PRELIMINARY STUDY OF PHILOSOPHY AND PRACTICE OF 'HEALTHY SCENE OF FUTURISTIC COMMUNITY'

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Abstract. The related theoretical research in the conception of futuristic community is not yet systematized due to its innovativeness to date, which is proposed the year before last under the refined management, digital revolution, and national health care. Based on the connection between its futurity and technicality, eco-responsibility, sociality vs. update, this study sorts out its basic evaluation index system in this paper. Moreover, complying with the digital trend, a stereoscopic mode consisting of physical & fictitious facets and three quadrants was formulated. Meanwhile, another planning practice was conducted in the Jixin futuristic community in functional integration and digital connectivity on this model's foundation. The prediction of future vital technologies will also put suggestions on enriching the theoretical framework forwards.

Key words: functional integration, digital connectivity, Jixin pilot

1. Intruction

By the end of 2019, the urbanization rate of individual cities in Chekiang has been exceeded 60%, with the per capita GDP exceeding US$ 100,000 (Kuang *et al.*, 2020). Undoubtedly, the rapid urbanization processing from the 1980s has brought unprecedentedly prosperous material civilization (Dan *et al.*, 2020).

Nevertheless, metro areas have also accumulated a large number of outmoded blocks located in the centre. These aging regions with the typical features of inefficient land utilization, infrastructure deprivation, degraded building performance, and pre-intelligent management have become the non-negligible shortcomings (Chen *et al.*, 2019). Due to all these issues mentioned and the irreversible results of social development, the central zone of Chekiang cities are severely social split. And it has accessed to a aging period in advance (Guan *et al.*, 2018; Yi and Vaupel, 1989).

According to the latest definition of Health by the World Health Organization (WHO), it is a harmonious status of physical, psychological, and social well-

being, not just the medical quantification (Callahan, 1973). Health-related theories have experienced several decades' localization, and pondering over the "prevention – adaptation - usability" mechanism brought about the recently infectious epidemic (Douglas *et al.*, 2015). Under the new situation, a consensus has been achieved. The community planning should enhance intelligent managing level and breakthrough the gap of the "last kilometer" between habitat and governance from the perspectives of enhancing resilience, which is refined management and hierarchical facility configuration (Douglas *et al.*, 2015).

At the end of 2019, responding to the General Secretary's orientation, "meet the people's aspirations for a better life", Chekiang has been put forward a concept of "The Healthy Scene of Futuristic Community" (hereinafter referred to as the HSOFC) in constructing strategy of Futuristic Community. The top-level structure of the HSOFC, with the goal of "building health and wellness for all" and the aspiration of "covering the whole population and whole life cycle", is a positive response to the current situation (Tan *et al.*, 2017; Ziping, 2019).

However, due to its conceptual foresight, there is a significant lag in relevant practice and research. Therefore, this paper focuses on providing a preliminary interpretation of the conception, sorting out the principles of practice, and initially exploring the planning methods of pilots in the Wenzhou Jixin Futuristic Community practical case.

2. Interpretation of the HSOFC

2.1. Research Review

The Chekiang Provincial Government issued the Pilot Work Program of the Futuristic Community (hereinafter referred to as the "Pilot Work Program") in the local area has led to launching China's version of a comprehensive, intelligent and healthy planning model. It has proposed that Futuristic Community will take harmonious co-governance, ecological intensification, and wisdom sharing as its connotation, based on a 3-D value system consisting of humanization and digitalization. In the meantime, there is a consensus that the Futuristic Community viewed as a new urban functional unit should build an integrated system covering nine futuristic scenes, including neighborhood, education, health, entrepreneur, architecture, transportation, low-carbon lifestyle, service and governance (de Fernandes Peixoto and de Moraes Godoy, 2018).

As academics have not yet to form systematic studies, relatively complete research has been proposed. From the perspective of philosophy and social science, the so-called Futuristic Community's construction integrates urban and rural communities into an approaching development perspective by introducing technological, ecological, social, and living variables. Moreover, the holistic and comprehensive concept and action should be applied to solve various problems in a forward-looking manner (Liang and Yang, 2019).

It also presented that Futuristic Community should form through the positive interaction between the futurity and technicality, eco-responsibility, sociality and update. Apart from this, other scholars have also conducted preliminary explorations, but basically, they were confined to some thematic areas, failing to set up a relatively complete conceptual analysis yet.

2.2. *HSOFC: A construction mode consists of "2Facets+3Axes+3Quadrants"*

The "Pilot Work Program" has proposed that Futuristic Community will orient towards the whole population and the entire lifecycle to build a national health and wellness living environment. Besides, it aims to fundamentally solve the sharp social contradiction of community medical care-being affordable instead of useless, the lack of elderly facilities, and homogeneous servicing categories (Cao *et al.*, 2017).

