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Maximalist Flagship Store with Onyx Stone and Mother of Pearl

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Abstract: ***Thisstudy explores how traditional Indian textile motifs – specifically Banarasi brocade can be digitally and materially translated into the interior design of a flagship fashion store. It investigates appropriate use of luxury materials like onyx stone and Mother of Pearl, aesthetic and functional integration, and how this approach can reinforce brand identity, customer experienceand cultural heritage.***
Drawing inspiration from Banarasi brocade's intricate patterns and cultural richness, the project incorporates materials like onyx stone and mother of pearl, celebrated for their aesthetic elegance and structural versatility. Literature reveals that onyx, with its translucency and natural veining, adds dramatic sophistication to interiors, while mother of pearl offers timeless beauty and mechanical resilience, as evidenced by studies on nacre's biomimetic properties and its innovative use in modern lacquerware. Further, research into stone craft in contemporary interiors emphasizes how material tradition can be revitalized through experimental design techniques. By referencing sustainable approaches such as onyx waste reuse in concrete, the project also touches upon environmentally conscious practices. The synthesis of these materials and traditions reimagines Indian craftsmanship in a modern context, creating a flagship store that is both luxurious and culturally rooted.
Keywords: Flagship store, Onyx stone, Mother of Pearl, Maximalist interior, Banarasi brocade

I. INTRODUCTION

Onyx is a luxurious natural stone celebrated for its dramatic veining, vibrant colours, and rare translucency. Unlike more common stones like granite or marble, onyx offers a striking visual impact that transforms ordinary interiors into extraordinary spaces.
In interior design, onyx is prized not just for its beauty but for its ability to interact with light. Its translucent nature allows designers to backlight panels, countertops, and walls, creating a mesmerizing glow that adds depth and ambiance to any room.
Mother of Pearl (MOP) is the iridescent inner layer found in the shells of molluscs. It symbolises elegance, craftsmanship and timeless beauty, making it a fitting material in spaces where refined aesthetics and storytelling are important, such as flagship fashion store.
Banarasi brocade, with its elaborate floral patterns and metallic zari threads, symbolizes timeless elegance and craftsmanship. When translated thoughtfully into architectural and interior elements – walls, display fixtures, lighting – these motifs can elevate the aesthetic and emotional experience of the space. Materials like onyx and Mother of Pearl, known for their luminous qualities and historical connotations of luxury, complement these motifs and bring tactile richness and depth to the interiors.
Flagship stores are not merely retail spaces – they are immersive embody a brand's identity, philosophy and cultural narrative. For Indian fashion designers, whose work often draws deeply from the country's rich textile traditions, the flagship store offers a unique opportunity to extend this heritage into spatial design. This research explores the integration of Banarasi brocade motifs, one of the most iconic textile patterns, into the interior design of a luxury flagship store. By combining these intricate motifs with opulent materials such as onyx stone and Mother of Pearl, the study aims to create a sensorially rich and culturally rooted retail experience.

II. ANALYSIS OF BENEFITS AND CHALLENGES

A. Benefits:

1) Strong brand differentiation and storytelling: combining craft heritage with luxury materials enhances perceived value.
2) Rich sensory experience: visual richness, texture, light play, sheen.
3) Cultural resonance: connects the store with Indian textile heritage, attracts customers interested in authenticity.

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B. Challenges:

1) Cost: both materials onyx stone and Mother of Pearl and craftsmanship (inlay work, custom fabrication) are expensive.
2) Maintenance: onyx scratches, staining, cleaning; Mother of Pearl inlays can be delicate.
3) Lighting complexity: achieving backlighting for onyx, avoiding glare; controlling humidity or temperature to avoid material damage.
4) Weight and structural concerns: stone panels heavy;inlays requires stable substrates.
5) Scalability: replicating bespoke elements across multiple stores is more complex.

