

Exploring the Coupling Breakthrough Path for Consumption Upgrading and Business Format Restructuring in the Industrial Heritage District of a Wine City Based on Cultural – Tourism Integration

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Abstract: It is a good spatial relic of the Wine City with rich production memory and regional wine cultural symbols, but the brewing industrial heritage district currently faces serious problems in terms of demand for consumption upgrading and pressure for business-format restructuring with the integration of culture and tourism. Given the problems mentioned above, the industrial heritage district of Wine City has been selected as the research object of this study, and, starting with the excavation of cultural and tourism values, it will analyze the translation mechanism of wine cultural symbols in industrial heritage, the regeneration path of the spirit of place, the hierarchical transition of consumption upgrading demands, and the thresholds of the experience economy; at the same time, it will deconstruct the overlapping logic of emotional consumption and spatial narrative. There are also structural tensions and adaptation blocks, such as the inertia of functional replacement from production relics to consumption scenes, the rupture of spatial sequence and deviation from cultural continuity, and the interactive friction interfaces between the wine cultural narrative capital and immersive consumption modes in the process of business-format restructuring. Based on the above, a topological model of the business-format symbiotic network based on cultural resonance has been constructed; it is a feedback closed-loop operation mechanism that transmits information from the level of consumption back to heritage activation, and it has nonlinear coupling and interface reconstruction paths between the heritage field and the consumption ecosystem. Analyze the Impact of Consumption Upgrading on the Reform of Business Models in the Industrial Heritage Area of Wine City and Provide Theoretical Support for Cultural Revitalization and Commercial Transformation in Other Similar Industrial Heritage Areas.

Keywords: Wine City Industrial Heritage District, Cultural Tourism Integration, Consumption Upgrading, Business Model rReform, Coupling Mechanism

Introduction

Wine City Industrial Heritage District has become a place for relics of brewing technology and regional cultural symbols, but now it faces the problem of a disordered link between consumption upgrading and business model restructuring in light of the integration of cultural tourism. Dilution of cultural symbols, disruption of the spatial narrative and structural friction in the process of change limit the increase in consumption and cause a bottleneck in the iteration of the business model. Identifying the origin of the tension and the reasons for the adaptive blockages between the two, and building an ecological path for collaborative breakthrough, have become the main problems in the research on industrial heritage revitalization. The three parts of this paper are the cultural and tourism value, the tension of business-format adaptation, and the coupling reconstruction strategy; together, they will demonstrate that consumption upgrading and business-format restructuring are moving from opposition to cooperation.

1. Cultural and Tourism Values and Consumption Upgrade Triggers in the Wine City Industrial Heritage District

1.1 Translation of Wine Cultural Symbols in Industrial Heritage and Regeneration of the Spirit of Place

The Wine City industrial heritage district has rich material culture and production memory of the

brewing industry, and its spatial form, equipment components and technological process constitute a typical system of wine culture symbols. According to the translation mechanism of semiotics, industrial objects such as fermentation tanks, cellar clusters and filling lines are turned into cultural signifiers with narrative functions; thus, at the level of symbols, cultural value has been added to a physical space that was originally organised according to the logic of production. This translation is not only a borrowing of symbols but also, by means of intrinsic materials, scale and light-atmosphere, reconstructs regional identity features of wine culture and thus arouses emotional responses to the brewing tradition at the level of consumer perception. At all times during the encoding process, the industrial texture of the material offers a sense of touch and authenticity; at the level of operation, the technological process can be turned into visible ritualistic behaviour; and at the level of olfaction, the aroma of fermentation is a non-visual symbol that can evoke emotions and memories. The three parts together form the Gestalt structure of wine culture perception.

To inherit the spirit of place, we should reduce the conflict between the authenticity of industrial heritage and the demand for consumption in the experience economy. The first reason for the original Spatial Arrangement of the Wine City industrial heritage area was to improve production efficiency; thus, it was naturally separated from the leisure-and-consumption area in terms of borders, order and function. Preserve the original condition of the key links in the production process, add immersive exhibitions and wine-tasting areas, change this place from a "production base" to a "cultural experience center", and at the same time, contrast the rough texture of industrial buildings with the delicate stories of wine culture to create a new kind of atmosphere that is neither too focused on heritage protection nor purely commercial; thus, it will offer people a new way to experience and appreciate wine culture. One of the features of this new atmosphere is 'managed coarseness'; that is to say, in addition to keeping the original style of mottled walls and rusty pipes, reasonable regulation is also applied to the temperature, light and sound environment to create a comfortable place for people who enjoy a historical atmosphere to relax^[1].

