SUSTAINABILITY SYSTEM TO BENEFIT BOTH GUEST AND HOTELS

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ABSTRACT

Background: *The research paper was to develop a universal sustainability rewards program in an upscale business hotel. With growing concern for depleting natural resources this program aims at rewarding guests for conserving natural resources.* **Objective:** *The study was to identify the consumer behavior and perception towards sustainability and to curate a universal sustainable rewards program. This study proposes a conceptual framework that combines the principles of sustainability, customer loyalty, and corporate social responsibility to design a rewards program that promotes environmentally responsible behaviors among hotel guests.* **Methodology:** *Quantitative research design was used in which an energy survey of a two hotels was conducted through telephonic interview with the Incharge of the Hotel Engineering Department and a survey among five hundred general consumers was done to assess their attitudes and behaviors towards sustainability through a Google form. The data was analyzed by calculating frequency and percentage.* **Results:** *The findings indicated that sustainable practices have become increasingly important to guests (92%) and 98% feel that an encouraging program would be an effective way to promote sustainable behaviors. The study also identified the key features and benefits of a sustainability programs and around 90% of customers prioritize sustainability efforts and innovations when selecting their accommodations, reinforcing the on-going trend observed in consumer behaviour. Around 81.3% of respondents expressed their willingness to partake in a universal sustainability rewards program and provided recommendations for its successful implementation in hotels. The rewards program gives credit points for optimal conservation of resources. It is universal in nature, i.e. these points can be earned as well as utilized anywhere across the globe.* **Conclusion:** *The proposed program has the potential to enhance the hotel's reputation as a socially responsible business, attract environmentally conscious guests, and contribute to the sustainable development of the hospitality industry.*

Key Words: *Sustainability, Hospitallity Industry, Hotels, Guests, Environment.*

INTRODUCTION

Sustainability, as the cornerstone of ecologically conscious travel and responsible tourism, is critical for hotels. Beyond just ensuring if guests are satisfied, it demonstrates a commitment to environmental preservation, reducing carbon emissions, and assisting local communities. Using sustainable methods can save hotel finances lessen their impact on the environment, and increase operational efficiency. By attracting environmentally conscious visitors and advancing global sustainability objectives, sustainable operations improve a hotel's reputation. These could include

things like reducing trash, buying local vegetables, installing energy-efficient lighting, and conserving water. Additionally, sustainable hotel operations benefit the community by enhancing ecosystems and local population health. In essence, hotel sustainability is more than just a profit.

As per the United Nations Sustainability Development requires an integrated approach that takes into consideration environmental concerns along with economic development (un. org). The Brundtland Report, that was published by the World

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Commission on Environment and Development in which the term "sustainable development" was officially defined as: "Meeting the needs of the present without compromising the ability of future generations to meet their own needs." The dimension of sustainability include environment, social and economic. These three dimensions are important for our future generations (mcgill.ca).

Sustainable Development need to be realised and implemented at national and international level. It need to be properly planned and executed having holistic approach and help achieving environment friendly atmosphere. (Mohanty, 2020). According to Arizona State University sustainability has three fundamental pillars–the Three Ps. First – People. Second– Planet and Third – Profit (schoolofsustainability. asu.edu).

Indian hotels are now practising Sustainability as it is foremost social responsibility, also part of government initiatives and help in economic growth of the country. In long run such practices is going to help guest, the end consumer of hotel by paying lower room rent (Amandeep, 2017).

Hotels are expending 3-6% of hotel operating cost that goes to usage of energy. The usage of energy in hotel increases 60% of CO_2 emission. The percentage of hotel operating cost is now from last decade has increased to 25-30% and is expected to increase because of the more demanding standards and coming in of new electronic devices. Hotels are adopting sustainability practices, however demands contribution from all stake holders (Upadhya et al., 2016).

Abdelkader, 2022 in his study found that the society plays a very important role. Hotels are doing there bit by creating awareness on various aspects covering the Sustainable Development Goal (SDG) and on priority is taking care of the environment. Environmental sustainability is the key area for start-up hotels and to make their core value. It has been observed that there is increase popularity of ecotourism. Such initiatives are reducing cost, improving employee engagement, better recognition with full compliance with regulatory requirements. All these aspects will improve the brand image of the hotel (Sarode, 2022).

Prakash et al., 2022 in his study focussed on sustainability aspects and formulated Analytic Hierarchy Process (AHP). This process may reduce carbon emissions and also adopt green practices. Verma and Chandra (2018) measured sustainability in theory and practical aspect of Tourism industry. The study found the guest look forward to green landscaping, energy conservation practices the hotel was adopting and areas where recycling was in action. A study conducted in Jordan identified chain hotels do have sustainability practices in place as compared to stand alone hotels. The attitude of hotel employees matters more than their education level in application of sustainability practices (Al- Zboun & Ibrahim, 2021).