Unlike the previously thematic and monolithic models such as Smarter Communities and Green Communities, the most prominent feature of Futuristic Community are synthesis, comprehensiveness, and practicality (Silva *et al.*, 2020). For example, Smarter Communities focuses on the technical and intelligent refinement of community governance; Healthy Communities prefers to the latter half of lifecycle's maintenance through supporting facilities and medical treatment; Green Communities tends to the specific construction of green buildings and ecological integrity. Obviously, in terms of the target population's coverage and adaptability of total lifecycle requirement, the above studies cannot meet Chinese society's current demand (Noesselt, 2020; Oakes, 2019).

The proposal of the HSOFC intends to implant futuristic as the core value, phase out the previously flattening mindset and introduce a comprehensive perspective. Meanwhile, based on the spatial integration of nine futuristic scenes, relying on the advanced big data technologies, this project raises the concept of "Digital Twin-community" is in tune with the circumstance (Zhou *et al.*, 2020). Eventually, along with the formation of a stereoscopic mode, which evolves from the interaction between physical and digital communities (hereinafter referred to as the "FAQM"), a leap from horizontal to vertical development will be realized (Nižetić *et al.*, 2019).

Major relative elements are classified into three axes, including the planning axis, organizational axis, and technological axis. The three quadrants are orthogonal to the two main facets: Physical and Digital Twin-Communities.

Quadrant I (Space formulation): In this quadrant, based on mixed land-use, de-stocking development, resilient control of indicators, rationalization of traffic guidance, planning measures, and interest groups points towards the HSOFC's physical communities.

Quadrant II (Daily health management): Concerning this quadrant and technical staff will analyze the technical feasibility of physical data monitoring and dynamic ecological supervision. Moreover, the planners will comprise rational guidance, refine clauses and sub-clauses of physical monitoring demands combined with medical health indicators analysis, and adjust strategies on time.

Quadrant III (Health care governance): In terms of Quadrant III, digital service applications' exploitation will be stimulated. In addition, comprehensive and differentiated healthcare options will be provided by introducing a Telemedicine network, Regional Medical Complexes, and embedded medical treatment (Fig. 1).

2.3. *Evaluation system*

2.3.1. *The HSOFC's Evaluation Index System*

"The Evaluation Index System of Futuristic Community", issued by the Chekiang government (hereinafter referred to as the "EIS"), has made a list of

indicators and sub-indicators for nine futuristic scenes separately consisting of compulsory and guiding contents. The indicators of the HSOFC have been categorized into four sub-indicators involving sports &fitness, intelligent health management, quality medical services, and community-based assistance.

According to the specific index content defined in the EIS, which combined with the FAQM aforementioned, a total of 14 and 7 sub-indicators are separately classified into physical and digital communities. The items belonging to the physical community all located in Quadrant I, while the items of the digital community distributed in Quadrant II (2 items) and Quadrant III (5 items). The distribution pattern above corroborates the original intention of the HSOHC on the other hand. By forming a digital community that mirrors physical community, geographical barriers will be broke and eventually realized community managing in the cloud and feedbacks on the ground. It is worth noting that the conducting data feeds and collaborative layout among nine scenes, just like another embodiment of futurity (Table 1).

2.3.2. Synthesis of related projects synthesis

The FAQM can be summarized into two major parts: functional integration and digital connectivity guaranteed. In recent years, several related themes have already been proposed.

For example, the Quayside health complex, located in the Idea District of Toronto, is a sub-project of the Canadian Tomorrow City launched in 2017. The project centering on the concept of "Complete Community" has built a platform integrating physical space and big data analysis. The data system is responsible for collecting real-time data from the surrounding environment to simulating city operations, and finally provide data basis of decision-making. Moreover, the physical space realizes innovation through green buildings, stereoscopic transportation, building-rainwear, and cleaner-energy promotion.