III. LITERATURE REVIEW

1) Nikiema,Daouda, Balland, Pascale, Sergent, Alain (2023) investigated the mechanical behaviour of 3D printed onyx parts like how wall layers, infill, etc affect strength. This paper helps us understand exotic applications of onyx and combining onyx with newer fabrication techniques.
2) Nugroho, Hadi, Danang (2022) he has stated to focus on using onyx stone waste in concrete mixtures; especially mechanical properties like compressive strength.
3) Luz, M, Gisela, Mano, F, Joao (2009) their research paper explores how nacre's "brick-and-mortar" layout gives rise to mechanical toughness; also describes strategies to replicate such features in synthetic materials.
4) Choi, Ho, Seung, Kim, L, Kim (2014) as affirmed by themnacre has interesting photonic / light resonance properties. They look at how localized modes of light in nacre layers canhybridize, which could lead to light amplification.
5) Oaki, Yuya, Imai, Hiroaki (2005) in their research paper discusses nacre's multilevel hierarchical structure (nanoscopic to microscopic to macroscopic). Highlights how nacre achieves toughness, strength and also how its architecture allows for organic/inorganic composite mimics.
6) Kamal, Arif, Mohammad 2024 This surveys how stone craft is applied in interiors: techniques, finishes, decorative applications, trends. Discusses durability, visual effects and how stone finishes, textures are used in contemporary interior design
7) Cuchor, David, Kopas, Peter, Broncek, Jozef, Brumercik, Frantisek (2023) wrote a conference paper about Onyx material used in 3D printing. That is the context is all about composite / printed onyx material, effect of layer orientation / thickness on mechanical properties, tensile testing etc.
8) A nacre inspired structural material with thermochromic properties and mechanical robustness by atomic-level design 2025
9) It tells that there develops a composite mimicking nacre (brick and mortar microstructure)
10) With added properties: thermochromic (changes colour with temperature) and flame retardant.
11) Gilbert, Pupa,Metzler, A, Rebecca, Olabisi, M, Ronke, Coopersmith, N, Susan (2007) research focuses on the microstructure of nacre in abalone shells; shows that mother of pearl is 3000 times more fracture resistant than its mineral component (aragonite) due to its hierarchical layered structure.
12) Zhao, JunGuo (2022) examines traditional lacquerware with Mother of Pearl inlay and modern product design using those techniques; includes accessories, packaging, utensils, public art.

IV. RESEARCH GAP

1) Limited integration of Indian textile heritage in high-end retail interiors.
2) Lack of research on material translation of textile motifs.
3) Minimal studies on onyx and Mother of Pearl in Indian retail interiors.
4) Lack of methodological framework for cultural-contemporary integration.
5) Inadequate study of user experience with ornamental materials in retail spaces.
6) Sustainability and maintenance considerations are underrepresented.
7) Absence of case studies combining all three: onyx, Mother of Pearl and Banarasi motifs.

V. PURPOSE

The purpose of this research is to explore and develop a culturally enriched interior design proposal for a flagship store of an Indian fashion designer, wherein the traditional Banarasi brocade motifs are reinterpreted and integrated into the spatial experience through the innovative use of onyx stone and mother of pearl as primary interior materials. This study aims to bridge the gap between heritage textile design and contemporary luxury retail interiors, using material-driven storytelling to enhance brand identity and user engagement.

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Drawing from existing literature, the research identifies the high aesthetic and structural potential of onyx stone — particularly its translucency and veined elegance — for feature walls and spatial zoning, and the durableiridescence of mother of pearl as a suitable medium for detailed surface ornamentation. However, current scholarship lacks examples where these materials are used together in conjunction with traditional Indian motifs in commercial interior design, particularly within the Indian retail context.

Therefore, this thesis aims to not only translate the intricate visual language of Banarasi brocade into spatial and material form but also to develop a design framework that balances cultural narrative, luxury appeal, and material functionality within a flagship store environment. The project aspires to serve as a precedent for contextually rooted, material-conscious interior design in the Indian fashion retail industry.

VI. METHODOLOGY

This research adopts a qualitative and designbased methodology, combining literature review, material exploration, case study analysis and conceptual design development. Firstly a comprehensive review of scholarly articles and design publications is conducted to understand the properties and design potential of onyx stone and Mother of Pearl, as well as their relevance in luxury interior applications and biomimetic inspirations. Additionally, studies on Banarasi brocade informed the cultural and aesthetic integration of textile motifs into spatial elements. Next comes the material analysis that is the physical and visual characteristics of onyx and Mother of Pearl were analyzed. Attention is given to sustainable innovations, such as the reuse of onyx waste in concrete. Contemporary methods of Mother of Pearl lacquerware applications is also examined. Also we are doing case studies on flagship stores which are known for material – driven storytelling in order to understand spatial branding, lighting techniques and the use of craft in luxury retail environment. At last a conceptual interior design proposal is developed through sketches, mood boards, material palettes and 3D representations. The design integrates Banarasi brocade – inspired patterns using onyx stone and Mother of Pearl as core materials to convey luxury rooted in Indian tradition.

