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Redesigning “Shipping Containers” To Pop-Up Cafes In Bhopal

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Abstract

The purpose of this study article is to transforming shipping containers into pop-up cafés is a novel strategy for urban space optimization, integrating sustainability, practicality, and aesthetics. The goal of this redesign is to produce containers that enhance the café's overall atmosphere in addition to being useful. The study addresses the repurposing of shipping containers has gained popularity, emphasizing their usage in various applications such as homes, offices, retail spaces, and pop-up cafés. This concept offers a cost-effective and aesthetically pleasing substitute for conventional brick-and-mortar cafés, aiding in the rejuvenation of urban locales and the expansion of small enterprises.

Keywords:-

Café Container Design, Sustainable designs,, Aesthetic Appeal, Eco- friendly material,

1. Introduction

Pop-up cafes are temporary, usually unusual establishments that operate for a limited time in a number of locales. These pop-up concepts are often aimed to provide unique experiences that differ from standard cafes.

Key features of pop-up cafes:

Temporary Nature: Pop-up cafes are not designed to be permanent. They can last anywhere from a day and several months.

Unique Locations: Pop-up cafes are sometimes set up in unexpected or odd locations. This may occur in an art museum, an empty shop area, universities, a park, or even on a rooftop.

Creative Themes: Many pop-up cafés follow a certain theme or concept that corresponds to current trends, holidays, and cultural movements.

Limited Menu: Unlike regular cafes, pop-up cafes frequently select their menus to reflect the concept or experience. It could include experimental cuisine items, seasonal specialties, or unique drinks

Collaborations: Pop-up cafés frequently work with local artists, chefs, or companies to create something special

Pop-up cafés are temporary, frequently mobile, food and beverage outlets established in diverse locations for a limited duration, typically to provide a distinctive, engaging experience or to leverage a particular event or season. Pop-up cafés are recognized for their adaptability, innovation, and capacity to generate excitement through time-limited offers and unique environments.

Pop-up cafés, as transient and frequently movable food and beverage venues, have emerged as a notable trend in the hospitality and retail sectors. These short-term projects are generally established in unusual locations, such as universities, urban parks, festivals, art galleries, or even inside shipping containers, and can last for days, weeks, or months. Pop-up cafés are significant for more than just their novelty and attractiveness; they signify a larger shift in consumer behavior, marketing methods, and how businesses interact with their customers.

2. Background:-

The idea of using shipping containers as pop up cafes is an innovative container design solutions are becoming more and more necessary as the café industry expands and adjusts to shifting consumer demands. Consumers have demonstrated a stronger preference in recent years for companies that put sustainability and quality at the forefront of every facet of their offerings. Conventional containers, which are frequently manufactured in large quantities with little consideration for their effects on the environment, are currently under scrutiny for their role in waste and inefficiency.

Finding a balance between sustainability and convenience is one of the biggest issues facing cafés today. Non-recyclable materials and single-use plastic containers have long been the norm, but their detrimental effects on the environment have drawn criticism. This has led to an increasing demand for recyclable, biodegradable, or reusable alternatives. Many cafés are now looking for creative ways to lower their carbon footprint while still providing convenience for both patrons and employees as a result of this change.

Redesigning café containers combines customer-centric design, operational efficiency, and environmental responsibility. This is a chance to rethink how something as basic as a container can improve the café's overall brand experience, sustainability initiatives, and functionality. In order to meet the changing needs of

contemporary cafés, the project aims to strike a balance between these different factors and offer innovative, useful, and sustainable container solutions.

3. Literature Review

3.1- Sustainability in Café Container Design- In order to reduce single-use plastics, a significant source of waste in the foodservice industry, the redesign of café containers places an emphasis on sustainability. According to studies like Hopewell et al. (2009), plastic containers contribute significantly to the world's waste, which is why coffee shops are looking for alternatives like recyclable, compostable, and biodegradable materials.

3.2- Aesthetic appeal and brand equity- The design of containers has been greatly impacted by the growth of social media platforms, especially Instagram. According to Hodder and Kottke (2017), this trend encourages cafés to invest in distinctive and visually appealing container designs by giving them free marketing.

3.3- Technological Integration- Modern technology is starting to influence how café containers are redesigned, especially in terms of improving customer satisfaction and functionality. The incorporation of temperature-regulating elements into containers, like smart coffee cups that sustain beverage temperatures for prolonged periods of time, was investigated by Gann et al. (2020).

4. Design Principles for Pop up cafes

4.1- Modular and Flexible Designs- Containers for pop-up cafés need to be flexible and adaptable because they frequently operate in erratic and temporary locations. Pop-up environments are best suited for modular containers, which can be rearranged for various purposes. For instance, a useful solution for pop-up cafés is to use foldable or collapsible containers that are simple to store when not in use.