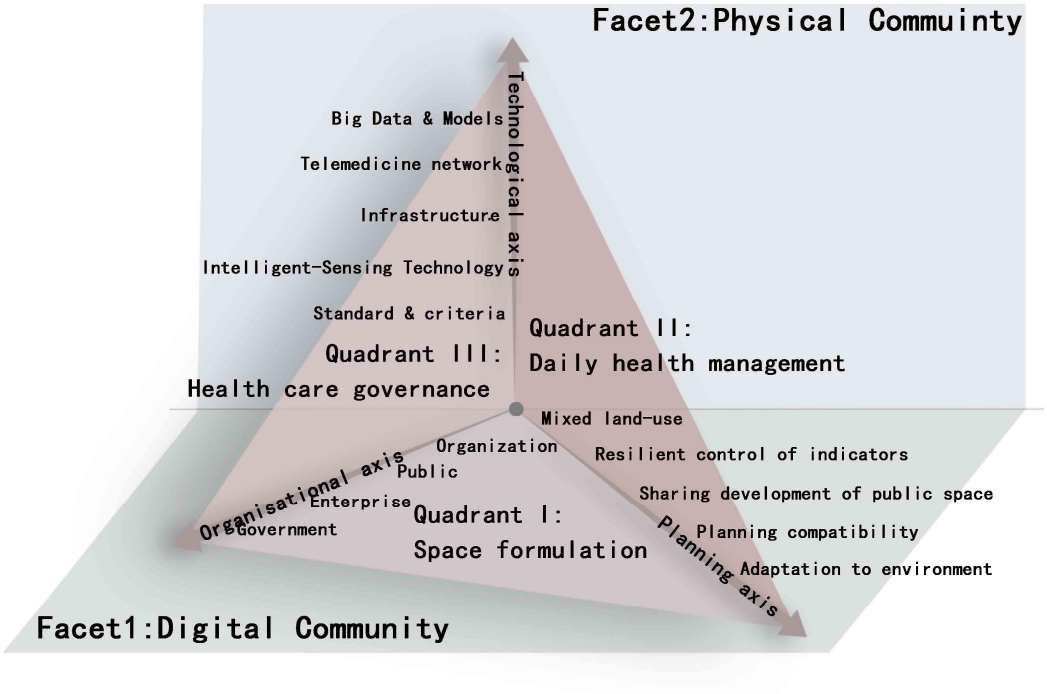

Fig. 1. Schematic diagram of the "FAQM".

Table 1. Evaluation indicators and the "FAQM".

Evaluation indicators of the "HSOC"				The "FAQM	
Tier 1 indicators	**Identity**	**No.**	**Tier 2 indicators**	**Facet**	**Quadrant**
Sports &fitness	compulsory	1	installing gymnasiums, ball courts and other facilities in unit of 15-minutes living area	1	I
		2	installing indoor and outdoor fitness spots in unit of 5-minutes living area	1	I
	guiding	3	networked jogging greenway	1	I
		4	intelligent facilities such as the smart-fitness greenways and holographic interactive system	2	II
		5	establishing sports associations and incentives	1	I
Intelligent Health Management	compulsory	6	creating an "upgraded" community health service center and service station in unit of 15-minutes living area	1	I
		7	establishing electronic health record for residents and improving family doctor system	2	III
	guiding	8	promoting O2O health-management model, improving data interconnection between the individual/household terminals and regional health platform	2	II
		9	providing customized health-meals	2	II
Quality medical care	compulsory	10	establishing Regional Medical Complexes between Community health-centers and tertiary hospitals, providing tele-diagnosis and two-way referrals	2	III
		11	introducing Chinese medicine healthcare	1	III
	guiding	12	encouraging the development of socially GP clinics, intelligent infirmaries, medical malls	1	I
		13	applying AI technologies	2	III
Community-based assistance	compulsory	14	full consideration of the wishes of returning residents	1	I
		15	configuring age-appropriated housing in need	1	I
		16	organizing the subdistrict-level and community-level homecare to support institutions in unit of 15-minutes living area	1	I
		17	policy supports such as rent waivers for socially caring institutions	1	I
	guiding	18	market-based five-star institutions	1	I
		19	allocating nursing beds	1	I
		20	Promoting the age-appropriated terminal smart-applications	2	III
		21	fostering the elderly self-organization, new models such as inter-generational, rent-sharing and time-bank	1	I

Besides that, Japan has proposed the "Society 5.0", relying on highly networked and informative technologies in 2016 (Shiroishi *et al.*, 2018). It has created a new social pattern and value through the circulation of data and converging applications. It also emphasizes the monitoring of health status individually to interfere in the prevention phase timely. Simultaneously, as the application of next-generation high-speed communication networks and the development of AI-medicine, telemedicine, and health-support services, the "Society 5.0" will ensure high-quality health care services unifying the using and managing of health data (Fukuda, 2020).

Kampung Admiralty, an aged-caring ancestral-house project in Singapore, embodies the concept of architecture-sharing in facilities (Samant and Bingham-Hall, 2019). Through the introduction of medical social services, functional compounding, and intelligent operation of public facilities, it forms an aged-caring complex with the features of function-sharing, intergeneration, and management-sharing.

Moreover, Mintzberg has presented a health-caring system called the 4C-model consisting of community involvement, public control, acute cure, and community care. By constructing a collaborative framework composed of multi-disciplinary specialties, management, and property owners, a comprehensive health-unit mode will be built up (Ntekouli *et al.*, 2016).

Meanwhile, domestic research mainly concentrates on Smarter Communities and Green Communities' themes, which have put forward their theoretical frameworks, evaluation index systems and technical practices. Furthermore, they have not been repeated here. It is noteworthy that the Futuristic Community is substantial progress towards the actual integration of physical and digital management (Chang and Sheppard, 2013).

3. Planning principle: the realizing of eco-responsibility, update, sociality, &technicality's futurity

Based on the conceptual interpretation, combining with the former analysis of construction mode, the planning principles of the HSOFC can be summarized as follows.

Futurity & Eco-responsibility (De-stocking planning and mixed land-using preferred): Studies show that urbanization's destruction of land-ecology principally is irreversible. Moreover, land has already become a scarce and irreplaceable resource for construction. Therefore, during the site selection period, de-stocking planning should be placed at the forefront. In other words, to avoid the development of blank blocks and idleness of stocking land, inefficient land, especially in the core urban area, should be selected utmost. At the same time, based on the site's regional positioning, the strategy should increase the plot's functional composite and enhance the space utilization.

