

The New Qualitative Ecology of Cultural Studies and the Diverse Pathways of Inquiry within Museum SEZs

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Abstract

The intricate interplay between human economic and social constructs and the cultural milieu engenders a multifaceted and dynamic ecosystem. Within the perpetual evolution of nascent economic urban centres, cultural ecology underscores the imperative of harmonizing and mutually reinforcing economic frameworks with cultural landscapes. This investigation advances a novel conceptual framework delineating the economic-cultural interplay within contemporary Chinese burgeoning urban landscapes, particularly emphasizing the sustainability of cultural ecology. Pioneering in its approach, this research offers a groundbreaking analysis unprecedentedly through the prism of museums. The findings elucidate that museums exhibit remarkable adaptability to emerging urban economic paradigms, thereby catalyzing the enhancement of cultural ecosystems and emerging as verdant bastions fostering the endurance of urban cultural landscapes.

Keywords

Cultural Ecology, Museums, Urban Economy, Sustainability, Green Practices.

1. Introduction

Amidst China's high-speed economy surge in the 21st century, its developmental paradigm has revealed flaws in the evolution of urban culture [1].

In addressing the current quandary, the study advances a pivotal concept rooted in cultural ecology and urban green practices—the museum city. Conceptualizing the city as a museum, the study endeavours to perceive urban spaces as locales imbued with museum-like attributes capable of being explored and interpreted through the lens of a museum. The city transcends its role as a mere economic functional hub, evolving into a malleable cultural system with inherent "museum properties." [2] By juxtaposing the museum and the city, the study underscores the alignment between the museum's proactive efforts to enhance the city's cultural ecology and the intrinsic museum-like qualities of urban spaces [3]. This conceptualization engenders understanding the cultural system as a "museum city," thereby forging a novel research perspective to harmonize urban centres' economic and cultural development.

This study delves into the intricate interplay between economic and cultural dynamics in Dongguan, China, offering a comprehensive examination of the city's economic development model and cultural evolution. Through analysing Dongguan's cultural ecology theory, the study aims to shed light on its rationale and limitations. The study fosters a platform for discourse on the city's economic trajectory and cultural transformation by leveraging the museum's catalytic role in shaping Dongguan's cultural landscape. This initiative is poised to empower museums to embrace greater social responsibilities. Noteworthy attention is directed towards four guiding principles—conservation, reuse, sustainability, and community engagement—as imperative for museums in enhancing the cultural environment. The study accentuates the pivotal role of residents as active cultural participants and underscores the significance of

cultivating a vibrant cultural milieu. By anchoring the construction of urban residents' public cultural identity, museums pave the way for community involvement in shaping the city's cultural fabric, facilitating a symbiotic relationship between economic and cultural development. As a distinctive component of China's economic and cultural ecosystem, museums have the potential to invigorate and innovate Dongguan's cultural landscape, aligning it with evolving economic models and fostering a virtuous cycle of sustainable cultural evolution.

2. Materials and methods

The research presented in this paper integrates museology and urban culture theory. Relevant literature is reviewed and summarised initially, summarising and extracting key theoretical concepts essential for concept generation. This process contributes to the formulation of a coherent and comprehensive research outcome. Subsequently, field research is conducted in Dongguan City, analysing and synthesizing data to gain insights into the historical trajectory and current status of the city's economic and cultural development. Meticulously analysing these data achieves a nuanced understanding of the city's socio-cultural landscape. Finally, drawing upon the interpretation and analysis of typical urban case studies, the paper deduces principles and strategies for the construction of cultural ecology by museums. This endeavour contributes to advancing theoretical discourse and guiding practical applications in this field.

3. Theoretical Underpinnings of Urban Cultural Ecology and Economic Dynamics

The concept of economy encompasses the production and reproduction of social material resources, constituting a complex network of social relations and economic systems crafted by human beings. It serves as the foundation upon which the superstructure is constructed, encompassing realms such as philosophy, art, and religion, thereby facilitating the development of culture[4]. Cultural ecology, in turn, embodies the social and cultural environment shaped by human endeavours throughout social and historical evolution, comprising material, institutional, and psychological dimensions. Despite their relative independence, this amalgamation of dimensions underscores the close interconnection between cultural ecology and the economy. Their developmental relationship is characterized by mutual penetration, promotion, and coordination, evolving in tandem with the changing times and serving as mutual prerequisites. Coordinated development entails striking a balance between economic and cultural integration, avoiding overemphasizing one at the expense of the other.

The economic model encapsulates the operational essence of urban economic entities, characterized by generality, holism, and linkage. It offers a generalized depiction of the essential nature of the economy, portraying it as a cohesive whole rather than a collection of disparate elements. Additionally, the model underscores the organic interconnectedness of its components, emphasizing the seamless integration of content rather than isolation[5].

