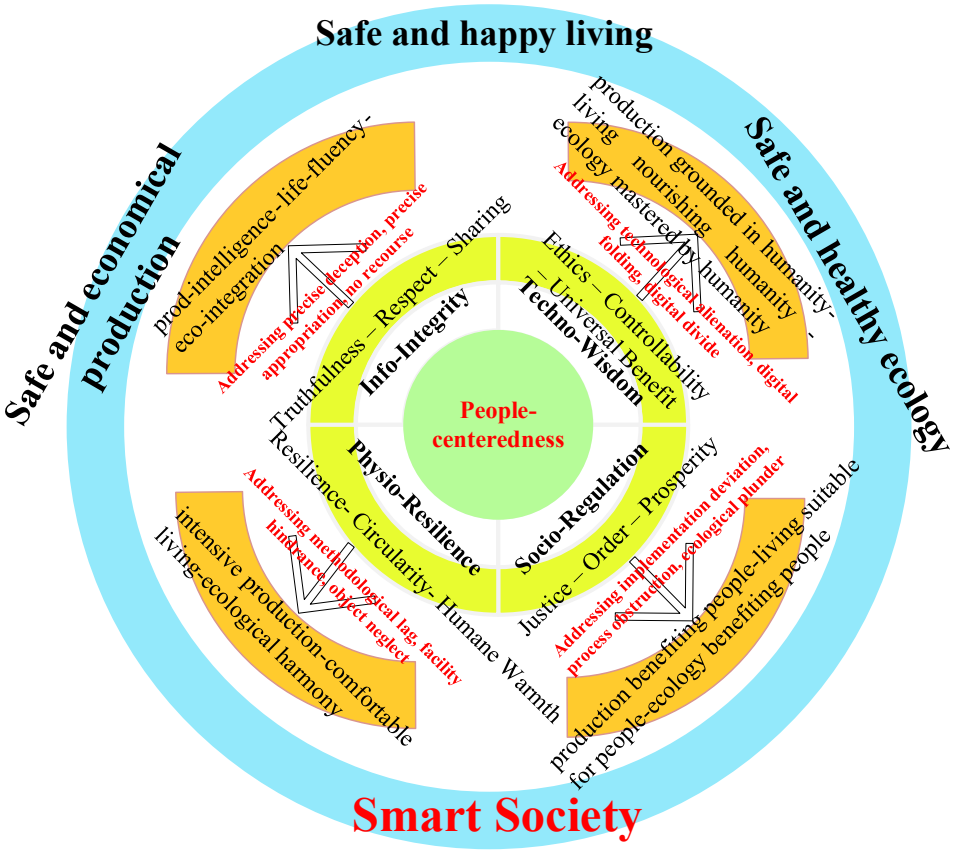

Figure 2. The Logical Core of 'Societal Wisdom'.

Techno-Wisdom emphasises that technological development must be endowed with the attributes of ethical orientation, human controllability, and universal benefit, so that technology truly serves the holistic development of human beings. Socio-Regulation, through just institutional design, an evolvable system of social order, and the goal of comprehensive prosperity, steers the direction of technological and economic development to ensure that its outcomes benefit all. Physio-Resilience highlights the necessity of risk-resistant robustness, the wisdom of

circular symbiosis, and a humane warmth. Info-Integrity aims to build an information ecosystem that is truthful and trustworthy, respects rights, and enables the sharing of value.

Systematically advancing the deep integration of technological governance and value guidance aims to transcend the limitations of single technology applications, thereby fostering a sustainable development system characterised by the co-flourishing of the 'three spheres'—Safe and economical production, Safe and happy living, Safe and healthy ecology.

4.1. Techno-Wisdom: Ethics–Controllability–Universal Benefit

'Techno-Wisdom' refers to the intelligent attributes and value orientation that technology should possess in a smart society. It goes beyond mere technical efficiency, emphasising that technological development must embed ethical considerations, remain under human control, and aim to benefit all members of society. This concept seeks to guide technology towards becoming a pro-social, responsible force.

The primary dimension of Techno-Wisdom is ethical regulation. Technological development must be grounded in a clear ethical framework, ensuring that technological progress continually serves human dignity and development. For example, establishing ethical guidelines for autonomous driving-requiring that system decisions prioritise human life and that mechanisms for responsibility tracing be in place—exemplifies the principle of embedding ethics before deployment.