Futurity & Update (Resilient developing with room to maneuver left):
Futuristic Community's update confers the community ability to cope with and resolve changes emanating from internal conditions and external environments. The construction of the HSOFC faces multi-uncertainties from public policy, the market condition of the elderly industry and so on. Therefore, in practice, planners should explore resilient planning methods, flexibly implement institutions actively to address urgent issues. Most importantly, leeway for the future should strategically be left via taking a total comprehensive account of the market's interests, public, government and agencies.

Futurity & Sociality (Expanding space sharing and raising residents' sense of belonging): The sociality of urban communities should be based on the physical spaces beneficial to residents' interaction. Designation of planning schemes should substitute sharing methods for previously unenlightened ones to strengthen the residents' self-identification and relational interaction.

Futurity & Technicality (Technically matching planning measures with digital

health management): No matter daily digital management, telemedicine services or residential elderly care, physical data extraction and analysis are indispensable. This mission should not be limited to specific matters but should probe the feasibility of the interface between the ecologically physical and digital administration. Furthermore, in the subsequent continuous operation, timely feedback and corresponding adjustment will keep an update.

4. Practical exploration of the Jixin pilot

In general terms, from the perspective of interaction among futurity and eco-responsibility, update, sociality, and technicality, this pilot scheme discusses the feasible methodology from functional integration and digital connectivity.

4.1. Physical Community: Functional integration

4.1.1. Site selection: Inefficient land development & alleviate elderly facilities debt

The pilot locates at Wenzhou's old city center, within the range of inefficient-used land delineated via Wenzhou Natural Resources and Planning Bureau (hereinafter referred to as the "WNRPB"). Presently, it is occupied by Huanglong wholesale market since 1993, with an area of 67.73 hm^2. According to field-based research and interview, the wholesale market is extremely depressed, and the merchants are strongly willing to move. With gradual development of the identical markets, the prerequisite of industrial displacement is ready. Consequently, it is inevitable to evacuate the existing wholesale market to peripheral areas.

In the meantime, according to the data from the WNRPB Dynamic Management Platform, there are a total of 43 cadasters regranted, in which 55.8% are manufacturing and commercial categories. Since all cadasters' affiliation is explicit, they have been gradually integrated into the annual demolition program of the Lucheng District Government. Also, studies have shown that the rising of residents' proportion is conducive to the formation of self-identity among community residents. Apparently, the zeroing of industrial population will lay the foundation for the Jixin Pilot's sociality.

Depending on the 6th National Census' statistics and local investigation analysis, as a medium-sized city, the Guanghua functional areas population density in which the Jixin Pilot location is 20,000-25,000 per/km^2, which has already reached the level of mega-cities and megacities. However, the area per capita of currently public facilities is far below the national standard, especially in elderly ones. According to the Wenzhou Aging Statistics Bulletin in 2018, the percentage of people aged 60 and above in the Guanghua functional area is 28.78% which is 2.68 times of common international standard. On the contrary, the area per capita of elderly facilities is less than half of the national criteria (0.2 per/m^2).

Therefore, taking the Jixin community as a pilot for the HSOFC complies with the trend of Defined Development, and helps alleviate the pressure of elderly facilities debt.

4.1.2. Land functional compounding: Towards horizontal and vertical mixed development

At present, urban construction has stepped into the stage of stocking exploitation from incremental expansion.

Because of the HSOFC's eco-responsibility aforementioned, the practicing of land functional compounding is attained from horizontal and vertical perspectives.

At the horizontal level, available land compounding focuses on the reasonableness of function structure. In recent years, Chinese community projects always follow major modular patterns representing modernism, which is hard to cultivate the Heterogeneous Modular. According to the studies, land should contain primary functions: residential or other functions directly generating employment, and secondary functions that are ancillary ones generating after initially showing primary one's efficacy.

Careful consideration of the theory above, analysis of market demand, the positioning of the pilot itself, and the functional system is classified into four primary functions and five secondary functions. Moreover, the community is divided into four functional zones according to different businesses' land requirements and various service radius demands (Fig. 2).

