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From Brand Identity to Spatial Experience: Rethinking the Interior Design of Video Game Centers with an Emphasis on Aesthetics, Structural Technology, and Construction Management

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Abstract

The expansion of the video game industry and technological advancements in this field have transformed gaming centers from purely functional spaces into environments driven by experience, interaction, and identity. Nevertheless, a considerable number of these centers, particularly in Iran, continue to focus on conventional spatial organization and equipment arrangement, without fully integrating the potentials of spatial narrative, brand identity, and advanced construction technologies. This study aims to develop a framework for enhancing the quality of interior design in video game centers by examining the interaction among spatial aesthetics, structural technology, and construction management, with brand identity as the central theme. The research adopts a descriptive-analytical approach, drawing on library-based studies, the examination and analysis of prominent international case studies, and conceptual investigations. The findings indicate that spatial narrative can serve as a connecting factor linking the visual and conceptual identity of a brand with the organization of user experience, lightweight structural systems, and modular construction technologies. Furthermore, the application of construction management strategies, including Design for Construction, prefabrication, and phased planning, can optimize construction time and costs while providing opportunities for flexibility, development, and continuous reconfiguration of spaces in accordance with brand identity. Ultimately, this study proposes a conceptual framework that emphasizes the need for an integrated approach to the interior design of video game centers. Within this approach, brand identity, users' spatial experience, aesthetics, structural technology, and construction management interact to create distinctive, functional, and identity-driven environments.

Keywords: Spatial narrative, Brand identity, Interior design, Video game centers, Aesthetics, Structural technology, Construction management.

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1 | Introduction

In recent decades, along with the expansion of the video game industry and its transformation into one of the largest cultural and economic industries in the world, the nature of spaces associated with this industry has also undergone transformation. Video game centers are no longer merely places for the installation of gaming equipment; rather, they have become experience-oriented environments in which the quality of spatial perception, user interaction, and their visual identity play a decisive role in shaping the audience's experience[1]. In such spaces, interior design goes beyond functional organization and, by utilizing light, color, form, material, and interactive elements, provides the ground for the creation of a spatial narrative, a narrative that can transform brand values into a tangible experience for users. Simultaneously with this shift in attitude, the concept of spatial narrative has become one of the important approaches in the design of experience-oriented environments. Spatial narrative refers to a process in which the sequence of spaces, the sensory quality of the environment, and user interaction are designed in such a way as to create a coherent and meaningful experience. This approach has been widely attended to in commercial, cultural, and entertainment spaces, and various studies have shown that the link between brand identity and spatial organization can increase user engagement, satisfaction, and retention [1], [2]. In the gaming industry as well, brands such as PlayStation, Xbox, and Nintendo, by employing their exclusive visual language, have designed environments that largely blur the boundary between physical space and the digital world of the game. Previous studies have each examined a part of this subject. Pine and Gilmore [3], [4] and Zerr et al. [5] have examined the role of multisensory perception in the experience of architectural environments, and Lemon and Verhoef [2] have explained the relationship between customer experience and the quality of spatial interactions.

On the other hand, studies related to construction technologies and project management show that the use of modular systems, prefabrication, and digital technologies can increase the flexibility of interior design and reduce the time and cost of project execution [6], [7]. Despite this, most of these studies have examined aesthetics, structural technology, and construction management independently, and fewer studies have addressed the integration of these three domains in the interior design of video game centers. This research gap becomes more significant, especially in the context of Iran. Many existing gaming centers still rely on equipment layout, limited lighting, and fixed décors, and make less use of the capacity of spatial narrative or modern construction technologies to create a coherent experience. On the other hand, the rapid change of gaming technologies and the continuous evolution of brand identities have increased the need for spaces that can be updated with the least cost and the greatest flexibility. The realization of such characteristics is not possible solely through aesthetic design; rather, it requires coordination among design decisions, the selection of appropriate structural systems, and proper construction management planning. The reason for choosing this subject also stems from this necessity, because the future of gaming centers depends less on increasing the number of equipment and more on the quality of spatial experience, the ability to adapt to technological changes, and the efficiency of the execution process. Redefining the relationship among aesthetics, structural technology, and construction management can provide a solution for designing spaces that, while preserving brand identity, are also flexible, economical, and developable in terms of execution. Accordingly, the main objective of this paper is to provide a conceptual framework for redefining the interaction among spatial aesthetics, structural technology, and construction management in the interior design of video game centers based on a brand identity-based spatial narrative approach. By analyzing theoretical studies and successful international cases, this research attempts to show how spatial narrative can act as a linking loop among the perceptual qualities of space, modern construction technologies, and execution management strategies, and provide the ground for designing the new generation of experience-oriented gaming centers.