The core safeguard of Techno-Wisdom lies in controllability. This demands that technological systems be transparent, interpretable, and intervenable. In smart healthcare, for instance, AI-assisted diagnostic systems must not only achieve high accuracy but also incorporate final-review and human-intervention mechanisms for physicians, ensuring that technology supports rather than replaces professional judgment, thereby preventing risks associated with algorithmic 'black boxes' or system loss of control.

The ultimate orientation of Techno-Wisdom is universal benefit. This means that technology should equally benefit all members of society, actively closing digital divides. For example, in digital village construction, developing dialect-based voice interaction systems and offering one-button elderly-friendly services enable technologically disadvantaged groups to equally enjoy smart services, embodying the inclusive principle of 'leaving no one behind'.

4.2. Socio-Regulation: Justice-Order-Prosperity

Socio-Regulation' refers to the institutional attributes and normative forces on which the healthy functioning of a smart society depends. It emphasises achieving social justice, maintaining dynamic order, and promoting comprehensive prosperity through institutional design, ensuring that technological applications and economic development are consistently directed toward the social common good.

The fundamental pursuit of Socio-Regulation is production justice. This manifests in ensuring fairness in resource allocation, opportunity access, and rights enjoyment through institutional design. One such instance is in the allocation of subsidised housing, for example, while using big data to accurately identify needs, strict algorithmic rules ensure transparent and fair distribution, avoiding potential hidden discrimination that technology might introduce.

The operational framework of Socio-Regulation is in order. Order in a smart society should be an open system that balances stability and vitality. In platform economy governance, the principle of 'inclusive and prudent regulation with standardised development' has been adopted—encouraging innovation while clarifying platform responsibilities through laws and regulations, establishing labour rights protection and data security norms, thereby forming clear rule expectations.

The developmental goal of Socio-Regulation is comprehensive prosperity, pointing towards an enhancement of overall societal well-being that transcends mere economic growth. For example, in China's county-level regions, digital tools are used to establish employment assistance platforms, improving job quality through skill matching and entrepreneurship support. Smart community construction integrates resources such as elderly care and child services, building social support networks and enhancing community cohesion, thereby achieving shared material and spiritual prosperity.

4.3. Physio-Resilience: Resilience-Circularity-Humane Warmth

- 'Physio-Resilience' refers to the fundamental attributes that the material foundation and spatial carriers of a smart society should possess. It emphasises that infrastructure and urban systems must have the robustness to withstand risks, adhere to the principles of resource circularity, and ultimately aim to promote human health and dignity.

- The foundational requirement of Physio-Resilience is systemic resilience. This is reflected in a city's ability to adapt and recover from uncertainties. Many cities have adopted the concept of 'dual-use for normal and emergency situations' in their planning: parks serve citizens in peacetime and can be converted into disaster-response spaces during emergencies; smart pipeline networks enable real-time monitoring and rapid repair, constructing an 'elastically adaptive' urban framework.
- The ecological principle of Physio-Resilience is circular symbiosis. This drives the transformation from linear consumption models towards a circular economy. In new urban districts, the adoption of 'sponge city' designs, coupled with smart water regulation and storage systems, allows for natural accumulation and purification of water resources. The integration of building information modelling and the Internet of Things enables full-lifecycle tracking and efficient recycling of construction materials, forming a closed resource loop.
- The core value of Physio-Resilience is humane warmth. All material spaces should fundamentally promote human health, safety, and dignity. The renovation of older residential communities focuses on barrier-free facilities and age-friendly design. Newly built communities are equipped with intelligent environmental quality monitoring to create healthy and comfortable living environments. Rail transit stations incorporate smart guidance systems and temperature-zoned carriages, reflecting meticulous care for diverse groups.

4.4. Info-Integrity: Truthfulness-Respect-Sharing

'Info-Integrity' refers to the fundamental order and value norms that should govern the construction of a healthy information ecosystem in a smart society. It takes truthfulness and trustworthiness as its foundation, respect for rights as its principle, and open sharing as its goal, ensuring that information flows are both orderly and efficient, as well as imbued with humanistic care.