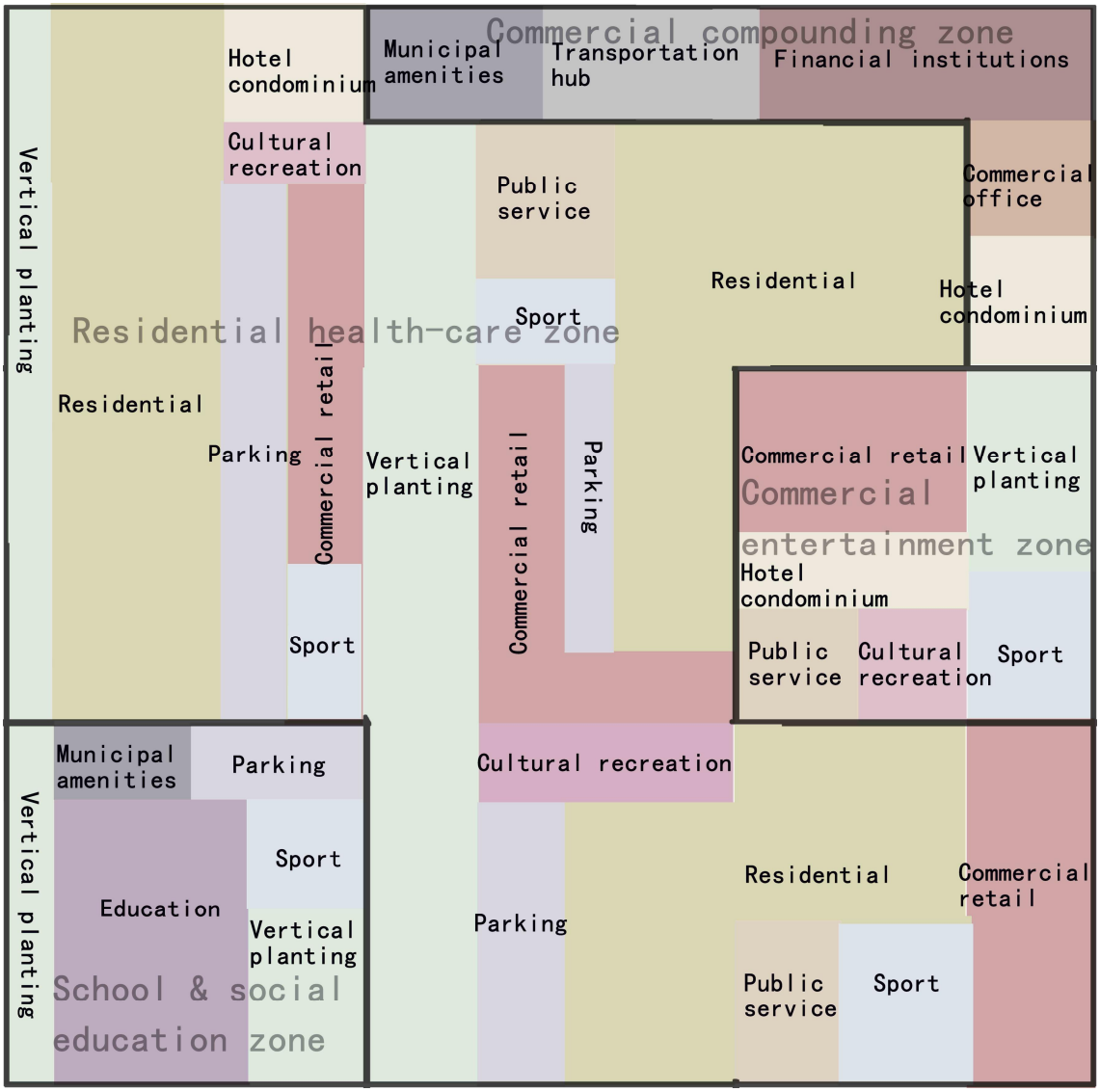

Fig. 2. Mixed functional layout in the horizontal dimension.

Residential health-care zone: This functional region represents the Jixin pilot's dominating feature. Public space has been seen as long-time medicine for health, were located along the Jixin West Road, a featured street space will be formulated by space utilization of lengthened structure-setback space, public green area, and bottom podiums. In the principle of segregating static and dynamic activities within the central street space, the services such as sports fields, community parks, gastronomy, and medical retail will be equipped. Then they will allocate block-level facilities in the relatively peripheral range, including health service center, service station and home-care supporting (Kaur and Chana, 2014).

Commercial compounding zone: This zone locates at the northeast corner with the servicing scope covering Wenzhou's whole central metropolitan. Since its functional composition and target population are out of the base' clutch, the compounding approach of lifestyle behavior aforementioned is unsuitable. The master plan takes advantage of its ample space underground. On the M2 metro station's foundation, its functional integrated public transport hub, maintenance base, and energy services, will form a comprehensive transportation complex. Consequently, the expected outcome will meet the residents' medium with long-distance commuting needs, reduce exhaust emissions brought by regional transferring, and safeguard the ecological stability.

Commercial entertainment zone: Unlike commercial compounding zone, it mainly serves the Jixin pilot's residents themselves. In response, relatively compatible land functions are selected such as green ecology, literary recreation and sporting activities. In addition to the routine allocation like medical retail, hypermarkets, entertainment, performing arena, and community stadium. Other than that, in accordance with the demands of "national health care", socially GP clinics , community health-centers, home-care supporting institutions, O2O health-management center, will be arranged in an impendent plot of the south-western corner.

School & social education zone: Considering the controlling requests of safety and sound safe environment, this zone is not suitable for compounding development with less enclosure and ample pedestrian flow. On the premise of guaranteeing the daily educational needs, fitness facilities will be orderly shared with the community residents (Table 2).

The compounding will be realized in the Vertical dimension by three development patterns of transportation hybrid, public space hybrid and residential health-care through the spatial composition were formed with the multistory building's layers.

Table 2. Land functional compounding of the Jixin pilot in horizontal dimension.