[1] https://newzoo.com/reports

2 | Literature Review

The evolution of the video game industry in recent years has shifted the perspective on gaming spaces from merely functional environments to experience-oriented spaces. In these spaces, the quality of environmental perception, visual identity, modern execution technologies, and the manner of physical organization all play a role in shaping the user experience. Simultaneously with this transformation, concepts such as spatial narrative, brand identity, flexible structures, and construction management have attracted the attention of researchers as influential components in the design of these environments, and this body of studies has provided the ground for understanding the relationship between aesthetic and executive dimensions in the design of gaming spaces [1].

2.1 | Spatial Narrative and User Experience in Interior Design

In recent years, the concept of spatial narrative has become one of the important approaches in the design of experience-oriented environments. This approach is based on the principle that the organization of space, the sequence of user movement, the quality of sensory perception, and physical elements can act as a coherent narrative and create a meaningful experience for the audience. Unlike function-oriented design, which focuses on responding to the physical needs of users, spatial narrative emphasizes the mental, emotional, and perceptual experience of individuals. Recent studies in the field of digital architecture show that the integration of spatial narrative with gamified scenarios significantly increases user engagement and the quality of environmental experience [8]. In a study conducted on the design of digital architecture scenarios based on spatial narrative, user movement path analysis, heat maps, and eye tracking were used to optimize spatial experience, and the results indicate that narrative-based design can improve user interaction in interactive environments [8]. On the other hand, the examination of space design in digital games from the perspective of interior architecture shows that many principles used in virtual environments, such as spatial hierarchy, visual guidance, and the creation of turning points, are transferable to the design of real spaces [9]. This finding reinforces the importance of using the logic of game environment design in the design of gamified centers.

2.2 | Brand Identity and Spatial Aesthetics

Brand identity is considered one of the most important factors shaping user experience in commercial and entertainment environments. In recent years, interior design has shifted from a tool for displaying the visual identity of the brand to a platform for creating brand experience. In this approach, color, light, material, form, and spatial organization all play a role in conveying the brand's personality.

This research emphasizes that brand identity will be effective when it is reflected in an integrated manner at all levels of spatial design, from the selection of materials to the organization of movement paths. Physical elements such as form, color, light, texture, and materials are among the most important tools shaping the visual and perceptual quality in video game centers, where equipment, lighting, and brand identity are constantly changing; the use of modular systems and project life-cycle planning can provide the possibility of rapid updating of the space without disrupting operation.

2.3 | Research Gap

A review of previous studies shows that research has mainly moved along three independent paths: first, studies related to spatial narrative and user experience; second, research related to brand identity and environmental aesthetics; and third, research in the field of construction technology and project management. Although each of these domains has provided valuable achievements, fewer studies have offered an integrated framework for explaining the relationship among these three domains in the interior design of video game centers.

Especially in the context of Iran, there is a noticeable lack of studies that simultaneously address spatial narrative, flexible structural technologies, and construction management strategies in gaming spaces. Therefore, the present research attempts, by providing a conceptual framework, to redefine the interaction among aesthetics, structural technology, and construction management in the interior design of video game centers based on brand identity, and to provide the ground for designing experience-oriented, flexible, and developable spaces.

