

Customer Perception On Polygranite Sheets And Traditional Methods In House Constructions.

Dr. Meeravali Shaik¹, Dr. P V V Kumar², Dr. Degala Pushpa³, Mrs. A. Pavani⁴, Dr. M. Srinivasa Reddy⁵

¹Assistant Professor, Department of Management, RGUKT-Ongole Campus, Ongole,
meeravalimba@gmail.com, mvsk@rguktong.ac.in

²Associate Professor, Department of MBA, St. Ann's College of Engineering & Technology, Chirala
kumarspv@gmail.com

³Assistant Professor, Department of MBA, Pace Institute of Science & Technology, Ongole,
Puspasri.degala@gmail.com

⁴Assistant Professor, Department of Civil Engineering, RGUKT-Ongole Campus, Ongole,
Pavaniakkala@rguktong.ac.in

⁵Assistant Professor, Department of Mathematics, RGUKT-Ongole Campus, Ongole.,
naveenasrinu@gmail.com

Abstract

The Indian construction industry serves as a significant engine of economic growth, with strong future prospects by government infrastructure initiatives, rapid urbanization, and rising incomes. As the industry evolves, both traditional and modern materials play crucial roles in shaping construction and interior design practices. Traditional materials such as wood, marble, and ceramic tiles have long been valued for their aesthetic appeal and cultural significance. However, they often require extensive maintenance and may be less suited to high-traffic or modern environments. In contrast, polygranite sheets a synthetic material composed of resins, polymers, and natural stone particles have emerged as a versatile and durable alternative. Known for their resistance to scratches, stains, heat, and moisture, polygranite sheets are lightweight, easy to install, and low-maintenance, making them increasingly popular in residential and commercial projects. Additionally, paint continues to play a vital role in construction, providing protective coatings, enhancing aesthetics, and contributing to hygiene and safety. This study explores the comparative advantages of polygranite sheets over traditional materials, emphasizing their growing relevance in the Indian construction landscape.

Key words: Polygranite sheets, wood, ceramic tiles, painting, durability and design.

I. INTRODUCTION:

The Indian construction industry is a major contributor to the nation's economic growth, playing a pivotal role in infrastructure development and employment generation. It is projected to grow at a compound annual growth rate (CAGR) of 12.6%, reaching an estimated USD 2.13 trillion by 2030. This growth is primarily driven by government initiatives such as the National Infrastructure Pipeline (NIP), rapid urbanization, and sustained investment in public and private infrastructure projects. The sector also supports millions of jobs, making it one of the largest employers in the country. As the industry evolves, the choice of construction materials has become increasingly important balancing durability, aesthetics, sustainability, and cost-effectiveness. Traditional materials like marble, wood, and ceramic tiles have long been favoured, but they often involve high maintenance, susceptibility to damage, and environmental concerns. In this context, polygranite sheets have emerged as a modern, innovative alternative. These synthetic building materials are designed for both interior and exterior applications, offering a lightweight, durable, and cost-efficient solution that mimics the appearance of natural stone. Composed of polymers, fillers, and additives, polygranite sheets are available in a variety of colours, textures, and thicknesses. They are especially valued for their resistance to scratches, stains, moisture, and heat, as well as for their ease of installation and minimal maintenance requirements. Given these advantages, polygranite sheets are gaining popularity in both residential and commercial construction, marking a shift towards more technologically advanced and sustainable building practices in the Indian construction landscape.

ii. Objectives Of The Study

1. To study the polygranite sheets in new house constructions.

2. To analyse traditional methods and poly granite sheets.
3. To measure comparison between polygranite sheet and painting

III. METHODOLOGY OF THE STUDY

This study adopts both analytical and descriptive research methodologies to gain a comprehensive understanding of the subject. The research is grounded in both primary and secondary data sources, ensuring a balanced and well-supported analysis.