Zone category	Primary function	Secondary functions
Residential health-care zone	Residential	public service, green ecology, recreation, literary recreation and sporting activities
Commercial compounding zone	Commercial	municipal amenities and transportation
Commercial entertainment zone	Commercial	green ecology, public service, literary recreation and sporting activities
School & social education zone	Education	municipal amenities, transportation, literary recreation and sporting activities

Vertical transportation hybrid pattern: The program works around TOD pertinent infrastructure and unification land development, following the traffic flows' organizing principle, logistic and commercial flows will be managed digitally. On the ground, the construction in the LOFT flats and business offices, that will improve the efficiency of land use and laying the data basis for public health travel analysis to access the digital twin-community.

Vertical public space hybrid pattern: Spatial planning should aim to balance those groups' interests, and those neighborhoods especially do not have sufficient public space. In terms of the Jixin pilot, the featured street-space is the "hook" of its overall balance. The project schedules aim to form a 3-D ecological environment, a recognizable community landscape, an impermeable 3-D "urban forest" in Futuristic Community permeability to guide residents' healthy lifestyle orderly. More precisely, this desirable scenario will be realized through the connection and permeation between slow lanes at the ground, opening corridors at the second to fourth floor and sky gardens. Moreover, in terms of operating requirements, different vertical spaces will furnish various activities such as the sharing-fitness outdoor, entrepreneurship workshops and conference rooms.

Vertical residential health-care pattern: Based on the regular disaster preparedness appliances, medical and nursing emergency access should be reserved underground to ensure timely treatment for elderly people. The space on the ground learns in the new public housing experience, that is the Vertical Kampong project in Singapore. On the ground floor, there is an open outdoor yard. On the 3rd-6th floors, a semi-open outdoor sharing space will be presented by a co-building podium roof and multi-store residential backward. As a semi-open community sky garden, where not only provides a sharing place to meet, exercise, but also meets the elders' primary needs for whom daily health maintenance (Barton and Grant, 2013) (Table 3).

4.1.3. Resilient development: For flexibility, compatibility and Sharing space

According to recent research, resilient planning has identified the development trend of uncertainty via control to adapt. As mentioned in the previous evaluation index system, the key indicators focus on implementing facilities for the elderly and disabled person and enriching daily health activities. It follows addressing the uncertainties can be understood as the two relationships, allocation of healthcare facilities & public management, human activities & community atmosphere (Table 4 and Table 5).

At present, the Chinese elderly-care model focuses on the community-based pattern. As the target group of this pattern is the seniors with a particular self-care ability, the facilities are generally installed on a small scale with high flexibility and decentralized layout, which is not suitable for the conventionally rigid planning methods. In this project, the particular measures based on the functional relevance regulations, land compatibility from "the General Rules for the Implementation and Management of Detailed Urban Planning Management in Wenzhou"

issued by the Wenzhou Government, as shown below.

Table 3. Land function-compounding from vertical perspective

	Vertical transportation hybrid pattern	**Vertical public space hybrid pattern**	**Vertical residential health-care pattern**
functions underground	comprehensive transportation complex, intellect parking, disaster preparedness install-ment, rapid energy replenish-ment, digital traffic guidance	retailers, intellect parking, disaster preparedness installment, digital traffic guidance	medical and nursing emergency access, intellect parking, disaster preparedness installment
functions above ground	commercial offices	1st floor: slow lanes + retailer + sports 2nd floor: opening corridors + sky-gardens + recreation 3rd - 6th floor: sharing entrepreneurship workshops + cultural display	1st-3rd floor: outdoor public space 4th+ floor: sharing committee + slow runway + elderly fitness + community plaza + viewing platform+ playground

Table 4. Land compatibility of "community care at home" facilities.

Facilities category	**Services category**	**Recommendations of land compatibility**
Community caring facilities	Elderly person day-care, temporary-care and full-care	Depending on the subject of development, the government leading one is proposed to lay out in the R22 land-type (residential servicing plot), the market leading one is proposed to locate in the B land-type (commercial servicing plot).
Comprehensive servicing facilities	caring at home	the government leading one recommends placing mainly in the B land-type (commercial servicing plot), ancillary in the R22 land-type (residential servicing plot)
Community supporting facilities	caring combining the medical treatment	Near future, R22 land-type (residential servicing plot) is suggested. In long-term, it should be located gradually in the B land-type (commercial servicing plot)
others	auxiliary equipment including daily servicing, recreation, fitness and so on	Based on proximity, living related terms, it suggests placing in the R land-type (resident plot). Entertaining ones is proposed to layout in B land-type (commercial servicing plot). A containing outdoor interactivity should place in the G land-type (green-space and square plot)

Table 5. Resilient planning management of the 3-D street.