4.2- Functional Design- Plant-based polymers, bamboo, and recycled plastics are examples of materials that are sustainable and long-lasting. Furthermore, using repurposed materials can help cut waste without sacrificing container quality, according to Muthu et al. (2017).

4.3- Minimalist Designs- Plant-based polymers, bamboo, and recycled plastics are examples of materials that are sustainable and long-lasting. Furthermore, using repurposed materials can help cut waste without sacrificing container quality, according to Muthu et al. (2017).

5. Case Study (Literature)

5.1- The rise of KeepCup café- A reusable coffee cup that has become well-known for its useful and environmentally friendly design, is an example of an inventive container redesign used in pop-up cafés. This cup is perfect for cafés that encourage sustainability and want to cut waste because it blends portability and functionality.

5.2- The container café in Singapore- Repurposed shipping containers are used to create a mobile café experience at Singapore's Café Container. This pop-up café, which serves both local commuters and visitors, was created to be both convenient and environmentally friendly.

5.3- The Coffee Lab at Rotterdam's Shipping Container Park- Repurposed shipping containers make up the inventive Shipping Container Park in Rotterdam, which is home to a number of cafés, including The Coffee Lab. This container park places a strong emphasis on sustainability, creativity, and community involvement.

5.4- The rolling café in the US- in the US, a mobile café called The Rolling Café runs out of a repurposed shipping container. This café is completely mobile, unlike traditional pop-ups, which enables it to travel to various events, festivals, and even private gatherings.

5.5- Café container in Paris- Constructed from a recycled shipping container, Café Container is a permanent installation located in Paris, France. The use of containers as makeshift buildings for cafés and small enterprises is a part of a broader initiative. Both residents and visitors are drawn to this busy part of the city.

6. Case Study (Live)

6.1- Rahul Meena momos Café Container: - Live case studies at Rahul meena momos. This café is been made by recycling a shipping container which is a very unique and creative design. This looks attractive and is very reasonable.

6.2 Wowfulls waffles and more: - They have constructed a small kitchen within the container, complete with amenities such as a microwave, waffle maker, dressings, water, and an induction stove. It's a modest shop that specializes on waffles and has a small outside dining area.

7. Materials Used

Shipping container cafés are a unique and environmentally responsible method to build useful, elegant venues. The materials utilized in these cafés are critical to ensure longevity, aesthetic appeal, and usefulness. The following are some common materials used in the building and design of shipping container cafes:

1. Shipping containers (steel).

Material: The core construction is often built of steel shipping containers. These containers are strong, weather-resistant, and readily accessible. The steel structure also offers superior security and insulation.

PROPERTIES OF STEEL

- a. Strength
- b. Durability
- c. Hardness
- d. Conductivity

2. Wood:

Wood is widely utilized for indoor and external design aspects. Wooden cladding or paneling on the outside provides warmth and aesthetic appeal, complementing the industrial appearance of steel. Interior wooden floors, tables, and counters provide a warm and inviting ambiance.

PROPERTIES OF WOOD

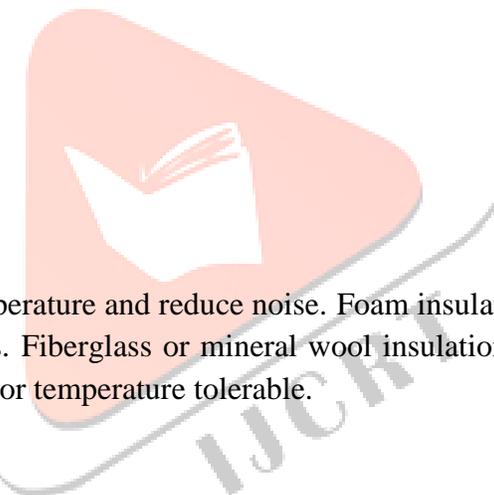
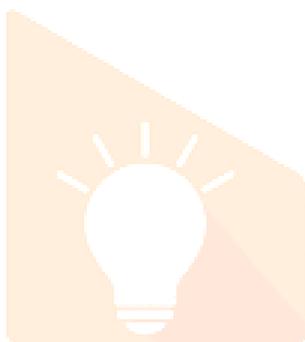
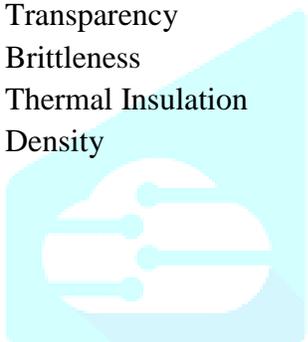
- a. Lightweight
- b. Elasticity
- c. Workability
- d. Aesthetic Appeal

3. Glass:

Glass is commonly used for windows and doors. Large windows or glass walls are commonly used to bring in natural light and give views of the surroundings. Sliding or folding glass doors are also utilized to provide a continuous indoor-outdoor movement.