The foundational cornerstone of Info-Integrity is truthfulness, trustworthiness, and accessibility. Building a truthful information environment and ensuring the simplicity and accessibility of information are prerequisites for the orderly functioning of a smart society. Multiple mechanisms, such as technical verification and information traceback, are used to combat false information. During major public events, consensus mapping technology ensures the immutability and full traceability of key information, guaranteeing that authoritative information remains authentic and reliable, thereby reinforcing the foundation of social trust.

The rights principle of Info-Integrity is respect and protection. This is reflected in the comprehensive safeguarding of personal information rights and digital personhood. Various applications are required to provide clear and consensual privacy policies along with convenient authorisation management. Smart government services employ techniques such as data masking and privacy computing to achieve 'data completeness and availability', maintaining citizens' dignity and autonomy in the digital age.

The value culmination of Info-Integrity is open and shared access. It aims to break down data barriers and promote universal knowledge access. For instance, the construction of national public data open platforms is promoted, enabling information sharing among medical institutions while protecting privacy, reducing duplicate patient examinations, and making data and information universally beneficial.

5. Pathways to Cultivate 'Societal Wisdom' in Smart Society Construction

Through purposeful activities such as production and living, humans initiate, adjust, and control the material exchange between humanity and nature, thereby connecting human society with the natural environment (ecology). Production, living, and ecology (the three spheres) are essential components of the functioning of human social systems [14]. They exhibit both relative independence among the spheres and dynamic complexity in their interactions. A happy 'living' is the ultimate goal of human social construction. Social 'production' serves as the key pathway and means for material creation and natural transformation. The natural 'ecology' environment is the foundation and prerequisite for the sustainable evolution of human social production and living. Production, living, and ecology constitute an integrated whole of human social evolution, interacting with and constraining each other, and maintaining a relatively stable dynamic equilibrium over a certain period. The three-sphere system provides the critical systemic environment for smart society construction.

At the same time, for the smart society itself, the development of a governance theory also depends on a clear deconstruction of its system structure. The 'three-space' theory in modern information technology characterises the big data era society as 'human society', 'physical space', and 'information space' [15]. However, from the perspective of system emergence and evolution, the agency and creativity of human beings as system subjects in smart society construction cannot be adequately captured by a macro concept such as human society. It is necessary to distinguish between 'human' as the subject and 'society' as the relations. Whether in physical space or

information space, their characteristics and the origin of changes stem from technological leaps and revolutions at particular historical stages. 'Technology' is clearly a key variable driving the intelligent evolution of society, whereas the physical and informational are the concrete manifestations of this evolution.

The prerequisite for building a smart society is to establish a systemic governance concept encompassing the 'three spheres' (production, living, and ecology) and the 'five elements' (human, society, technology, physical, and information), thereby advancing the cultivation pathways of 'societal wisdom' based on this complex system (Figure 3).