3.1. Analysis of China's Urban Cultural Ecosystem and Economic Development Model: A Comprehensive Examination

China's urban economy has experienced significant growth in recent years but faces several challenges. Firstly, there needs to be coordination in China's understanding of the economic and cultural ecology relationship. Since the onset of China's reform and opening up in 1978, the emphasis has been on "economic construction as the centre," resulting in a relative neglect of cultural development and infrastructure. Consequently, many Chinese cities must focus more on enhancing and perpetuating their cultural and ecological environments. There exists a failure to fully comprehend the significance and necessity of culture in urban development, with

reforms in the cultural system lagging behind those in the economic realm[6]. Secondly, the correlation between China's market economy and local cultural construction is disjointed. Ideally, these two aspects should be synchronized, with local culture serving as a cornerstone for the quality of the urban market economy[7]. However, as China's urban economic landscape undergoes continual refinement, numerous industries overlook the cultural nuances of individual urban areas. This oversight impedes the continuity and innovation of urban cultural ecology, dampening residents' enthusiasm for embracing their cultural identity. Ultimately, this discordance leads to detrimental repercussions within the urban economic model.

Undoubtedly, the status quo of thousands of cities collectively mirrors the current urban challenges in China[8]. While the issues faced by these cities primarily revolve around urban image and environmental planning, they are underscored by a complex interplay of factors such as memory and inheritance, destruction and preservation, culture and economy. In terms of urban data, China's urbanization rate has surged from 10.64% in 1949 to 66.2% in 2024¹. While this rapid urbanization reflects the pace of China's dynamic economy, it is imperative to acknowledge the deficiencies and ambiguities concealed beneath this rapid and ostentatious progress. By the end of 2023, the number of cities in China will have swelled to 728². However, the once distinctive characteristics and territoriality among cities have been eroded amidst the rapid construction wave, resulting in a homogenized urban landscape where many cities resemble one another. Urban memory and differences have been engulfed by this relentless wave of indiscriminate construction. Simultaneously, rapid urbanization has engendered the emergence of fragmented and disjointed urban images. Although historical and landmark structures have been preserved, the overall urban environment and texture have become detached from their surroundings[9]. Consequently, the cityscape exhibits a disconnection and imbalance concerning urban identity, memory, and culture.

In his book "The History of Urban Development," Louis Mumford conceptualizes the city as both a repository and conveyor of culture. On one hand, it serves as a protective vessel for storing cultural heritage; on the other, it facilitates the continuous transmission of culture. Cities embody the civilizational milestones of human history through the cultural narratives embedded in urban landscapes, buildings, and monuments and their portrayal in art, literature, and cinema [10]. However, in contemporary urban development, cities have disproportionately prioritized the economic transformation of physical spaces, often at the expense of nurturing their cultural essence. While modern architectural feats exude a sense of contemporaneity, many historical landmarks and cultural landscapes in cities remain "voiceless." Despite their physical presence, they need more systematic and practical interpretation and display of their historical narratives and values. Additionally, the cultural nodes and narratives within cities remain static, failing to encapsulate the spirit of the urban environment.

The intersection of the city's economic agenda and the challenge of preserving cultural ecology transcends aesthetic concerns; it represents a systemic issue ingrained in urban development, cultural dissemination, and collective consciousness. The vitality and evolution of cultural ecology are significantly influenced by the prevailing economic model of the city, with some urban centres experiencing cultural stagnation or decline as economic development outpaces cultural enrichment. Unlike rapid economic development, cultural ecology requires a gradual and stable nurturing process. Consequently, the lag in cultural development vis-à-vis economic reform disrupts the harmonious coordination of cultural ecology, resulting in the erosion of

1 The National Bureau of Statistics of the People's Republic of China, Government information disclosure, China's urbanization rate data. (https://www.stats.gov.cn/xgk/jd/sjkd2020/202401/t20240118_1946711.html). [accessed Mar 1, 2024]

2 The National Bureau of Statistics of the People's Republic of China, Government information disclosure, Statistics on the number of cities in China. (http://www.ce.cn/xwzx/gnsz/gdxw/202401/18/t20240118_38870849.shtml). [accessed Mar 1, 2024]

local cultural identities, the loss of community cultural heritage, and the deterioration of the overall cultural environment.