Sampling Size and Design

The primary data for the study have been collected through a structured survey method using a well-formulated questionnaire. A multistage random sampling technique has been employed to ensure the systematic and unbiased selection of respondents. This approach is suitable for studies involving large and diverse populations, allowing for the collection of data from different segments in a step-by-step manner. The sampling process ensures representation across relevant demographic or organizational categories.

Sample Selection

For the purpose of collecting primary data, a multistage random sampling method has been applied. Initially, broader categories or locations were identified, followed by the random selection of specific companies or units within those categories. Finally, individual employees were selected at random to respond to the questionnaire. This sampling design is particularly appropriate for the research, as it enables the collection of reliable and representative data from employees of selected automobile companies, who form the core focus of the study.

Secondary Data Sources

The secondary data were gathered from a wide range of credible and relevant sources, including:

- Academic Journals
- Industry Magazines
- Published Reports and Books
- Daily Newspapers and Periodicals
- Research Articles and Conference Papers
- Official Websites
- Company Publications, Manuals, and Booklets

IV. REVIEW OF LITERATURE OF THE STUDY

The Indian construction industry plays a vital role in the country's economic landscape, significantly contributing to GDP growth and employment generation. It spans infrastructure, residential, commercial, and industrial segments, making it one of the largest sectors in India.

Key Aspects

- **Economic Importance:** The sector creates millions of jobs and supports ancillary industries such as cement, steel, and equipment manufacturing.
- **Growth Potential:** Driven by rapid urbanization, increasing disposable incomes, and major government initiatives, the industry is expected to grow robustly in the coming years.
- **Challenges:** The sector faces pressing issues such as labour shortages, the need for skilled workers, and environmental sustainability.
- **Government Initiatives:** Programs like Smart Cities Mission, Pradhan Mantri Awas Yojana, and Gati Shakti are driving infrastructure development.
- **Technological Advancements:** Adoption of prefabrication, modular construction, and smart building systems is improving efficiency and reducing project timelines.
- **Sustainability Focus:** There's an increasing shift towards eco-friendly materials and construction practices, aligning with global climate goals.
- **Skill Development:** Bridging the skill gap through vocational training and certifications is becoming a top priority for stakeholders.

Traditional Materials in Home Improvement

Traditional building materials like **wood**, **marble**, and **ceramic tiles** have been staples in Indian homes due to their aesthetic value and historical significance.

Characteristics of Traditional Materials

| Material | Advantages | Limitations |
|---------------|--|--|
| Wood | Warmth, elegance, natural appearance | Requires high maintenance; prone to warping, pests |
| Marble | Luxurious look, timeless appeal | Porous; can stain and etch easily |
| Ceramic Tiles | Durable, water-resistant, design variety | Can chip or crack; grout needs maintenance |

While these materials offer enduring charm, many homeowners are now seeking modern alternatives that combine visual appeal with practical benefits.

Modern Alternative: Polygranite Sheets

Polygranite sheets are emerging as a popular choice for home improvement due to their durability, versatility, and ease of maintenance. They are composed of resins, polymers, and stone granules, simulating the look of natural granite or marble.

Key Features of Polygranite Sheets

- **Durability:** Highly resistant to impact, scratches, moisture, and stains—ideal for high-traffic areas.
- **Versatility:** Can be used in wall cladding, countertops, flooring, and furniture.
- **Lightweight:** Easier to handle and install compared to natural stone.
- **Low Maintenance:** Non-porous surface resists dust and bacteria; no sealing or polishing required.
- **Aesthetic Variety:** Available in multiple colors and textures, mimicking real stone.
- **Fire-Resistant:** Inherently safe for building applications.
- **Eco-Friendly:** Often recyclable and manufactured with minimal environmental impact.