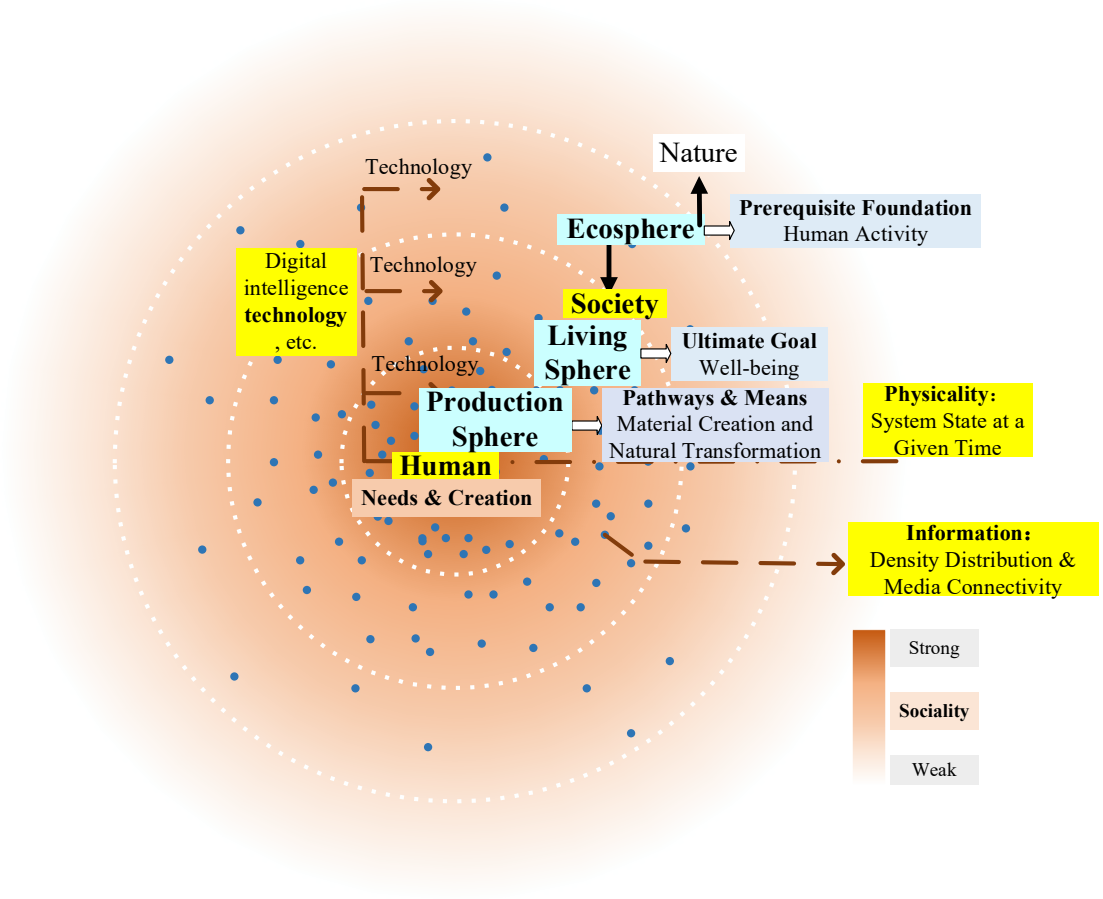

Figure 3. Schematic Diagram of the Governance Concept with a 'Three sphere'-'Five element'Systems View.

This system clarifies the subject status of 'human' and establishes the important value of group relations in the construction of 'society'. Through activities of 'production' and 'living', people satisfy their needs for survival and development. Through innovation and creation, they generate new 'technologies' and new paradigms, thereby bringing about the migration and advancement of 'physical' and 'information' spaces. In this process, the original relationship between humans and nature is inevitably reshaped, leaving traces of intervention and transformation on 'ecology', and bearing the heterogeneous consequences across different temporal and spatial scales. Digital intelligence technology has ushered in the era of smart society. On the basis of fully perceiving the physical world, humans deeply integrate the computing, communication, and control capabilities of human, machine, and physical entities. Through the mutual coordination of virtual and physical networks, they establish new forms of social interaction among people. Enabled by ubiquitous information connectivity, they acquire the 'smart' characteristics of sensitive perception, intelligent decision-making, and rapid response.

Therefore, smart society construction is not a mere aggregation of isolated technological systems, but a systemic project in which four structural forces—technological, social, physical, and informational-co-evolve under the central value axis of 'people-centredness'. Its practical pathway is characterised by the four-dimensional integration of Techno-Wisdom, Socio-Regulation, Physio-Resilience, and Info-Integrity, all converging on the fundamental orientation of 'people-centredness'. Within this framework, the operation and governance of all social systems must respond to the real needs and long-term well-being of people across the three spheres of production, living, and ecology, while guarding against social risks arising from capital logic, technological alienation, data barriers, and spatial imbalances.

5.1. Cultivation Pathways at the Technological Level

Techno-Wisdom is the core driver of smart society development. It emphasises that technological development must be endowed with the ethical orientation, human controllability, and universal benefit that enable technology to truly serve the holistic development of human beings. Its construction pathway is embodied as follows:

In the sphere of production (production grounded in humanity), technological applications should be human-centred, prioritising human creativity, dignity, and well-being over efficiency and profit. For example, in the intelligent upgrading of manufacturing, the model of 'human-machine collaboration' should be promoted rather than 'machine substitution for humans', with intelligent assistance systems enhancing workers' skills and safety rather than marginalising them. The tendency of 'unchecked expansion of capital eroding the interests of the people' must be resolutely curbed. For projects that may cause ecological damage or community disruption, environmental intelligent monitoring and community risk communication platforms should be used for pre-assessment and continuous supervision, ensuring that production technologies remain grounded in and serve the long-term interests of people and ecological carrying capacity. In the formulation of industrial standards, it is necessary to guard against technological parameters becoming cold numbers detached from actual needs. If technological 'progress' is not grounded in and does not nourish people's lives, it risks being alienated into a cold burden.