3.2. Mapping the Nexus of China's Urban Economic Paradigm and the Conundrum of Cultural-Ecological Evolution(Fig 1,2[a,b])

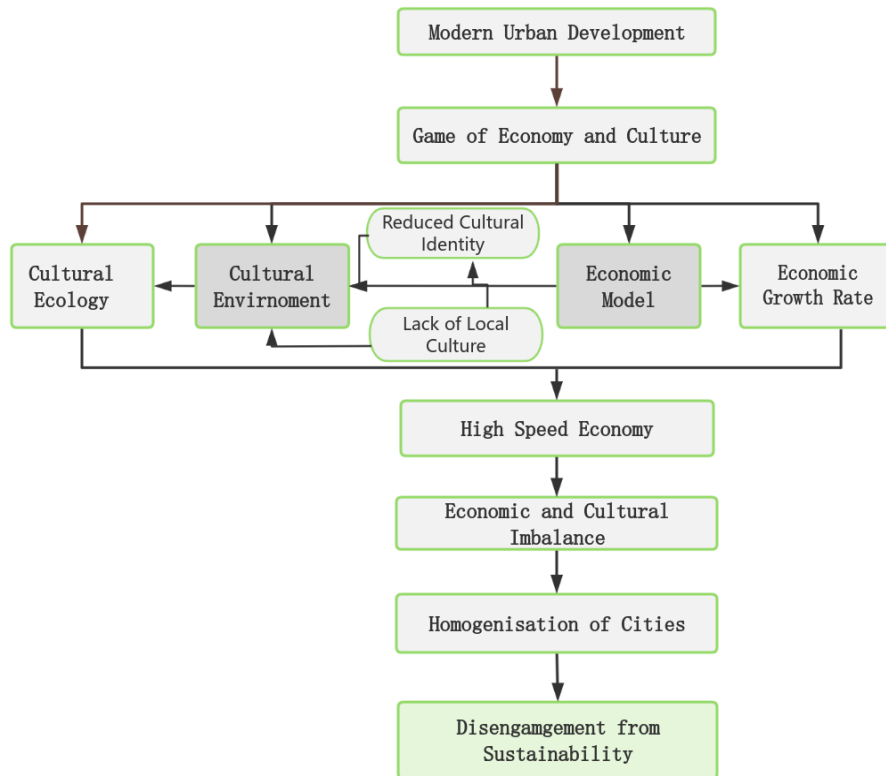


Fig 1:The Symbiotic Interplay of Contemporary Chinese Urban Economy and Cultural Ecology



(a)

(b)

Dongguan City Scenery

Shantou City Scenery

Fig 2 Echoes of Contemporary Urban Development in China,"A Thousand Cities on One Side"

Source: Author's on-site investigation and filming in 2023

4. Museum Perspectives: The Theoretical Foundations of Urban Cultural Ecology and Economic Dynamics

In his book "The History of Urban Development - Origins, Evolution and Prospects", specifically in Chapter 10, subsection nine entitled "The Functional Role of Culture in the World's Cities", Lewis Mumford puts forth a compelling notion: "If the creation and promotion of museums is largely due to the big cities, it also means that one of the main roles of the big city is that it is also a museum itself: the city of cultural ecology[11]." This perspective suggests that cities inherently possess attributes and functions akin to museums. Mumford underscores the city's capacity to preserve humanity's historical and cultural heritage and its role in educating and transmitting culture, owing to the congregation of people in urban spaces. This viewpoint offers a holistic understanding of the city, emphasizing its cultural significance over mere architectural form. Mumford posits that the fundamental function of the city is to serve as an environment for the "transmission of culture and the education of the people".

In his earlier work, "Urban Culture", Mumford delves further into the city's essence from a cultural standpoint, defining it as the culmination of urban culture within history and civilization. Mumford views the city as a comprehensive ecological entity shaped by human society, the urban environment, and historical and cultural heritage. He describes the city as "a way of life that artfully synthesizes human and social needs into a cultural pattern of multiple coexistence and diversity". At its core, the city embodies cultural ecology, where culture and urban structure intertwine to form a historically evolved "container" and "magnet" for human civilization[12].

4.1. Exploring the Nexus between Urban Cultural Ecology and Museums: A Comprehensive Analysis

Cultural ecology encompasses the fabric and ambience of cultural heritage, the contextual environment of locales, and the social life intricately intertwined with the landscape within the economic framework of urban development[13]. Museums, heritage sites, and historical edifices are pivotal manifestations of cultural-ecological affiliation[14]. Historic quarters and cultural enclaves constitute historical panoramas comprised of genuine cultural vestiges, which encapsulate the public's identification with and sense of belonging to the cultural attributes of the region. Museums constitute a foundational and vital component of cultural ecology, as delineated in the entry on "Functions of Museums" in the Encyclopaedia Britannica, 15th edition: a museum is a permanent nonprofit institution that serves the city by engaging in research, collecting, conserving, interpreting, and exhibiting tangible and intangible heritage. It operates with openness and inclusivity, catering to citizens' accessibility and promoting urban diversity and sustainability. Museums operate and communicate ethically and professionally, offering diverse educational, appreciative, reflective, and knowledge-sharing experiences with the participation of all segments of society. Emphasizing a resident-centric approach, museums not only advocate for "enhancing diversity and sustainability" within the community but also prioritize the city proper and its inhabitants in their operational ethos[15]. Over the past forty-five years, the imperative for synergy between China's cultural ecology and its urban economy has been underscored through varied perspectives on the future role of museums.