Measure	**Object**	**Specific content**
Textual clauses	Resilient guidance of functional organization	1. Underground space is suitable for the development of partial commercial, and the adjacent plots is encouraged to set up connecting access. 2. From the perspective of street scale, additional structures such as human-friendly arcades and picket corridors are encouraged. 3. The formation of urban complexes with centralized functions, fully services are preferred. 4. The part of commercial buildings below 24 meters is encouraged to piece together. The height of skyscraper podiums should not bigger than the width of the red line of adjacent roads. 5. It is recommended that more than 50% of the podiums should construct green roofs.
	Resilient guidance of architectural materials and colors	1. Low-carbon and environmentally friendly materials are the firstly choice; 2. Integrating the concept of ecological sustainability and sponge city is preferred. 3. White, grey, and light blue are suitable for the basic colors, with three-dimensional greening as the decorate color.
	Resilient guidance of street-side elevation	1. Public development space can only be strengthened within 50 meters; 2. Building heights and widths on both sides of the road should be guided orderly, avoiding the layout of large width versions 3. The heights should be staggered and coordinated.
Dotted lines	recommending scope of the featured street-space	

As a new 3-D street complex type, the featured street-space along Jixin West Road will become the highest utilized community public space and the most famous site in Wenzhou central district. The development of the 3-D block formulates a complete industry chain supporting community health care business and brings well-established living services for the community. Most successful cases are market-driven models at the present stage, with the government's resilient controlling of spatial form and structure generally. This program attempts to leaving sufficient leeway for market-oriented adjustment by textual clauses and non-binding managing of dotted lines.

4.2. Digital Community--digital connectivity

According to the EIS, the digital community realization depends on CIM (City Information Modelling) application. Moreover, CIM formulation is the primary task for futuristic architectural scenes, supported by the other eight scenes' cooperation of data extraction and decision feedback-response.

4.2.1. Raw data extraction: Compatibility and feasibility of devices for withdrawal

According to the recent research about Chinese Smart Cities, the data source of the HSOFC consists of government departments, institutions, communities and individuals. However, at the present stage, the most study remains at the technical feasibility of software development and has rarely involved in the implementation of facilities and sites. This project integrates the healthy data categories with relatively mature technologies under the premise of following land compatibility regulations. The expected outcomes are proposing a hierarchical classification of healthy-data sources in terms of physical extraction (Mulhern, 2009). The technology core value builds the online community scene based on the scene theory and user portrait theory. The system will extract primary data via the physical community. After data filtering/sorting, model analysis, prediction and optimization, the instantaneous strategic decision can effectively give direction to practical operation (Bakhthemmat and Izadi, 2021). This article focuses on the original data acquisition practices and strategic decision making (Fig. 3).

4.2.2. Framework of strategic decision making and feedback

The digital healthy community's ultimate aim is to provide scientific guidance with real-time update, management and operation for practical construction. Since presently, in the field of green and intelligent architecture, where has already forged the specific theoretical basis of health optic-physical test values. The program takes the opto-physical data's' mechanism of the 3-D featured street-space and extension area as the initial practice pitch.

This project applies the theoretical research of the interaction between the spatial space and illuminance & color temperature to urban designing. Based on the corresponding optical atmospheres of function types, the design team proposes an illumination design concept of Nature (no glare pollution) + Spatial (light and shadow rendering atmosphere) + Intelligence (light and human interaction). Moreover, targeted planning suggestions are concretized in design plans. During the operational phase, the original data will be classified and screened in CIM with the help of optical transducers installed in the site, which set up a basis in case of daily and potential needs (Table 6 and Table 7).