PROPERTIES OF GLASS

- a. Transparency
- b. Brittleness
- c. Thermal Insulation
- d. Density



4. Insulation:

Shipping container cafés require insulation to regulate temperature and reduce noise. Foam insulation (spray or rigid foam boards) is widely utilized in walls and ceilings. Fiberglass or mineral wool insulation can also be utilized. Reflective insulation may be used to keep the indoor temperature tolerable.

Types of Insulation Materials:

Fiberglass insulation is popular because to its heat resistance, soundproofing capabilities, and cost.

Spray Foam Insulation: Expands to cover gaps and crevices, resulting in superior air sealing.

Mineral wool (rock wool) is fireproof and soundproof, and it is commonly employed in high-temperature situations.

Foam board insulation consists of rigid panels that provide good thermal and moisture resistance.

Cellulose Insulation: Made from recycled paper, it is environmentally beneficial and may be used for thermal and sound insulation.

Cotton insulation is made from recycled cotton fibers and provides eco-friendly thermal and sound insulation.

5. Concrete:

Used for floors, supports, and foundations. Concrete flooring are widely used because they are long-lasting and easy to maintain. Concrete is also employed in outdoor applications like as patios and walkways.

PROPERTIES OF CONCRETE

- a. Compressive Strength
- b. Workability
- c. Density
- d. Fire Resistance

6. Metal:

Metal components are commonly employed with steel. Metal is frequently utilized as structural supports, railings, staircases, and chairs in shipping container cafés. It may also be used for roofs, awnings, and accents in furniture design.

PROPERTIES OF METAL

- a. Malleability
- b. Ductility
- c. Conductivity
- d. Toughness

7. Reclaimed Materials

Material: Many shipping container cafés use salvaged materials. **Uses:** Reclaimed wood, metal, and even furniture may be used to preserve an eco-friendly design while still creating a distinctive style.

8. Paint & Coatings

Material: Paint is used to preserve steel and improve its visual appeal. Specialized coatings and rust-resistant paints are used to prevent corrosion and wear, particularly in shipping containers exposed to extreme external conditions. Colors are chosen based on the cafe's branding and design style.

9. Sustainable Materials

Sustainable materials can be used into eco-friendly designs. Uses include reclaimed rubber flooring, bamboo, and environmentally friendly paints and finishes.

10. Light Fixtures

Lighting may be manufactured from a variety of materials, including metal, glass, and repurposed things. Pendant lights, wall sconces, and LED strips are frequently employed for both usefulness and aesthetic appeal, resulting in a pleasant and inviting ambiance.

11. Furniture (metal, wood, and upholstered).

Materials utilized in custom furniture include metal, wood, and upholstery. Shipping container cafés frequently include handmade tables, chairs, and counters fashioned from a combination of metal and wood for an industrial-chic appeal. Cushioned seats in durable textiles may be added for comfort.

8. Objective of the study-

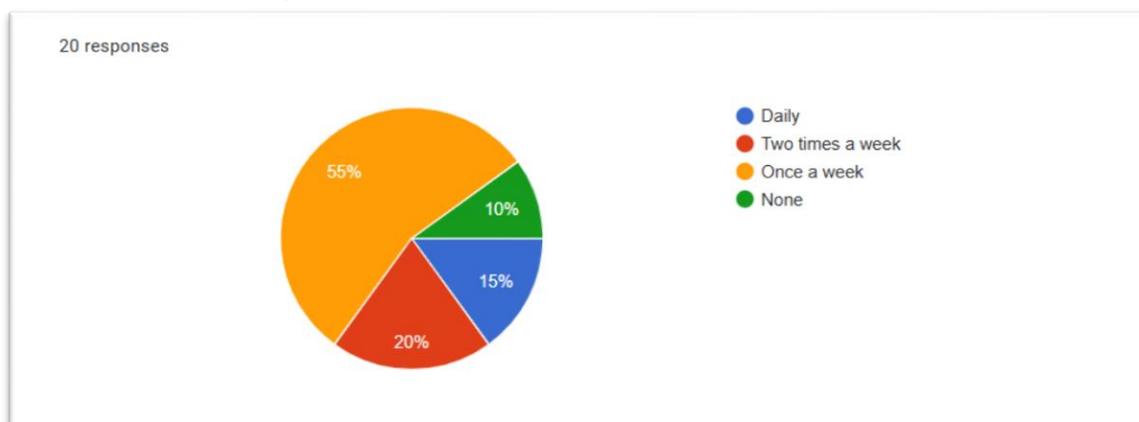
This study's goal is to investigate and evaluate the possibilities of repurposing containers as flexible and environmentally friendly locations for pop-up cafes. The study specifically seeks to Investigate the design requirements, promote sustainability, enhance customer experience, and explore marketing potential.