3 | Research Methodology

This research is applied in terms of purpose and descriptive-analytical in terms of nature, and was conducted with a mixed (qualitative-quantitative) approach. The qualitative part of the research is dedicated to identifying the components of spatial narrative, brand identity, aesthetics, structural technology, and construction management through library studies and in-depth interviews, and the quantitative part uses a questionnaire to evaluate the degree of importance and the relationships among these components. This combination of methods provides the possibility of simultaneously explaining the theoretical dimensions of the subject and measuring the views of experts.

3.1 | Statistical Population

The statistical population of the research includes specialists and experts in the fields of interior architecture, the design of commercial and experience-oriented spaces, construction management, modern building technologies, and the design of environments related to video games. The selection of this group was made due to their familiarity with the processes of design, execution, and evaluation of interactive spaces, because these individuals are able to analyze the relationship among aesthetic qualities, executive requirements, and user experience from a specialized perspective.

3.2 | Statistical Sample

Sampling in the qualitative part is carried out using a purposive method, and participants are selected who have professional or research experience related to the subject. The interviews continue until theoretical saturation is reached, and it is predicted that approximately 12 to 15 individuals will participate in this stage. In the quantitative part, sampling is also carried out purposively among experts, and the sample size, considering the nature of the research and access to the specialized community, is considered to be approximately 50 to 80 individuals.

3.3 | Data Collection Tools

The research data are collected in two ways: 1) library studies, including the review of books, scientific articles, specialized reports, and successful international cases in the field of gaming center design, spatial narrative, brand identity, structural technology, and construction management, and 2) field studies, which include semi-structured interviews with experts and a researcher-made questionnaire. The questionnaire was designed based on the components extracted from the research literature and, using a five-point Likert scale, evaluates the degree of importance of each component from the perspective of the respondents.

3.4 | Data Analysis Method

Data analysis is carried out in two stages. In the first stage, the data obtained from the studies and interviews are examined using thematic analysis, and the main components and concepts are extracted and categorized. In the second stage, the questionnaire data are analyzed using descriptive statistics, correlation coefficients, and inferential statistics (such as correlation tests and factor analysis appropriate to the data dimensions) to examine the relationships among the research variables and to provide a coherent framework for explaining the interaction among spatial aesthetics, structural technology, and construction management in the interior design of video game centers.

4 | Findings

The review of theoretical studies, successful international cases, and the analysis of the conceptual components of the research show that the design of interior spaces in video game centers can serve as a platform for creating a distinct user experience when the four main components of brand identity, spatial narrative, structural technology, and construction management are considered in an integrated manner in the design and execution process. The findings indicate that spatial narrative can act as a linking loop among the perceptual qualities of space, the executive requirements of the project, and the brand identity, and can provide the ground for the coordination of design and technology decisions.

4.1 | Components Affecting Brand Identity-Based Spatial Narrative

The analysis of the studies shows that spatial narrative is formed through a set of physical and perceptual elements, as summarized in *Table 1*. These elements not only improve the quality of environmental perception but also increase mental and emotional engagement and a sense of belonging to the space.

Table 1. Components affecting brand identity-based spatial narrative.

Component	Role in User Experience	Connection to Execution
Dynamic lighting	Creating sensory atmosphere	Smart lighting systems
Brand color scheme	Strengthening brand identity	Replaceable material
Brand forms	Enhancing spatial perception	Lightweight structures
Interactive surfaces	User participation	Digital equipment
Movement paths	Narrative guidance	Modular design

4.2 | Redefining the Relationship between Aesthetics and Structural Technology

One of the important findings of this research is that the role of structure in interior design has shifted from a purely engineering element to a factor in shaping the spatial narrative. In the traditional approach, structure was often considered a limitation for interior design; however, the analysis of successful cases shows that in experience-oriented projects, structure has been transformed into a part of the design language.

The use of systems that have the most compatibility with spatial narrative includes:

I. Lightweight Steel Structures (LSF).

II. Replaceable modular panels.

III. Movable walls.

IV. Smart suspended ceilings.

4.3 | The Role of Construction Management in Realizing Brand-Oriented Spaces

The findings of the research show that the success of gaming projects does not depend solely on the quality of design; rather, the project execution process also plays a decisive role in maintaining the quality of user experience.