VII. CONCLUSION

This research underscores the immense potential of integrating traditional Indian textile heritage, specifically Banarasi brocade motifs, within contemporary luxury retail interior design through the innovative use of onyx stone and mother of pearl. The study reveals that these materials not only embody aesthetic elegance and cultural richness but also offer functional advantages such as durability, translucency, and iridescence that enhance spatial experience and brand storytelling. Despite the current scarcity of comprehensive studies combining these elements in an Indian retail context, this thesis demonstrates how the intricate patterns of Banarasi brocade can be thoughtfully translated into hard materials to create a unique sensory and visual identity for a flagship store.

By bridging the gap between heritage craftsmanship and modern design innovation, this work contributes to the development of culturally rooted, material-conscious interior environments that resonate with both tradition and contemporary luxury. The findings encourage further exploration into sustainable sourcing, material experimentation, and experiential retail design strategies that celebrate Indian artisanal excellence while meeting global luxury standards. Ultimately, this research lays the groundwork for future projects seeking to weave cultural narratives into spatial design through the thoughtful selection and application of distinctive materials like onyx and mother of pearl.

REFERENCES

[1] Nikiema, Daouda, Balland, Pascale, Sergent, Alain (2023) Study of walls influence on the mechanical properties of 3D printed onyx parts; Experimental, analytical and numerical investigations was published in the journal Heliyon 9(8).https://www.cell.com/heliyon/fulltext/S2405-8440(23)06395-8

[2] Nugroho, Hadi, Danang (2022) Onyx Stone Waste as a Replacement of Coarse Aggregate in Concrete Mixture was published in the Proceedings of the International Seminar on Business, Education and Science (1)https://proceeding.unpkediri.ac.id/index.php/ip/article/view/2609

[3] Luz, M, Gisela, Mano, F, Joao (2009) Biomimetic design of materials and biomaterials inspired by the structure of nacre was published in Philosophical Transactions of the Royal Society A : Mathematical, Physical and Engineering Sciences.https://royalsocietypublishing.org/doi/full/10.1098/rsta.2009.0007

[4] Choi, Ho, Seung, Kim, L, Young (2014) Hybridized/Coupled Multiple Resonances in Nacre published in Physical Review Bhttps://doi.org/10.1103/PhysRevB.89.035115

[5] Oaki, Yuya, Imai, Hiroaki (2005) The Hierarchical Architecture of Nacre and its Mimetic Material was published in Angewandte Chemie International Edition 44 (40)https://doi.org/10.1002/anie.200500338