1.2 Multidimensional Demand Hierarchy of Consumption Upgrading and the Threshold of the Experience Economy

Changes in Consumption Patterns of the Wine City Industrial Heritage District: From Basic Needs to Status and Emotional Needs. According to the hierarchy of needs theory, after the basic material needs have been met, people will start to desire cultural uniqueness, identity and social recognition. Industrial heritage has a long history and is authentic; it meets high-end demands and is an irreplaceable symbol of the times. Given that it has good craftsmanship and excellent brewing quality, it can be considered a type of symbolic capital. With the increase in the amount of capital, people's purchasing power has also risen, and as a result, the type of consumption in the district has shifted from low-end retail to high-end cultural leisure.

According to the definition of the threshold for the experience economy, it should be determined whether there has been a considerable upgrade in consumption. A sign of the threshold in the Wine City industrial heritage area is a change in people's behaviour from passive consumption of services to active construction of meaning. When the wine-tasting event is no longer just about tasting, but is also connected to the brewing area, the flow of time and stories of craftsmanship are interwoven to create a multi-sensory narrative and enter the realm of aesthetics and memory rather than just utilitarian calculation. Therefore, the experience density provided by the supply side (the number and strength of cultural stimuli per unit area) should be in line with the cognitive load of consumers; otherwise, it will be either too high and result in information redundancy or too low and fail to offer a sense of leisure. Given the rich culture of wine, Contextualised Experience Design will be used as a specific technical means to achieve the above aim.

1.3 Overlapping Logic of Emotional Consumption and Spatial Narrative in the Context of Cultural Tourism Integration

The general idea of cultural tourism integration is to present cultural resources in an attractive and moving way, and the area of the Wine City industrial heritage district will provide the material basis for this. Emotional consumption is the result of the combination of narrative rhythm and spatial sequence; for example, a rough industrial style at the entrance can create a sense of defamiliarisation, the exhibition of brewing techniques in the middle part can draw people's attention, and finally, the tasting and purchase area at the end offer emotional closure and value realisation. Therefore, the space of the story can make people feel all sorts of emotions at different times during their stay, and a simple

sightseeing trip will become a cherished cultural memory. The Waveform Design of the emotional curve should be in line with the natural law of attention decay; that is to say, high-density novel stimuli should be placed in the first 15 minutes, followed by rhythmic relaxation areas to keep people interested and avoid sensory fatigue and cognitive overload caused by prolonged high-density stimulation.

At the bottom of the overlap is that the demand for emotional consumption is closely linked to the grammar of spatial narration. On the one hand, for the sake of space, the circulation path and nodes should be in line with the natural logic of wine culture (raw materials - fermentation - distillation - aging - tasting), and there should be no cognitive overload from narrative breaks; at the same time, given the immediacy of emotional experience and the demand for social sharing, participatory and interactive nodes need to be added to the narrative, such as personalised blending activities, jar-sealing ceremonies and tipsy photography spots. Do not put them all in one place; instead, distribute them at different times and in various places to create an uneven rhythm of consumption for the people. The specific case of the Wine City industrial heritage area is that the temporality of the brewing process (fermentation cycles and aging periods) is in harmony with the rhythmic length of the spatial narrative, and together they form an emotional consumption model different from that in other cultural and tourist areas and have a sense of temporal continuity^[2].

2. Structural Tensions and Adaptive Blockages in Business-Format Restructuring and the Protection of Heritage Areas

2.1 Inertia of Functional Replacement and Mismatch Risk from Production Relics to Consumption Scenes

The first purpose of the production relics was to show the flow of materials and links in production, so their size, load-bearing capacity and pipeline arrangement were determined by equipment operation rather than by the density of people. If such relics are replaced by scenes of consumption, there will be a loss of function; that is to say, the building will no longer meet the needs of new forms of use. For example, the sound reverberation in large-span factory buildings is not suitable for the social environment, the narrow vertical transportation channels cannot handle crowd evacuation, and the industrial anti-slip properties of the floor material do not meet the aesthetic demands of commercial areas. This inertia is not an absolute barrier to change; rather, it is the result of conflicting reasons for the rationality of space and the rationality of behaviour, so adding consumption functions will require some extra technical modification.

The first reason for the mismatch risk is that the behaviour of consumers does not align with the spatial prototype. If the brewing workshop is preserved too perfectly, consumers will be in a state of "visiting a production base" and thus have a weaker emotional connection with the commercial services; at the same time, if the transformation is excessive, the distinct value of the industrial heritage will be lost, and the place will become a copy of a generic commercial area. Another hidden risk is the blockage of the consumer circulation path by idle equipment and facilities: Although the abandoned fermentation tanks are in a good place for display, they cannot be used in the consumption process, and the pipeline system is spatially discontinuous but cannot be disconnected due to preservation requirements. Therefore, the sales efficiency per unit area of the commercial space will decrease, and the heritage story will also be lost; thus, there will be a vicious circle of poor business models and limited space opportunities.