Applications

- Interior & Exterior Wall Cladding
- Kitchen & Bathroom Countertops
- Flooring
- Furniture Elements like Cabinets and Shelving

Comparison: Polygranite Sheets vs. Traditional Materials

| Criteria | Polygranite Sheets | Traditional Materials |
|-----------------|-------------------------------------|---|
| Durability | High resistance to wear and damage | Moderate; prone to chipping, warping, or stains |
| Maintenance | Low; no sealing or polishing needed | Requires regular upkeep |
| Installation | Easy; standard tools suffice | Often labor-intensive |
| Design Options | Wide range, consistent patterns | Natural variations; limited color options |
| Sustainability | Eco-friendly, recyclable | Quarrying impacts environment |
| Cost Efficiency | Cost-effective over the long term | Higher long-term maintenance costs |

The Role of Paint in Construction

Paint is an essential element in construction, serving not only decorative but also protective and functional purposes.

Functions of Paint

Surface Protection

- Weather Resistance: Shields against moisture, UV rays, and temperature fluctuations.
- Corrosion Prevention: Anti-corrosive paints protect metal structures.
- Waterproofing: Specialized paints prevent water ingress in basements, roofs, and exteriors.

Aesthetic Enhancement

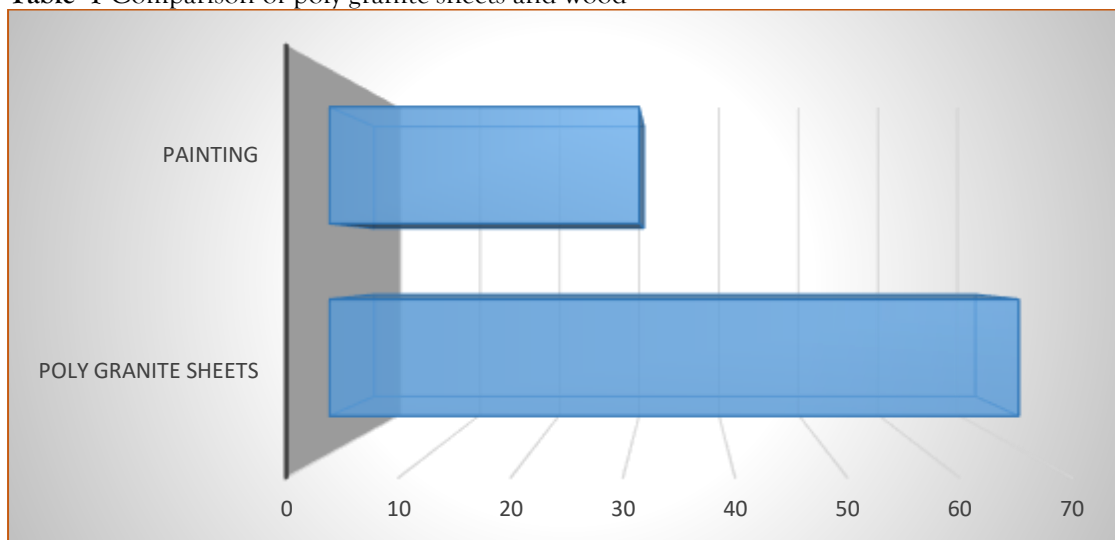
- Adds color, style, and character to spaces.
- Helps create themes, highlight architectural features, and improve space perception.

2. Health and Hygiene

- Anti-microbial paints are used in sensitive areas such as hospitals, kitchens, and bathrooms to inhibit mild and bacteria growth.