The main construction management strategies are:

I. Prefabrication of interior components.

II. Phased execution of the project.

III. Coordination of design and execution using Building Information Modeling (BIM).

IV. Planning for periodic updating of the space.

Design for Manufacture and Assembly (DfMA) also emphasizes the role of integrating design, production, and assembly in increasing productivity and improving the performance of the construction process. This approach, by creating coordination among the different stages of the project life cycle and strengthening collaboration between design and execution teams, can create a significant advantage for projects that require flexibility and changeability, as summarized in *Table 2* [10].

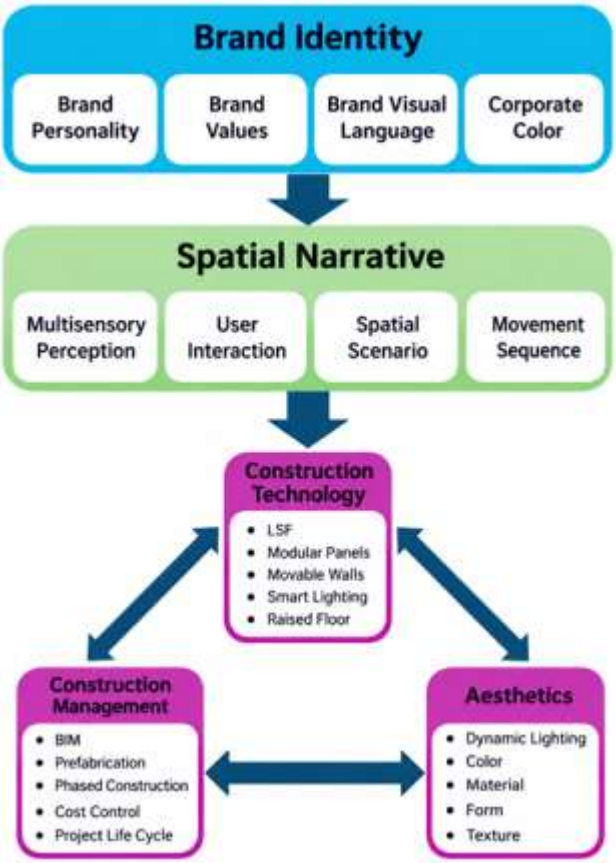
Table 2. The role of construction management in the execution of experience-oriented spaces.

Impact on the Project	Management Strategy
Reduction of execution time	Prefabrication
Increase in flexibility	Modular design
Coordination between design and execution	BIM
Reduction of disruption to operation	Phased execution
Ease of brand updating	Life-cycle planning

4.4 | Integrated Model of the Interaction of Research Components

One of the most important results of the research is the presentation of a conceptual model for the relationship among the four main components. This model shows that spatial narrative, as the central core of design, organizes the interaction among aesthetics, structural technology, and construction management. In this model, brand identity is the starting point of the design process, and spatial narrative, by utilizing aesthetic elements, modern structural technologies, and construction management strategies, creates an integrated and developable experience for users.

The findings of the research indicate that the three domains of aesthetics, structural technology, and construction management should not be considered as independent parts of design; rather, they should be organized within an integrated process based on spatial narrative. The relationships among these domains are illustrated in *Fig. 1*. In such an approach, modular technologies and modern construction management



strategies provide the ground for the realization of design ideas and increase the possibility of continuous updating of gaming spaces in step with changes in brands and gaming technologies. This result provides a practical framework for designing the new generation of video game centers that is more efficient than common models in terms of both user experience and executability and maintainability.

Fig. 1. Conceptual model diagram.

5 | Discussion

5.1 | Research Limitations

Despite the results obtained, this research is also associated with limitations that must be taken into account in the interpretation of the findings.

First, the conceptual nature of the research and its reliance on the analysis of theoretical studies and case samples have caused the proposed model not to yet be tested in a real executive project. Therefore, the evaluation of its performance in real conditions requires complementary research.

Second, the statistical population of the research was limited to experts in the field of architecture, interior design, and construction management, and the views of the end users of gaming centers were not directly examined at this stage. The simultaneous participation of users and experts can provide a more comprehensive picture of the quality of spatial experience in future research.