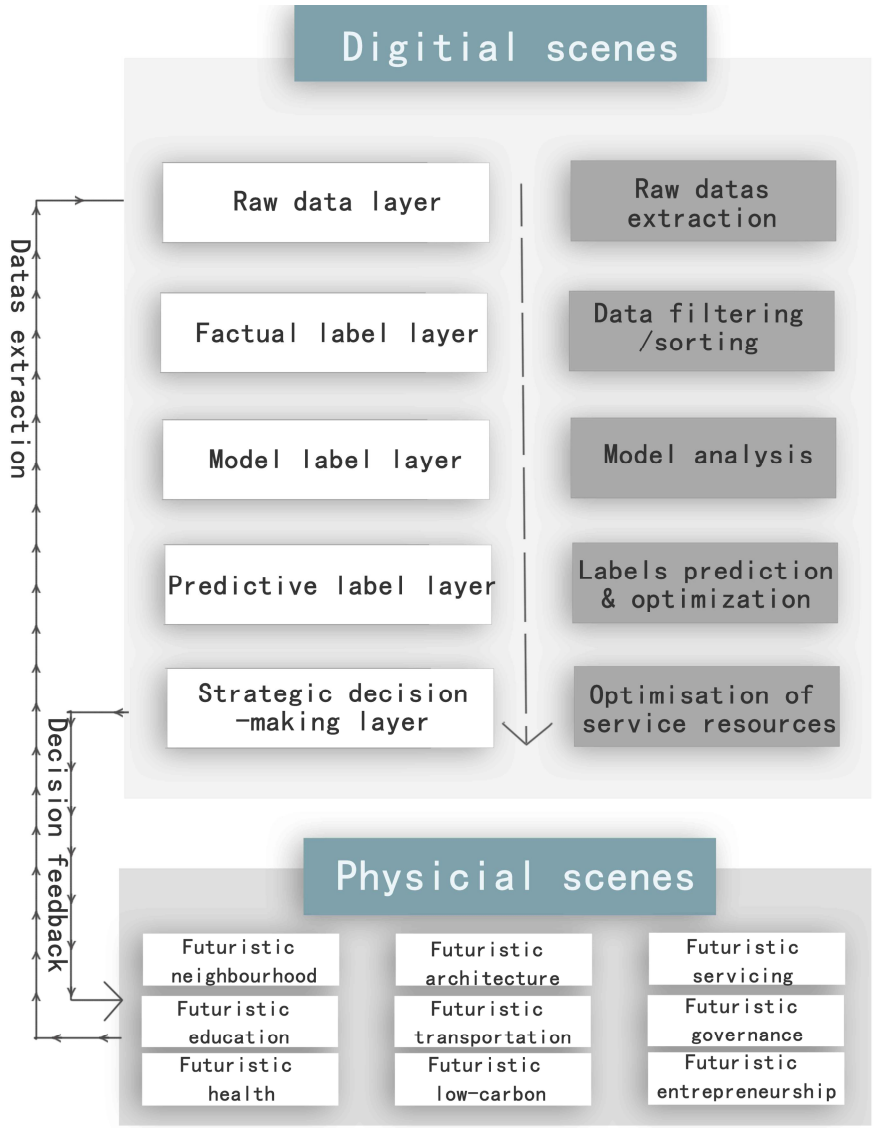

Fig. 3. Flowing diagram of digital Community

5. Conclusions

The fundamental task of the HSOFC is to facilitate scientific and healthy collaboration between land, individual, society, technology and spatial within the basic unit of urban residential management. This article is set forth via discovering and realizing eco-responsibility, update and sociality's futurity. The concept and Evaluation Index system are analyzed in-depth following. In the meantime, based on the construction requirements of Digital Community, the FAQM model starting from planning and organizational axes, raising by technological axe, proposing two significant facets and three quadrant groups, is formulated. Moreover, the program conducts a preliminary practice of functional integration and digital connectivity. To a large extent, the concrete results show initially positive and are subject to further follow-up and evaluation.

The practical and efficient operation of the modern community is unlikely achieved without an integrated urban intelligence management system. In terms of the HSOFC, it is seen as a Digital Twin Community, which also presents its core innovation and competitiveness.

Table 6. Planning guidance of facilities allocation of Raw data extracting.

Data category		Main content	Extraction site category
Base data of Government		Household registration, gender, family composition, age, history of major illnesses, etc.	R22 land-type (residential servicing plot), A5 land-type (tele-medical and hygiene plot)
Base feedback of elderly care institutions		Proportion of institutionalized elderly people, daily monitoring of diseases, care needs, etc.	R22 land-type (residential servicing plot), B land-type (commercial servicing plot)
Base data of the community	Daily health data of residents	Regular health check-ups, the impact of sudden infectious diseases, etc.	R land-type (resident plot)
	Community medical data	Community medical care for common illnesses, medical treatment for abnormalities, rehabilitation of disabilities, etc.	R22 land-type (residential servicing plot), B land-type (commercial servicing plot)
	Daily physical data	Room temperature, humidity, and pollutant monitoring, etc.	R land-type (resident plot)
	Physically public activities data	Physical dynamic data including spatial light, wind, and sound, the number of activities, composition of the active groups	G land-type (green-space and square plot), A4 land-type (sports ground, A3 (education and research plot, public area of the 3-D featured street-space
Individual data		1. Daily personal health data such as heartbeat, obesity level, nutritional intake, lifestyle, exercise, breathing, etc.; 2. It will be realized through the application of health monitoring mobile devices, such as mobile monitoring APP, health intelligent watch which were well connected to the CIM.	

Table 7. Optical guidelines of the 3-D featured street-space and extension area

	Optical atmosphere	Tones control	Illumination control
Central square and expansion area	Dynamic Vibrancy	Change color RGB mode	Central square: Level2 illumination
			Expansion and commercial area: Level3 illumination
Inner community	Warmth livable	2700-3000K(kelvin) warm yellowish light	Backbone road: Level4 illumination
			Interior building elevations: Level5 illumination
Street facade	Bright and eye-catching	4000-5500K cool-white	Level1 illumination

However, the construction of physical scenes can extend their applicability to a certain extent via planning methods such as resilient plan. After all, they are issued the predictions view of health needs based on the current situation. Consequently, the limitations have become increasingly evident in contemporary planning practices.

The Digital Twin Community, which forms an image mirror with the Physical Community, extracts primary data of environment, individuals and behaviors from real-time scenes. Afterward, cloud-based screening and analysis provide a basis for judgment on health research, management with medical resource deployment, and timely feedback guidance.

The true realization of effective health-related data collection, decision feedback framework, and compatible operation of decision implementation is the technical crux. This article conducts a preliminary exploration based on the prevailing condition. At the same time, its fundamental realization needs the unremitting efforts of urban planners and scholars.

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