It aims to design Pop up café for this genZ generation to make them comfortable to hang out with their friends or family, to do meetings with colleagues etc.

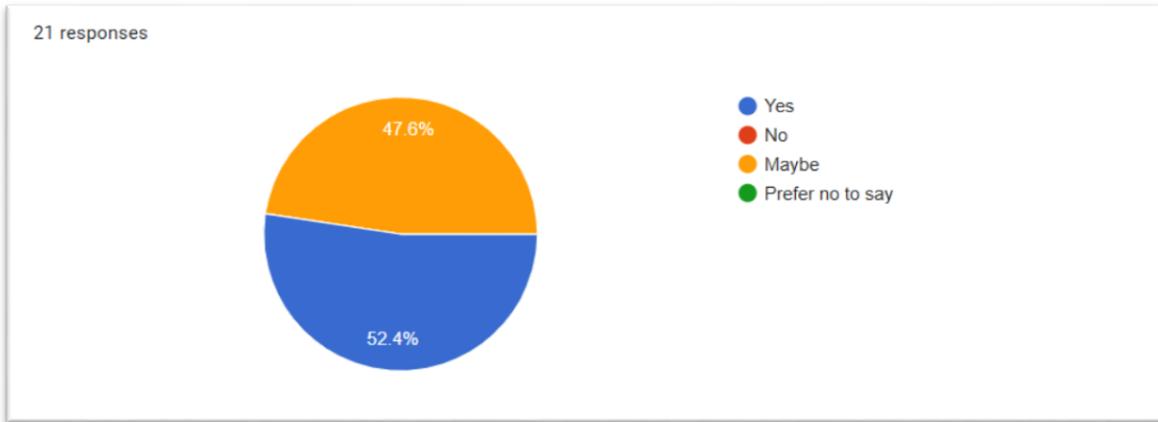
9. Findings-

A survey was undertaken to collect information for establishing a container pop up café, with the focus on requirements of potential users. Respondents shared their thoughts with the help of this survey. The survey will help in ensuring that the café will meet the different requirements of its users. Some of the responses are shown below:-

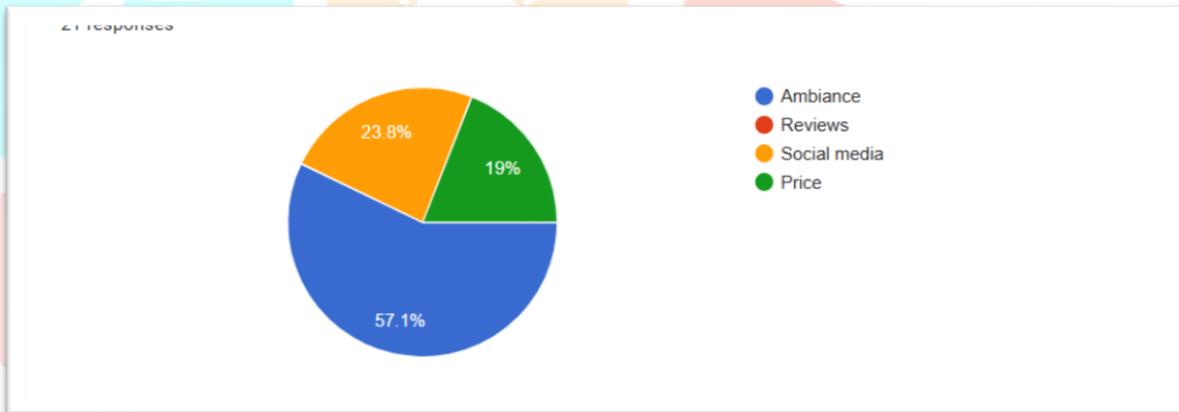
- How often do you visit Cafes in Bhopal?



➤ Do you think repurposing shipping containers for cafes adds to the overall aesthetic appeal of the city?



➤ What factors attract you to a pop-up cafe?



10. Design Process-

9.1- Planning

9.2- Spatial Layout

9.3- Sections and Elevations

9.4- Three-D visualization

11- Conclusion-

Pop-up café containers must be redesigned to satisfy the particular requirements and difficulties of these transient businesses. To satisfy operational and branding requirements, containers must be ergonomic, portable, sustainable, and aesthetically pleasing. Pop-up cafés can enhance customer satisfaction and operational effectiveness by experimenting with novel materials, modular designs, and aesthetics. The redesign of containers in the pop-up café industry will be crucial in determining the direction of café culture in the future, as sustainability and aesthetics continue to impact consumer behavior.

This study offers a thorough examination of redesigning containers especially for pop-up cafes, taking into account the significance of portability, sustainability, functionality, and aesthetics. Additionally, it talks about the main issues that pop-up cafés face and offers ideas for future research directions.

12. References-

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