In the sphere of living (living nourishing humanity), Technology should strive to nourish and enhance the quality of life, rather than creating anxiety or exploitation. However, some current technological applications do the opposite. Some social media platforms exercise weak scrutiny over unhealthy information, yet mistakenly flag genuine requests for help as violations; such biases in algorithmic content governance directly harm the health of the online ecosystem and social trust. The ubiquitous excessive collection of personal information (data unnecessary for the intended function or purpose), along with ensuing data breaches and illicit trading, severely erodes personal privacy and data security. These phenomena indicate that when technology lacks the value anchor of 'nourishing humanity', it can be alienated from a tool of service into an instrument of harm. The design of smart living services (such as health management, online education, digital entertainment) must follow the principle of safe accessibility, especially for the 'young and old' as well as people with disabilities. Strict content filtering and time management systems should be established to ensure that children are exposed to healthy information and prevented from gaming addiction, thereby eliminating the phenomenon of technology 'calculating against' or 'poisoning' people.

In the sphere of ecology (ecology mastered by humanity): technology should become an effective tool for humans to govern their own activities and achieve harmonious coexistence with nature. By constructing a comprehensive intelligent sensing network for the ecological environment (such as an ecological Internet of Things), it enables real-time monitoring of the health of forests, grasslands, and water bodies, and provides early warnings of ecological risks. Big data and simulation technologies should be used to optimise resource allocation, constrain high-energy-consumption and high-emission production and consumption behaviours, and strictly 'master' human activities within ecological carrying capacity, making technology an enabler for restoring nature and protecting the harmonious relationship between living beings and humanity.

5.2. Cultivation Pathways at the Social Level

Socio-Regulation is the institutional foundation and value norm for the stable operation of a smart society. Through just institutional design, dynamic social order, and the goal of comprehensive prosperity, it steers the direction of technological and economic development and ensures that outcomes benefit all members of society.

In the sphere of production (production benefiting people), the core of institutional construction is to guide economic activities towards creating shared value, protecting workers' rights, and ensuring market fairness. For emerging industries such as prepared foods, a full-chain, transparent smart supervision system from farm to table should be established. Through production traceability, real-time monitoring, and mandatory information disclosure, food safety and nutritional health can be ensured, preventing capital from sacrificing quality for profit. This makes production activities truly 'benefit' consumer health and trust rather than merely capital appreciation. In another example, the design of institutional frameworks such as China's electric bicycle standards should include reasonable transition periods, differentiated management, and subsidies or replacement support for low-income groups, avoiding a 'cold decree' that could 'crush countless struggling mothers and those who depend on electric bikes for survival'.

In the sphere of living (living suitable for people), the goal of institutional innovation is to create a liveable, convenient, and warm living environment. Reforms such as 'only run once at most' (e.g., the China Hangzhou model) should be deepened, and problems such as 'buck-passing' in administrative procedures should be resolved. Legislation should clarify data-sharing responsibilities and time limits, and integrated government service

platforms should enable automatic cross-departmental workflow, upgrading public services from 'one-visit' to 'zero-visit'. This transforms institutional advantages into a living experience that is truly 'suitable for people'.

In the sphere of ecology (ecology benefiting people), institutional design should aim to convert ecological value into human well-being. Innovative measures such as 'carbon inclusion' and 'ecological banks' should be promoted, allowing the public to receive tangible rewards for green behaviours (e.g., low-carbon travel, waste reduction). Strict supervision of ecological red lines should be enforced, with severe accountability and claims for ecological restoration against actions that damage forests and grasslands, ensuring that a sound ecological environment becomes the most equitable public good and truly realising 'ecology benefiting people'.

5.3. Cultivation Pathways at the Physical Level

Physio-Resilience concerns the inherent beneficial attributes of the material spaces and infrastructure upon which a smart society depends for survival. It emphasises the need for risk-resistant robustness, the wisdom of circular symbiosis, and the warmth of human-centred care. In practice, however, three typical deviations must be guarded against: 'methodological lag' (where planning, design, facilities, and technological applications fail to keep pace with rapid social change), 'facility hindrance' (where infrastructure design ignores actual user habits and special needs), and 'object neglect' (pursuing hardware investment and profit while neglecting human ecological services).