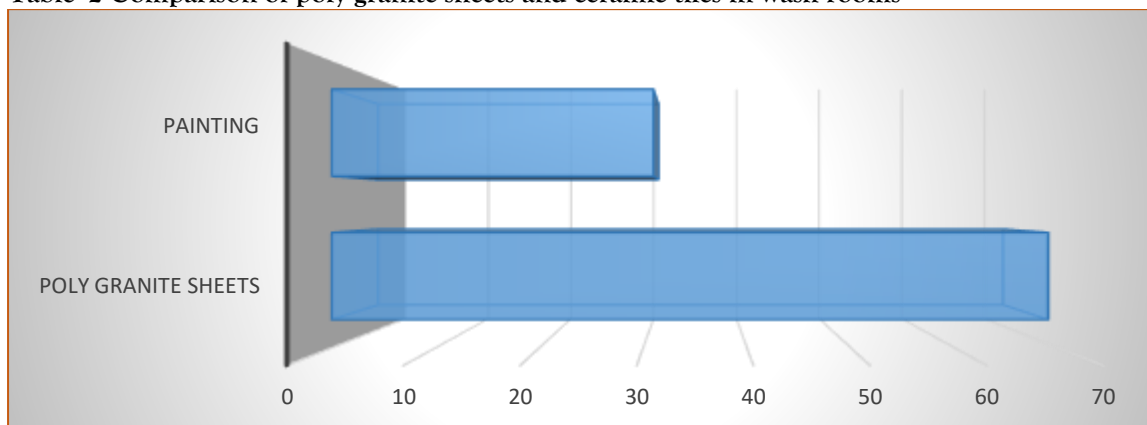
V. data analysis

Table -1 Comparison of poly granite sheets and wood



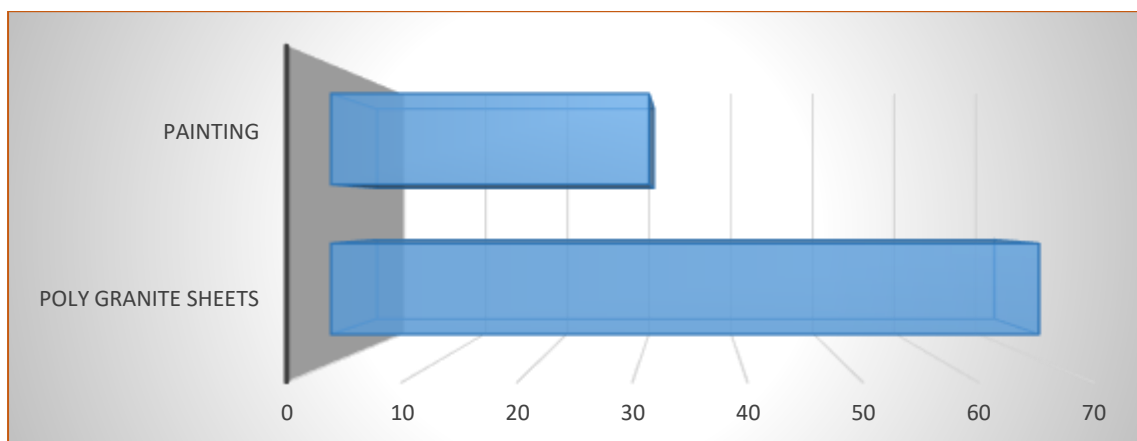
The above graph depicts 66% of the customers prefer polygranite sheets than wood.

Table -2 Comparison of poly granite sheets and ceramic tiles in wash rooms



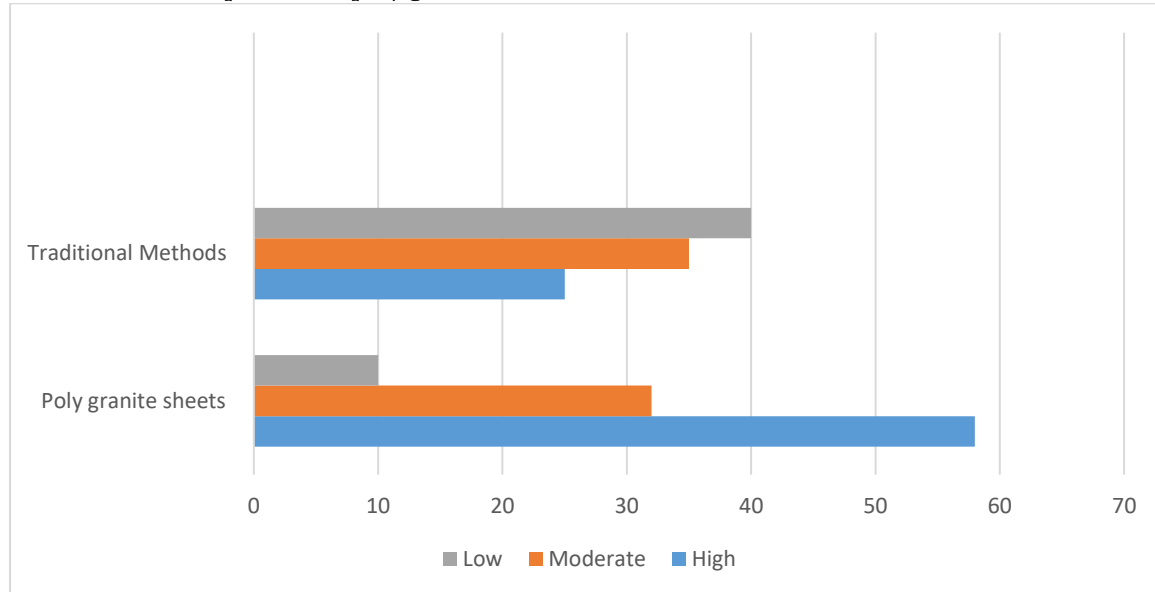
The above graph depicts 59% of the customers chosen Ceramic tile in their wash rooms and only 41 % customers chosen poly granite sheets.