Cultural ecology is a fluid and evolving environmental concept subject to ongoing definition. The dynamic nature of the cultural environment introduces uncertainty into urban boundaries. It underscores the fluid development of cultural settings, pivoting around core definitions and the societal and environmental roles of cultural flux within the urban economic framework. Its development trajectory is inherently broad and subject to variability over time. The evolution of cultural ecology should align with the authentic progression of the city's economic

advancement and facilitate the restoration of local cultural memory within the city's available social and cultural resources. This necessitates a thorough, diverse, and genuine portrayal. Through the lens of cultural ecology, museums epitomize the excavation of local cultural heritage within a city. They encapsulate the cultural flux of a city, the public's collective memory and emotional ties to a region, and the prevailing ideology driving local cultural evolution. In essence, museums serve as an abstraction of local cultural heritage. Culture becomes interwoven with the environment and harmonized with the city's economy, fostering emotional and psychological connections between the public and the economic model of a specific region.

4.2. Synergies Unveiled: The Conceptual Isomorphism of Museums and Urban Cultural Ecology

The concept of "isomorphism" between museums and urban cultural ecology is a potent framework for understanding the symbiotic relationship between these entities[16]. As non-profit institutions, museums are dedicated to preserving, exploring, and disseminating the city's cultural heritage. They serve as repositories of civilization, conducting research, conservation, educational programs, and public outreach initiatives. Embedded within urban life's spatial fabric, museums embody cultural and exhibition attributes, presenting cultural heritage in dynamic and immersive ways. Conversely, the city indirectly manifests the cultural environment, naturally encompassing functions akin to museums. Through its historical sites, architectural landmarks, and community traditions, the city serves as a living museum, facilitating its inhabitants' research, conservation, education, and cultural dissemination. In essence, the city possesses an inherent "museum" attribute[17], intertwining with the functions and objectives of traditional museums. While museums and urban cultural ecology may appear distinct concepts, they share a profound interconnectedness and commonality. Both entities converge in their mission to safeguard cultural heritage, educate the public, and foster a deeper appreciation for urban civilization. This interplay underscores the intrinsic relationship between cultural institutions and the broader urban landscape, highlighting the collective endeavour to preserve and celebrate the rich tapestry of human culture.

The cultural ecology of a city stands at the nucleus of its cultural identity and vibrancy[18]. Serving as custodians of culture, museums function as pivotal vessels and educators within this ecological framework. The foundational attributes of museums—research, conservation, education, and dissemination—take on a novel dimension when viewed through the lens of urban dynamics. At the urban scale, these attributes manifest as a spatial entity intricately intertwined with the city's developmental landscape, wherein research, conservation, education, and dissemination are conducted to enrich the urban cultural ecology. This urban museum paradigm leverages the cityscape as its canvas, utilizing urban space as the tangible manifestation of its mission. By seamlessly integrating into and influencing the urban cultural ecosystem, this museum model fosters education and dissemination objectives through the immersive presentation of urban space. Consequently, the symbiotic relationship between the city and the amalgamation of economy and culture, as showcased by the cultural ecology, emerges as a defining characteristic of the museum's role in cultural integration.

5. Green Practices in Contemporary Urban Economy and Cultural Ecology Theory

Cultural ecology is the fundamental blueprint guiding urban development, intricately intertwined with economic dynamics[19]. Serving as the most palpable manifestation of urban cultural inclusivity, urban cultural ecology encapsulates the essence of human economic endeavours while intricately weaving through the fabric of urban civilization, with its alignment to the urban economic model exerting paramount influence.