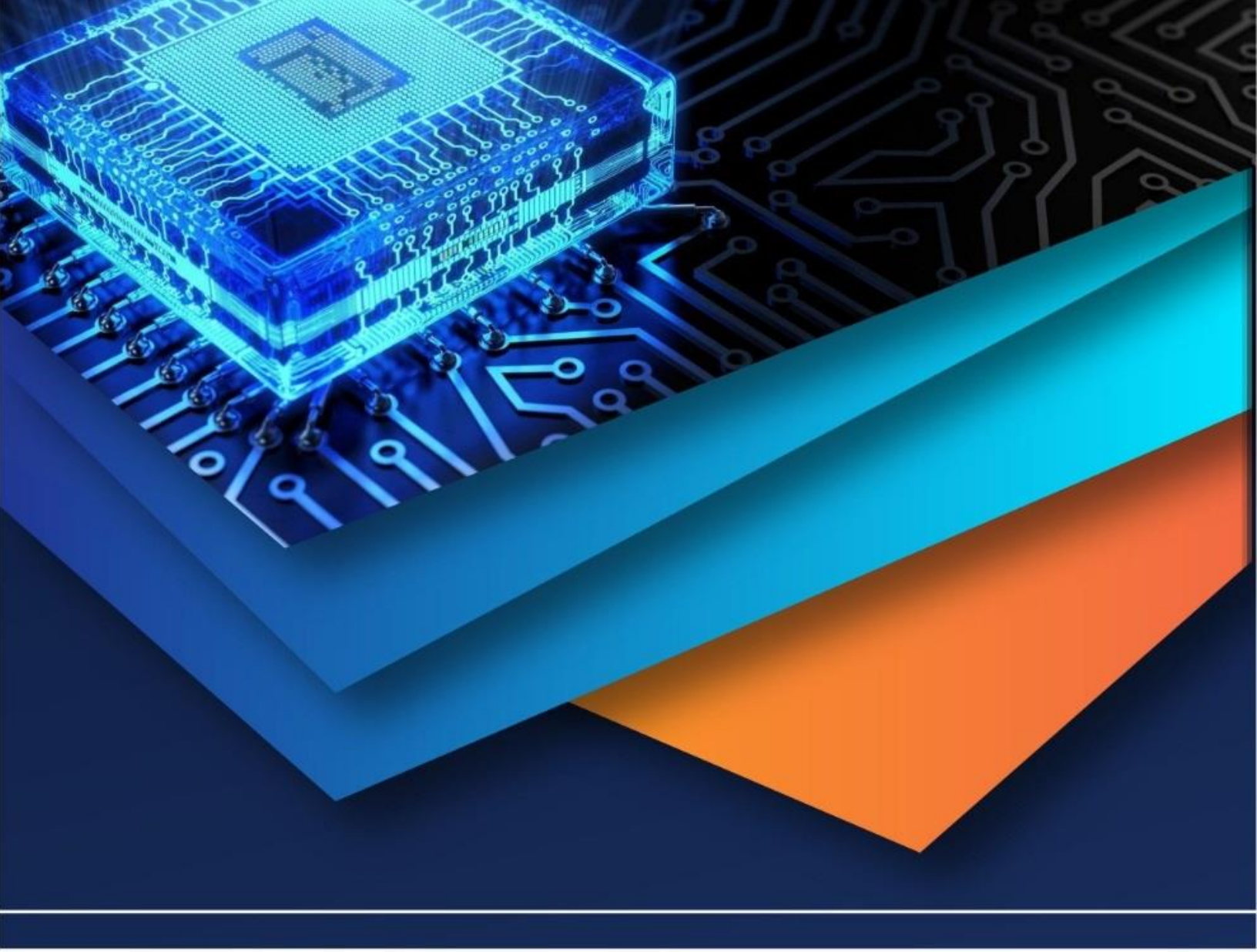
[6] Kamal, Arif, Mohammad, Chomal, Suresh, Naveen, Koundal, Anshika (2024) Exploring Stone Craft in Contemporary Interior Design: Innovative Applications and Techniques was published in Architecture Engineering and Science 5(3)https://www.researchgate.net/publication/382492893_Exploring_Stone_Craft_in_Contemporary_Interior_Design_Innovative_Applications_and_Techniqu

[7] Cuchor, David, Kopas, Peter, Broncek, Jozef, Brumercik, Frantisek (2023) Experimental Determination of the Mechanical Properties of Onyx Material was published in Materials Research Proceedings 34 https://doi.org/10.21741/9781644902691-2

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[8] Pang, Jun, Wang, Ze-Yu, Song, Tao, Zhang, Zhen-Bhang,Meng, Yu-Feng, Zhang, Si-Chao, Zhang, Long, Xing, Wei-Yi, Yu, Shu-Hong (2025) A nacre inspired structural material with thermochromic properties and mechanical robustness by atomic-level design was published in National Science Review 12(5)
[9] https://academic.oup.com/nsr/article/12/5/nwaf098/8082157
[10] Gilbert, Pupa, Metzler, A, Rebecca, Olabisi, M, Ronke, Coppersmith, N, Susan (2007) Mother of Pearl: Classic beauty and remarkable strength was published in Physical Review Letters 98(26)https://www.sciencedaily.com/releases/2007/07/070702145203.htm
[11] Zhao, JunGuo (2022) The Effective Application of Mother of Pearl Lacquerware Technology in Modern Product Design was published in the Proceedings of the 2021 International Conference on Culture, Design and Social Development (CDSD 2021)https://www.atlantis-press.com/proceedings/cdsd-21/125969198

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