Table -3 Comparison of poly granite sheets and painting in Living rooms and bed rooms



The above graph shows that 69 % of the customers chosen poly granite sheets in their wash rooms and only 31 % customers chosen painting in Living rooms and bed rooms.

Table -4 Cost comparison of poly granite sheets and traditional methods



The above graph shows that majority of the customer's feels poly granite sheets cost are more than the traditional methods cost in new house constructions. Customers are not bothered about the cost or price. They always think about tastes and their preference of designs. Now a days customer prefer new look and uniqueness of designs and colours.

VI. CONCLUSION OF THE STUDY

The comparison between polygranite sheets and traditional materials highlights the significant advantages offered by this modern alternative. Polygranite sheets provide superior durability, a broad range of design options, and ease of installation, low maintenance, and environmental benefits. These attributes have led to a noticeable shift in consumer preference, especially in home improvement and interior design projects. In modern construction, painting remains an essential element for aesthetic enhancement and surface protection. However, there is a growing trend among consumers to opt for polygranite sheets over traditional paint finishes. The reasons are clear: polygranite sheets offer long-lasting durability, customizable designs, and a high-end granite-like appearance that enhances the visual appeal of interior walls. The present study finds that cost is no longer the primary concern for many customers when making material choices. Instead, they prioritize quality, longevity, and a premium finish that adds value and elegance to their spaces. As a result, polygranite sheets are increasingly preferred over conventional painting, especially in areas where both durability and design aesthetics are key considerations.

VII. REFERENCES

- 1.Badger, B. (2019). Organizational Leadership— It's About People, Not Process. National Academy of Construction (NAC) Executive Insights, July 22, available at <https://www.naocon.org/wp-content/uploads/Organizational-Leadership-Its-About-People-Not-Process.pdf>
- 2.CII (Construction Industry Institute) (1996). Partnering toolkit. IR102-2. University of Texas at Austin, Austin, TX. Available at <https://www.construction-institute.org/resources/knowledgebase/best-practices/partnering>.
- 3.Hendrickson, C. (1998) Project Management for Construction: Fundamental Concepts for Owners, Engineers, Architects and Builders, Carnegie Mellon University, Pittsburgh, PA, USA, available at <https://www.cmu.edu/cee/projects/PMbook/>
- 4.International Partnering Istitute. (2020). What is Construction Partnering?. Available at <https://partneringinstitute.org/about/what-is-construction-partnering/> (accessed on June 1, 2022).
- 5.PMI (2017). Project Management Body of Knowledge (PMBOK) Guide 2017, Project Management Institute, USA.
- 6.Sanvido, V. et al. (1990). An Integrated Building Process Model, CIC Technical Report 1, Penn State University, University Park, PA, USA, available at https://www.cic.psu.edu/download/TR_001_Sanvido_1990_IBPM.pdf.