2.2 The Dilemma of Spatial Sequence Rupture and Deviation from Cultural Continuity in Business-Format Iteration

Spatial sequence is the cognitive system that people use to perceive the structure of an area, and it includes entrance guides, path turns, nodes, peak spots and exit closures. As we have added various commercial brands from different periods in the course of iterating on business forms, there has been a trend towards differentiation in renovation and decoration; each business unit has adapted its interface style and way of using space according to its own brand image. If there is no coordination of the spatial language for all kinds of business-format units, the original continuous sequence of industrial space will be broken into isolated consumption islands, and thus the linear or grid-like heritage texture of the Wine City will be lost.

Cultural continuity refers to the continuity and traceability of wine culture in material space, and its

rupture can be seen in the spatial misalignment of process logic and commercial logic. The stages of "raw material processing—fermentation—distillation—storage—filling" in brewing have a fixed order in time, and this order is shown in the front-to-back spatial organisation of the industrial production. If the iteration of the business model does not follow the above implicit order, opening a light-dining restaurant in the distillation workshop area or a fast-fashion retail store in the wine-storage area would be out of step with the cultural narrative. When the consumer is in this area, they cannot build a cognitive schema for brewing, so the cultural chain is broken by commercial logic, and thus the heritage space can no longer fully convey the temporality and dignity of craftsmanship in wine culture^[3].

2.3 Interactive Friction Interfaces Between Wine Cultural Narrative Capital and Immersive Consumption Modes

The system of symbols in the cultural narrative capital of wine, such as brand history, brewing methods, regional legends and object aesthetics, offers a reference for consumer behaviour and is thus very useful. To enhance the sense of emotion and desire to buy in an immersive way, one should reduce external noise. Although the two are in the Wine City industrial heritage area, there is no conflict because the distribution of narrative capital and immersion speed is not coordinated. If the capital density is too high (that is, too much historical information is presented at once), the cognitive load will be high and the state of immersion will be broken; on the other hand, if it is too low, there will be little cultural depth in the experience and it will become an empty cycle of sensory stimulation.

That is to say, there is a conflict at the intersection of narrative media and space. Generally speaking, the form of the wine culture narrative capital is graphics, digital projections, audio guides, etc.; to create a more immersive consumption experience, one can create an atmosphere (lighting, temperature, smell, soundscape) and design behaviours (cocktail-making participation, tasting rituals). If the narration is too heavy-handed, people will lose the mood set by the senses and become uninterested. At the same time, if the immersive Design is completely separate from narrative capital and only uses audio-visual and lighting effects to create a tipsy mood, then the particular features of the Wine City industrial heritage will be lost in a general entertainment area. In fact, this friction interface is the incommensurability of the two ways of acquiring knowledge - that is, symbolic encoding and bodily perception - and a compromise translation strategy needs to be sought in the design of the spatial interface.

3. Collaborative Paths and Ecological Reconstruction Strategies for Coupled Breakthroughs

3.1 Topological Model of Business-Format Symbiotic Network Based on Cultural Resonance

Cultural resonance is the combined response of consumers and the heritage area at the level of meaning perception; therefore, the cultural genes of wine should be consistently transmitted in all forms of business activities. The Structure of the business-format symbiotic network is a graph, the commercial units are the nodes, and the weight of the connection between nodes is determined by the number of shared cultural motives. If all the various types of business are connected by a story theme, such as showing the brewing process, themed cultural and creative retail for wine lovers, themed dining, and micro-brewing experience workshops, then a closed semantic loop will be formed; thus, the cultural information consumers obtain at any link will increase their depth of understanding and desire to explore other links. This topology is not a single line of trade but a network, so people can choose from many ways to meet their shopping needs according to their own wishes.

To use the model, we need to add a quantitative index of cultural resonance in business model design. The three reasons for this coefficient are the degree of symbol overlap, narrative coherence and spatial proximity; business models with a high resonance coefficient will also be more popular with the public and improve their quality of life. Given the context of the Wine City industrial heritage area and its supply chain, derivative products can be developed from brewing by-products, and these may be linked with exhibitions of the main product to create a different kind of cultural resonance. After a stable resonant structure has been formed in the business-format network, the popularity of any single type of business will no longer change independently; instead, it will spread in all directions across the network, and the overall consumption curve will be more level. The Construction of the Topological Model can help to organise the Design of the business-format restructuring more rationally and provide a structural basis for the joint breakthrough^[4].