5.1. Case Study of Dongguan, China: Urban Economic Transformation and Cultural Dynamics

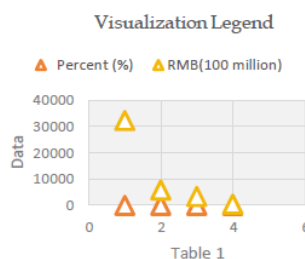
The genesis of urban cultural ecology is rooted in a protracted historical narrative of construction and self-evolution, gradually shaping a cultural ambience over time[20]. The city's distinctive cultural expression lies at its core, unfolding across various strata. Firstly, the natural topography and urban layout serve as the cornerstone of the city's identity, offering the most macroscopic insight into its essence and laying the groundwork for its evolution. Secondly, the city's historical and cultural tableau, encompassing architectural legacies, cultural artefacts, and human narratives, provides a visual narrative of its cultural tapestry through its streetscapes, landmarks, and edifices. Thirdly, the city's cultural heritage and lifestyle epitomize its ethos, featuring artistic endeavours such as poetry, theatre, and painting alongside indigenous customs, regional specialities, and intangible cultural heritage, which collectively breathe life into its urban fabric. As a visual conduit for these multifaceted expressions, museums play a pivotal role in enhancing urban cultural ecology and enriching the tapestry of the urban cultural milieu through practical interventions. Through their practices, museums enrich urban cultural environments, offering tangible representations of the city's historical narrative, artistic endeavours, and indigenous lifestyles, thereby fostering a deeper connection between urban dwellers and their cultural heritage.

It has been discerned that the cultural revenue generated within a region bears a significant correlation with and serves as a reflective gauge of the cultural ecological index of said region. Notably, regions exhibiting higher cultural income tend to boast correspondingly elevated cultural ecological indices. This underscores the intrinsic synergy between the development of cultural industries and the cultivation of cultural ecology. At the crux of this relationship lies the symbiotic interplay between cultural industry expansion and the fortification of cultural ecology. Cultural industries, characterized by their emphasis on creativity, epitomize a production paradigm distinguished by low consumption, minimal pollution, and resource recyclability(Table 1[c,d] and fig 3). In stark contrast to the circulation dynamics of conventional material goods, which entail extensive transportation and high energy consumption, cultural products traverse a realm marked by modest circulation, network connectivity, and facile dissemination. Furthermore, the consumption of cultural products is predicated upon spiritual and green consumption patterns, accentuating their environmentally benign footprint[21]. Hence, the developmental trajectory of the cultural industry serves as a barometer reflecting the extent of cultural ecological construction within a given milieu. By delineating the contours of cultural industry advancement, one can glean insights into the depth and efficacy of cultural ecological endeavors, thereby elucidating the nuanced interrelationship between economic pursuits and environmental stewardship in the cultural domain.

Table1: Statistics and Distribution of Cultural Revenue Generation by Sub-region, Dongguan, China, 2022

Region	Percent (%)	RMB (million)
East	76.8	32443
Central Section	13.8	5828
West	8.31	3590
Northeast	1.06	457

(c)



(d)

Source: Report on the Development of Museum Industry in Guangdong Province in 2022.Guangdong Provincial Department of Culture and Tourism.2023.



Fig 3:Cartographic Representation of Museum Typology Distribution in Dongguan, China (2022)

Source: Report on the Development of Museum Industry in Guangdong Province in 2022.Guangdong Provincial Department of Culture and Tourism.2023.

Discussion: In Dongguan, China, a comprehensive inventory reveals 95 museums, comprising 53 traditional museums and 42 cultural centres. Remarkably, a discernible pattern emerges from the geographic dispersion, illustrating an ascending trajectory towards the eastern precincts and a declining tendency towards the western sectors, delineated by the central axis. Consequently, aligning with theoretical underpinnings from existing literature, regions hosting a greater density of museums are correlated with augmented cultural revenue generation and enhanced ecological milieu within the respective locales.

5.2. Insights from the Museum: Tailored Strategies for Dongguan's Urban Economy and Cultural Ecology

At the heart of China's burgeoning Pearl River Delta, Dongguan enjoys proximity to Hong Kong and Macau, positioning it advantageously on the economic map. With a strategic geographical placement and robust economic fundamentals, Dongguan is a pivotal juncture along the Maritime Silk Road[22]. The city is a testament to China's remarkable economic prowess, epitomizing the nation's meteoric rise. Evolving virtually overnight from a modest county town into an industrial behemoth, Dongguan embodies a microcosm of contemporary China, wherein the rapid waves of industrialization and urbanization have intersected with a myriad of societal complexities. While observers attempt to dissect and interpret Dongguan through various lenses and narratives, the city's spiritual odyssey often remains overshadowed amidst the clamour. Within this bustling urban tapestry, the nuances of daily existence, personal narratives, and historical enigmas frequently fade into obscurity, awaiting rediscovery amidst the cacophony of progress[23].