In the sphere of production (intensive production), the planning and construction of material spaces should promote efficient resource recycling and avoid 'methodological lag' that decouples green technology applications from industrial realities. When promoting the development of 'zero-carbon parks' and 'green factories', more practical measures should be adopted to truly achieve fine-grained, cascade management of energy, water, and materials throughout the entire process. This helps reduce construction pollution and waste, enabling the intensive and low-carbon operation of production processes.

In the sphere of living (comfortable living), Urban and community construction should centre on human well-being and comfort, preventing 'facility hindrance' and 'object neglect'. This means not only addressing extreme risks, enhancing physical safety through smart early-warning systems, resilient pipelines, and emergency evacuation routes, but also attending to the comfort and health of daily life. Communities should integrate green spaces, age-friendly and child-friendly facilities, slow-traffic systems, and smart health cabins, avoiding the difficulty that over-intelligentisation may cause for the elderly and children. This creates a truly safe, convenient, healthy, and liveable environment of 'comfortable living'.

In the sphere of ecology (ecological harmony), Infrastructure development should promote harmonious coexistence between humans and nature, overcoming the tendency of 'object neglect'. Destructive development, such as 'enclosure-and-feast on forests' should be avoided, and ecological facilities should not become image projects that ignore people's need for closeness to nature. Accessible ecological corridors, biodiversity smart monitoring stations with human-friendly services, and nature-based recreation facilities should be built. Through initiatives such as 'park cities' and 'forest cities', urban areas can be embedded in nature, while ensuring that the service functions of ecological spaces benefit all population groups, thus achieving a symbiotic state of 'ecological harmony'.

5.4. Cultivation Pathways at the Informational Level

Info-Integrity serves as the neural network and core rules for the orderly operation of a smart society, aiming to build an information ecosystem that is truthful and trustworthy, respects rights, and enables value sharing.

In the sphere of production (digital-intelligent production), information order should empower the intelligentisation of production activities and data-driven decision-making. Efforts should be made to break down barriers to accessing livelihood data, such as water and electricity consumption. Under the premise of security and compliance, the sharing and integrated use of industrial and energy data should be promoted, providing precise data support for scientific research, industrial upgrading, energy conservation, and emission reduction, thereby achieving 'digital-intelligent production'.

In the sphere of living (life-fluency), the information environment should serve the health and smooth functioning of daily life. The 'unsmoothness' of the current information ecosystem is evident: the narrow channel of public service information delivery (e.g., relying solely on mobile apps) and the complexity of smart device interactions exclude certain groups; false advertisements and algorithmic bias directly harm the 'health' of living. Building a healthy and smooth information life must start by ensuring information accessibility, content truthfulness, and algorithmic fairness. The truthfulness of information must be resolutely defended, and false advertisements and rumours that harm health must be combated. 'Information equity in clothing, food, housing, and transportation' should be guaranteed: public service information should reach all people through multiple

channels and forms (including offline channels). Particular protection should be given to minors, fostering a clean cyberspace and ensuring that information flow promotes rather than harms physical and mental health, so that digital life becomes healthy and smooth.

In the sphere of ecology (eco-integration), Information sharing should contribute to the holistic protection of the environment and cross-boundary collaboration. A unified big data platform for the ecological environment should be established, integrating data on meteorology, hydrology, pollution, biodiversity, and more, enabling cross-regional and cross-departmental 'integration' of ecological information and collaborative governance. Through information transparency and public participation, such as 'snap-and-report pollution' initiatives, social forces can be mobilised to jointly safeguard natural heritage.