3.2 Feedback Closed-loop Operating Mechanism of Consumption Level Escalation Feeding back into Heritage Activation

With the improvement in the living standards of the people over the years, their demands have also changed; as life has become more comfortable, people are no longer concerned about basic needs but have begun to desire status symbols and identity expression. After the consumers have completed the escalation in the district, their payment behaviour is no longer solely about obtaining goods and services; a sense of cultural identity and social status has also begun to be attached to it. Therefore, the unit area output value of the district has risen, and after deducting the regular maintenance costs of heritage activation, there is now an economic surplus. The first way that the feedback loop is closed is that the high-value-added revenue from increased consumption can be used to protect and restore cultural heritage and explore the cultural stories of this heritage in more detail; thus, the authenticity and richness of the heritage are enhanced, attracting more people to participate in high-level consumption activities.

The two necessary conditions for the operation of the closed-loop are that revenue can be traced and allocated, and consumer cognition needs to be built up iteratively. In the past, the operating unit of the district had to set up a special revenue fund for the preservation of heritage and separate the premium part of the revenue from cultural experience consumption (such as tasting courses, personalised jar-sealing ceremonies and cultural guided tours) from the revenue generated by general retail to create a stable source of activation funds. The latter is the gradually accumulated reserve of wine culture knowledge that consumers have built up through repeated visits, and each increase in the level of consumption is based on the cognitive increment obtained from the previous experience. After the feedback loop can operate independently, heritage activation will not need external resources for operation and can be integrated into the consumption system; therefore, consumption upgrading and heritage preservation can be achieved together and are not in conflict.

3.3 Nonlinear Coupling between the Heritage Field and the Consumption Ecosystem and the Path of Interface Reconstruction

Nonlinear coupling refers to the phenomenon that the physical attributes and cultural connotations of a heritage area do not change in line with the economic logic and experiential demands of the consumption ecosystem; rather, there are threshold effects and catastrophic changes. If the consumption density in the Wine City industrial heritage area is below a certain level, the commercial activities will not have a serious negative impact on the preservation of the heritage; however, if it exceeds this critical value, an increase in the number of pedestrians and renovation demands due to commerce will harm the heritage. At the same time, at the beginning of the period of deep cultural exploration, the added benefit of consumption promotion is relatively large; however, after reaching a certain level, there will be diminishing returns or even consumer fatigue. One needs to know how to deal with the non-linear relationship well for good coupling^[5].

To deal with the problem of a serious nonlinear catastrophic change, one can modify the contact surface between the heritage area and the consumption system. Reversible commercial insertion components are light-intervention devices that are modular retail units and suspended experience pods; they are located at the physical interface to separate the load of consumption activities from the heritage structure, and these components do not need to be structurally integrated with the heritage. A hierarchical release mechanism for the wine cultural narrative has been added to the information interface to dynamically adjust the amount of displayed information according to how long a consumer has been viewing it and their cognitive load, and thus prevent a drop in marginal perception due to excessive exposure to narrative capital. An all-company process has been set up to determine the cultural compatibility of business-format admissions, and high-profit business models that do not align with the theme of wine culture will be excluded to avoid disturbing other parts of the consumption ecosystem. Systematic reconstruction of all kinds of interfaces has integrated the field of heritage into the consumption ecosystem to create a new type of district that can preserve the original character of the industrial area and promote continuous development of life.

Conclusion

Consumption upgrading and business model renovation in the Wine City industrial heritage area are not separate links in a chain; rather, they are closely linked and work together under the integration of

culture and tourism. Based on the above analysis, it has been determined that the translation of wine cultural symbols and the regeneration of the spirit of place provide a spatial cognitive foundation for consumption upgrading, and at the same time, a hierarchical shift in demand and crossing the threshold for the experience economy have driven consumption transformation. However, there are still some problems in the functional replacement of production relics, such as deviations from the sequence of space and culture, and friction interfaces between narrative capital and immersion modes have hindered the healthy development of business forms. The reason for this problem is that we have not built a business model based on cultural resonance and have failed to establish a closed-loop feedback system; thus, the increase in the level of consumption has not led to the activation of heritage resources and integration with the consumption ecosystem. In the future, we will continue to learn the quantitative measurement method of the cultural resonance coefficient, build a dynamic simulation model of the feedback closed-loop, and compare different types of Wine City industrial heritage districts (such as those oriented towards distillation, fermentation and comprehensive types) to provide more specific academic support for the instrumentalisation and scenario adaptation of this theoretical framework.

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