As the vanguard of Dongguan's urban cultural ecosystem, museums serve as pivotal conduits for actively fostering cultural prowess and exporting it to wider audiences. This proactive cultural cultivation serves as the bedrock and assurance of their profound impact on Dongguan's cultural milieu, offering a potent avenue for effectively integrating and disseminating local cultural reservoirs[24]. Operating under the auspices of their inherent public nature and autonomy, museums foster a semblance of homogeneity underpinned by the prevailing economic paradigm. Conversely, the rapid urbanization spurred by burgeoning economic growth invariably threatens the delicate equilibrium of the cultural ecology, engendering a perilous erosion of its living fabric. Viewed through this lens, museums emerge as catalysts for ameliorating Dongguan's economic landscape, leveraging an amalgam of inter-

constructive and diverse cultural techniques and initiatives. In doing so, they furnish a fertile ground for the regeneration and evolution of indigenous culture, analogous to the nourishing soil vital for the growth of local ethos[25]. Simultaneously, museums serve as quintessential cultural landmarks, paramount in sculpting the region's identity, accentuating its cultural nuances, and embellishing the urban landscape with a rich tapestry of cultural imagery[26].

Thirdly, positioned as a distinctive communication conduit, the museum transcends temporal and spatial boundaries, epitomizing a nexus where past and present intersect. This communicative paradigm hinges upon the symbiotic relationship between museum artefacts and human observers[27]. The museum serves as a microcosm of collective memory and consciousness within Dongguan's cultural ecosystem, embodying a cohesive framework of individual and communal perceptions. Through the meticulous curation, research, exhibition, and dissemination of local cultural artefacts, the museum engenders a communal ethos that coalesces disparate cultural strands into a cohesive tapestry, gradually forging its distinctive cultural milieu[28]. The museum seamlessly bridges individual cultural awareness with shared cultural consciousness by orchestrating thematic exhibitions, fostering a collective cultural ethos that galvanizes public sentiment and garners societal or governmental endorsement[29]. This collective cultural consciousness serves as a bedrock for societal cohesion, engendering a sense of communal identity rooted in reverence for historical traditions and a profound connection to the local landscape. In this manner, museums engender a palpable sense of place, rekindling public remembrance of a locale's cultural trajectory and nurturing a deep-seated affinity for its heritage. Functioning not merely as cultural venues ingrained in the fabric of daily life but as veritable custodians of cultural continuity, museums emerge as vital conduits for preserving and perpetuating local cultural legacies. Their multifaceted role as guardians of tradition and catalysts for cultural evolution renders them indispensable reservoirs of regional heritage, fostering an enriched local cultural ecology.

The present study entailed a comprehensive population-based survey, targeting residents across four key sub-districts within Dongguan, China: (Guancheng, Nancheng, Wanjiang, and Dongcheng). Structured interviews were meticulously administered to delve into the pervasive issue of the discord between Dongguan's indigenous culture and its economic trajectory. The interview pool comprised a substantial sample size, with a total population of N=400 individuals earmarked for participation. Notably, the actual number of participants tallied 381, underscoring the study's robust engagement with the local populace. (Table 2 and fig 4)

Table 2: Quantitative Analysis Derived from Structured Interviews Conducted in Dongguan, China

Interviews: 6 February 2024 - 27 March 2024

A Synopsis through Class Attribute Statistics	Quorum (N=381)	Percentage (%)
View point1: Construction of Functional Museums: Enhancing the quantity and scale of Dongguan's regional zoned museums is imperative to encompassing a comprehensive array of regional, and even community, cultural and functional resources.	135	35.41
View point 2: Promoting the Development of Cultural Industries: Facilitating the growth of cultural and creative industries in Dongguan involves providing support to cultural enterprises	81	21.26

and practitioners, fostering cultural clusters through policy and financial backing, and catalyzing innovation and advancement within the cultural sector.		
View point 3:Enrichment of Cultural Activities and Festivals: Initiating vibrant cultural activities and festivals, encompassing cultural and art exhibitions, performances, and traditional festival commemorations, serves to elevate the cultural ambiance and solidarity of the city.	52	13.65
View point 4: Promoting Cultural Tourism: Fostering cultural tourism initiatives aims to showcase the city's cultural distinctiveness and tourism assets. By cultivating cultural tourism brands and crafting tourism routes, endeavors to draw a larger influx of tourists to partake in the city's cultural allure.	53	13.91
View point 5:Strengthening Cultural Education and Popularisation: Intensifying endeavors to educate and popularize culture is vital in augmenting the cultural literacy and identity of the populace. Commencing from primary school education, emphasis will be placed on bolstering knowledge of both traditional and contemporary culture, with the aim of cultivating cultural confidence and self-awareness among the younger generation.	31	8.14
View point 6: Promoting the Construction of Digital Culture: Enhancing the construction of digital culture entails fostering the integration and advancement of the cultural industry with scientific and technological innovation. Leveraging the Internet and novel technological avenues to cultivate cultural and creative products and services is paramount, thereby broadening the horizons of the cultural industry's development.	22	5.77
View point 7: Promoting Cultural Exchanges and co-operation: Bolstering cultural exchanges and collaboration with other cities and nations involves spearheading cooperative endeavors within the cultural industry and facilitating cultural exchange activities. Such initiatives serve as catalysts for advancing the internationalization of the city's cultural landscape.	7	1.84