Third, the high speed of transformation of technologies related to the gaming industry, including interactive displays, augmented reality, and smart systems, may cause changes in some design requirements in the future; therefore, the proposed framework must maintain the ability to adapt to emerging technologies.

5.2 | Scientific and Practical Implications of the Research

From a scientific perspective, the most important achievement of this research is the presentation of a framework that, for the first time, explains in an integrated manner the relationship among spatial narrative, brand identity, structural technology, and construction management in the interior design of video game centers. This framework can serve as a basis for the development of theoretical models in the field of experience-oriented design and the interior architecture of digital spaces and provide the ground for future research on the empirical measurement of these relationships.

From a practical perspective, the results of the research can be used by architects, interior designers, project managers, and investors of gaming centers. The use of modular systems, project life-cycle planning, and coordination between design and execution decisions, in addition to increasing the quality of user experience, can reduce the costs of maintenance and updating of the space. Furthermore, this approach provides the possibility of designing gaming centers in such a way that, with the change of game generations and the evolution of brand identities, they have the ability to be reconfigured and developed without the need for extensive reconstruction.

Overall, the results of the research show that the future of video game center design depends on moving away from purely decorative patterns and moving toward integrated design in which aesthetics, structural technology, and construction management act as complementary components of a single narrative system. This approach not only enhances the quality of user experience but also strengthens the executive efficiency and functional sustainability of the space in the long term.

6 | Conclusion

The evolution of the video game industry shows that contemporary gaming centers are no longer merely spaces for the installation of gaming equipment; rather, they have become experience-oriented environments

in which the quality of spatial perception, brand identity, modern construction technologies, and the manner of project execution play a decisive role in their success. Accordingly, the present research, focusing on the interior design of video game centers, attempted to redefine the interaction among aesthetics, structural technology, and construction management within the framework of the concept of spatial narrative.

The results of the research showed that spatial narrative can act as the integrating axis of the design process and establish a coherent connection among physical elements, brand identity, and the executive requirements of the project. The coordinated use of dynamic lighting, identity-oriented colors, forms inspired by the brand's visual language, and interactive elements is most effective when it is organized within a single strategy from the design stage to execution. Furthermore, modern structural technologies, especially modular systems, replaceable panels, and lightweight structures, provide the possibility of realizing this narrative with greater flexibility and lower execution cost. Alongside these, construction management with approaches such as prefabrication, phased execution, and project life-cycle planning provides the ground for functional sustainability and the possibility of continuous updating of gaming spaces.

From a theoretical perspective, the most important achievement of this research is the presentation of a conceptual framework that explains the relationship among spatial narrative, brand identity, aesthetics, structural technology, and construction management within an integrated design system. This framework can serve as a basis for the development of future research in the field of experience-oriented design, the interior architecture of digital spaces, and the management of the execution of projects related to the entertainment industry. From a practical perspective as well, the results of the research can provide guidance for architects, interior designers, project managers, and investors in designing gaming centers that are flexible, developable, and compatible with the rapid changes in technology and brand identities.

Despite the achievements obtained, the empirical evaluation of the proposed model in real executive projects and the examination of the end users' perception of the quality of spatial narrative are among the important areas for future research. Furthermore, the study of the role of emerging technologies such as augmented reality, mixed reality, artificial intelligence, and smart interactive environments in the evolution of spatial narrative can create new horizons for the design of the next generation of video game centers. Overall, moving toward integrated design in which aesthetics, structural technology, and construction management act as complementary components of a single narrative system can provide the ground for creating spaces that, in addition to enhancing the user experience, are also sustainable, flexible, and responsive to future developments in terms of execution.

Authors' Contributions

All aspects of the research and manuscript preparation were carried out by the author. The author has read and approved the final version of the manuscript.

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Data Availability

All data supporting the reported findings in this research paper are provided within the manuscript.

Conflict of Interest

The author declares that they do not have any conflict of interest.

Consent for Publication

The author confirms consent for the publication of this work.

Ethics Approval and Consent to Participate

This article does not contain any studies with human participants performed by the author.

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