Looking ahead, efforts should be directed towards advancing society towards a 'super-intelligent society'. The key to this transition lies not only in technological breakthroughs, but also in whether we can construct a new civilisational paradigm that takes 'human well-being and dignity' as its meta-rule, effectively navigates technological complexity, and achieves a harmonious integration of ethical relationships and moral consciousness. The essence of a 'super-intelligent society' is the transcendence of traditional political logics defined by sovereignty, nationality, and ideology. Through the maturation of 'societal wisdom', war and violence become unfeasible, unacceptable, and unnecessary options at both institutional and ethical levels. This requires that the foundational logic of social operation shift from the contestation of power and resources to reverence and care for each concrete human being—recognising and valuing innate and acquired human differences, guaranteeing basic rights to survival, development, and dignity, and defending individual freedom of thought and action as long as it does not harm others. In a super-intelligent society, the ultimate mission of technology is to bridge divides, enhance mutual understanding, and empower people, enabling the governance 'antennae' of society to reach each individual's real circumstances and needs with sensitivity and justice—thereby resolving conflicts at their roots.

Regardless of the societal stage, the ultimate criterion of legitimacy and rationality lies in whether a society can sustain and enhance the shared values and conditions of existence that make human beings human. Ideally, a super-intelligent society points towards a grander possibility: on a planetary scale, humanity could gradually achieve voluntary and safe freedom of movement and interaction, completely free from the fear of violence and systemic biological harm, ultimately forming a planetary civilisation community where diversity coexists and all members share security and prosperity. In such a society, technology empowers people, institutions safeguard people, and development ultimately serves the holistic flourishing of human beings and the sustainable symbiosis of the planet.

6. Conclusions

This study systematically examines the historical evolution, governance logic, and cultivation pathways for 'societal wisdom' in smart societies, reaching the following core conclusions.

First, each 'wisdom' transition in social forms, while liberating productive forces, has dramatically reshaped the structure of social power relations. From the kinship ethics of hunter-gatherer societies, the patriarchal ethics of agrarian societies, the contractual ethics of machine-based societies, the network ethics of information-media societies, to the human-machine hybrid ethics of digital-intelligent societies, the conflict between old and new power structures, the lag and maladjustment of moral imperatives, and the encroachment of technical rationality upon value rationality together constitute the deepest governance challenges in each stage of transformation.

Second, the governance transformation of smart society must confront the deep ethical crises triggered by the convergence of capital logic and technical rationality, namely 'technology devouring man', 'machine devouring man', and 'culture devouring man'. It requires a fundamental shift in governance thinking from reactive response to systemic construction, so as to re-anchor the pro-social and controllable value relationship between humans and technology, and between society and intelligence.

Third, the core of smart society construction must always be anchored in the fundamental value axis of 'people-centredness'. Constructing the synergistic logical kernel of Techno-Wisdom, Socio-Regulation, Physio-Resilience, and Info-Integrity can provide actionable and implementable systematic theoretical tools of 'societal wisdom' for smart society governance practices.

Fourth, the cultivation pathways of 'societal wisdom' in a smart society are embodied in the deep integration of the five elements across the three spheres of production, living, and ecology. Technology should promote 'production grounded in humanity', 'living nourishing humanity', and 'ecology mastered by humanity'. Society should achieve 'production benefiting people', 'living suitable for people', and 'ecology benefiting people'. Physical infrastructure should support 'intensive production', 'comfortable living', and 'ecological harmony'. Information should ensure 'digital-intelligent production', 'healthy and smooth living', and 'ecological integration'.

In the future, smart society should evolve towards a 'super-intelligent society'. Through the maturation of 'societal wisdom', social development will ultimately serve the comprehensive flourishing of humanity and the sustainable symbiosis of the planet. This framework can be directly translated into concrete governance principles that provide actionable guidance for smart society governance, including ethical review and controllability-universal benefit mechanisms oriented toward Techno-Wisdom, just institutions and rights protection norms oriented toward Socio-Regulation, resilience-circularity standards oriented toward Physio-Resilience, and trustworthy sharing and inclusive service platforms oriented toward Info-Integrity.

Supplementary Materials

The Chinese version of the manuscript is available in the Supplementary Materials. The additional data and information can be downloaded at: https://media.sciltp.com/articles/others/2606040918209686/AstM-26050066-Supplementary-Materials.pdf.

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The data that support the findings of this study are available from the corresponding author upon reasonable request.

Conflicts of Interest

Given the role as Editor-in-Chief, Hong Chen had no involvement in the peer review of this paper and had no access to information regarding its peer-review process. Full responsibility for the editorial process of this paper was delegated to another editor of the journal.

Use of AI and AI-Assisted Technologies

AI tools were used to assist in the translation of part of the content.

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