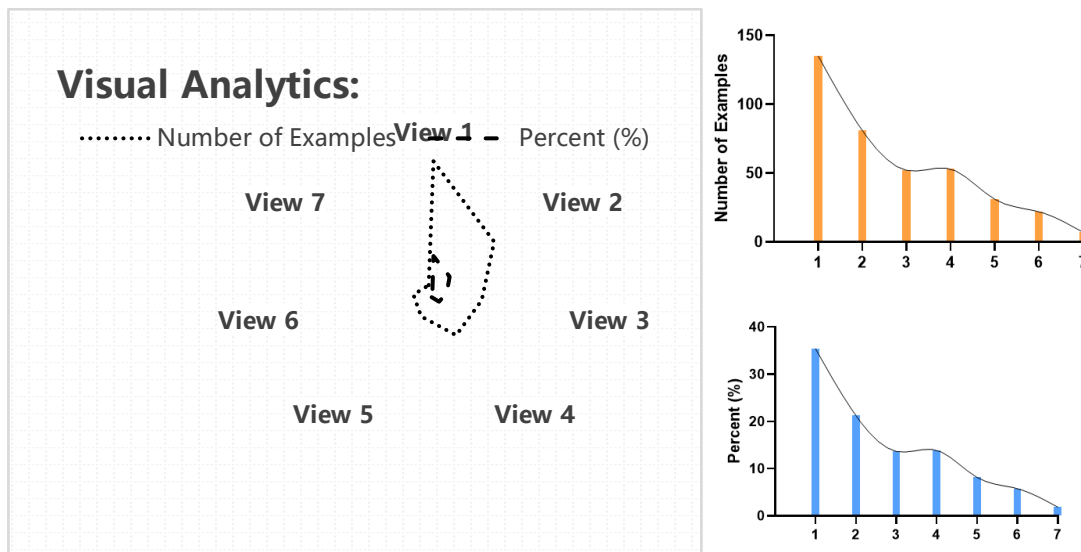


Fig 4: Visualising Data Insights Derived from Visitation Patterns

Discussion: In recent museum definitions, the overarching societal objective is to foster diversity and sustainable development. In contrast, at the museum level, the focus shifts towards enriching education, research, and appreciation, morphing these into educational avenues, appreciation, reflection, and knowledge sharing. Both levels underscore service to people, with the societal level abstracting the populace and emphasizing the breadth and depth of participation groups, while the museum level zeroes in on individual participation and experiential facets[30]. Field interviews conducted by the authors with residents across various locales in Dongguan unveiled the inseparable bond between local inhabitants and museums. Grassroots museums' displays and exhibitions serve as prime conduits for echoing the voices of local residents. Museums form the bedrock of regional cultural engagements and resident involvement, spanning the cultural and ecological continuum from communities to urban spheres. They are pivotal in enhancing the cultural milieu and fostering resident engagement in cultural development. Establishing museums close to residents' daily lives invigorates public enthusiasm for cultural participation, thereby forging adequate cultural chain circulation across different city sectors. In Dongguan, following the city's rapid economic trajectory, residents have notably heightened their reliance on museums, with the museums' accessibility across diverse city segments aiding in rekindling residents' recollections of local history and cultural heritage[31]. This, in turn, propels the effective progression of the city's cultural ecological construction cycle(Fig5 [e,f]).

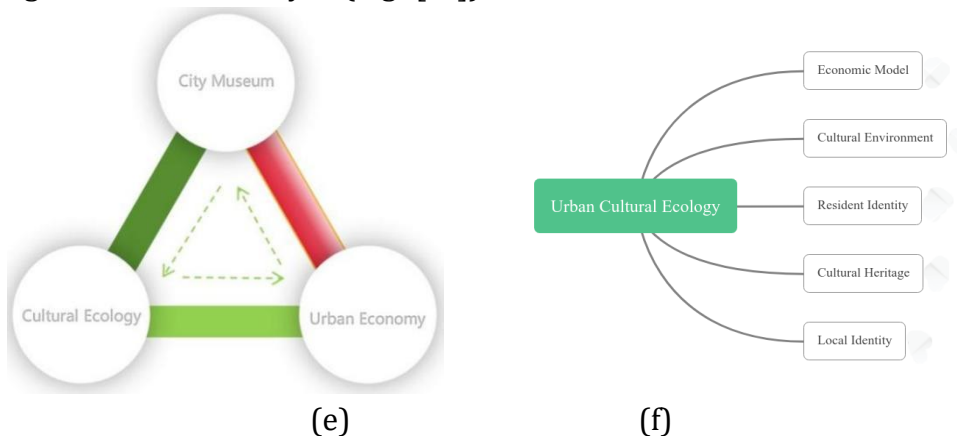


Fig 5:Diagram Illustrating the Sustainable Cycle of Green Practices in Urban Cultural Ecology, Economy, and Museums

Fourthly, within the urban landscape of Dongguan, a constellation of museums and cultural institutions characterized by varying levels, dimensions, and functionalities has emerged, their establishment and operation dictated by geographical nuances. These entities have fostered a symbiotic interplay, with Dongguan as the nucleus, orchestrating mutual constraints and interdependence, with museums occupying a pivotal role[32]. However, a predominant issue plaguing most museums in Dongguan is the need for comprehensive preservation and exhibition apparatus for cultural heritage. These institutions often exhibit a singular function, boasting an irrational internal framework and a dearth of rational resource distribution mechanisms, leading to functional isomorphism with limited complementarity[33]. Consequently, a coherent and intricately woven network of museums is yet to materialize, characterized by an orderly and densely interconnected structure. In light of Dongguan's cultural landscape and functional imperatives, a concerted effort is needed to fortify the cultural operational framework within Dongguan's museums. This entails erecting a regional museum cultural chain system distinguished by the spatial organization, hierarchical clarity, and distinctive patterns, thereby fostering enhanced linkages among Dongguan's museums and allied cultural institutions[34]. This endeavour seeks to harness the potential scale effect of cultural heritage and stimulate the logical flow of Dongguan's cultural resource elements, culminating in realizing a cultural heritage clustering effect. Furthermore, concerted efforts are required to foster collaboration and synergistic development in cultural heritage exhibition activities between Dongguan's museums and other cultural entities. By fostering collaborative platforms and harmonizing exhibition initiatives, Dongguan's local cultural heritage can be synergistically showcased, facilitating the effective integration of Dongguan's cultural ecology and the sustainable perpetuation of its cultural environment.(Fig 6[g,h]).



(g)

Dongguan City Museum

(h)

Dongguan City Cultural Center

Fig 6: Taxonomy of Dongguan Museums within the Context of Diminished Cultural Ecology
Source: Author's on-site investigation and filming in 2023

6. Conclusion

Within the realm of research concerning the intricate relationship between urban economy and culture, a notable gap exists, particularly in terms of exploration from the perspective of urban museums. Urban cultural ecology, economy, and museums are not distinct and isolated domains; they form integral components of a cohesive whole. The concept of cultural ecology within urban economies is a dynamic construct that requires ongoing elaboration and refinement. Currently, many scholarly endeavours predominantly emphasize the pivotal role of museums in disseminating urban cultural heritage, conducting research, and implementing conservation techniques. However, these efforts often remain confined to traditional conceptual frameworks of museums and cities, overlooking the potential for museums to serve as conduits for fostering interconnectedness between urban economy and cultural ecology. As

perpetually evolving constructs, economy and culture constitute fundamental aspects of inquiry in urban development and transformation. The task at hand involves reassessing sustainable practices within contemporary urban development and formulating a theory that facilitates coordination between a city's cultural ecology and economic development. This endeavour necessitates novel research perspectives and innovative strategies for constructive exploration.

This study examines the attributes defining the relationship between urban cultural ecology and economic development through the lens of museological theory. It incorporates an analysis of the intricate interplay between supply, demand, and societal engagement within urban economic development and cultural milieu. This symbiotic supply-demand dynamic manifests as a dual interaction between the "urbanity" of museums and the provision of public cultural services. On one hand, it entails the process whereby the "urbanity" inherent in museums shapes the provision of public cultural services. This dynamic challenges the longstanding authority, authenticity, legitimacy, and ownership traditionally associated with museums. Through museums' multifaceted roles in the urban economy, it endeavours to address issues about urban cultural ecology, economic development coordination, and equitable resource allocation between the populace and cultural institutions. The ultimate objective is to reconstruct a contemporary public cultural service system that is universally accessible, diverse, and oriented towards societal welfare. Conversely, it involves the practice of sustainability within the nexus of urban economy and culture, thereby guiding the specific cultural undertakings of museums. The pursuit of universality and diversity advocated by museum practices serves as driving mechanisms in shaping the evolutionary trajectory of urban culture within a high-speed economic landscape. This dynamic manifests as an inherent function within public cultural services, fostered through the synergistic coordination between urban residents and economic development. Establishing a robust and mutually beneficial relationship between urban museums and the urban economy and cultural ecology is imperative for constructing a sustainable role for museums within the urban landscape.

Data Availability Statement:

The data utilized in this study originates from publicly accessible domain data sources, thereby facilitating its widespread dissemination and sharing within the academic community.

Conflicts of Interest:

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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