Efthymiou et al., 2022 in Cyprus emphasised on collaborating with NGO in the field of sustainability and also how Digital Marketing Communication (DML) help in creating awareness of the good practice on various platforms. Kassim (2023) did a study on the sustainability practices on Bishoftu Resort hotels. It was observed by the author that many practices like use of energy efficient appliances, LED lights, reuse of Linen etc. are in place and hotel managers have attitude to put sustainability practice but the owners are little apprehensive in investing on the same. Kang et al., 2022 in their study on presentation rewards to the employees practicing sustainability found that employee perception was on partial medication in terms of corporate sustainable responsibility.

After going through the literature, it was the need of the hour that we all have to come together practicing the sustainability approach to preserve the resources of our Mother Earth. Keeping this as a priority of every human being the current study objectives were:

• To study the consumer behavior towards sustainability in hotels.

• To suggest a method to promote sustainability.

METHODOLGY

Research Design: Quantitative research design method was used to identify the consumer behavior towards sustainability in hotels. Energy statistics was collected from a set of hotels to curate the rewards program.

Locale: The general consumers belonged to the New Delhi region along with two upscale hotels within the Connaught place region of New Delhi to gather the energy statistics.

Sampling Design: The survey was done amongst a sample of 500 consumers. These consumers were students and faculty

members of Hospitality Institute who had an experience of Industrial Training in the hotels or had hotel stay in the past.

Tools and Technique: The data was collected with the help of a structured questionnaire to the general consumer about how they perceive sustainability in hotels. Google form were used as a medium for the questionnaire. The rest of the data for calculating resource consumption to curate the universal sustainability rewards program was collected from hotels by speaking to the maintenance manager over the telephone.

Data Analysis and Statistical Analysis: The collected data was analyzed by calculating frequency and percentage.

RESULTS AND DISCUSSION

A comprehensive survey was undertaken among a diverse group of consumers who frequently patronize hotels. A total of 500 respondents participated in the study, yielding the following noteworthy outcomes. In respect to the demographic details the age group was mixed between the age range starting from 18 years to 55 years. The data was collected from both male and female samples of hospitality sector. For the consumer behavior towards sustainability in hotels following data was collected having various statement as mentioned in table 1 given below:

Table 1: The consumer behaviour towards sustainability in hotels

Statement	Number of Positive Response	Percentage of Respondents
Guest's Self Evaluation of Sustainability	460	92
Assessing guest perception on urgency of conserving water and electricity in hotels amidst escalating natural resource depletion	490	98
Guest willingness to contribute towards conservation of scarce resources in hotels	460	92
Guest interest in resource savings rewards program	450	90
Guest willingness to enrol in a global resource saving loyalty program	405	81

Guest's Self Evaluation of Sustainability: A scale of 1-5 during hotel visits: A significant peak in responses emerged, with a majority of consumers rating themselves as highly sustainable. This aligns seamlessly with existing literature, reinforcing the trend where guests express a growing 92% demand for hotels to adopt more sustainable approaches in their operations. Oxenswärdh (2022) found that guest demand more sustainable measures and have stopped demanding products that are unseasonable.

Assessing guest perception on urgency of conserving water and electricity in hotels amidst escalating natural resource depletion: Majority (98%) of the respondents acknowledged the issue and demonstrated a proactive interest in rectifying the situation. Similarly it has been expressed in an article in "The element of sustainability in the hotels" (2022) that especially the 5 star hotel of Dubai are expending more on utility bills as sustainability practices are less compared to other countries and in future it is expected to increase. In addition, it is believed that this figure is set to rise to an unimaginable level, as the agency that controls water and electricity tariffs reviews it to a higher level from 2011. Previous researches has brought to light a substantial consumption of natural resources, particularly in the form of elevated utility bills. This surge can be attributed to a deficiency in innovative measures aimed at curbing electricity and water wastage.

Guest willingness to contribute: Analysing interest in active participation for conservation of scarce resources in hotels: This specific response underscores that consumers are not only willing but 92% were actively engaged in participating in initiatives aimed at safeguarding natural resources from depletion.

Verma and Chandra (2018), majorly found that people responded to green in terms of energy conservation in terms of hotels 'energy conservation thirty-two times was, however, most often quoted by the respondents while recycling was mentioned (29) times. Other frequent words mentioned by respondents with their frequency were waste recycling (25), global warming (13), cleanliness and hygiene (14), water saving (21), water conservation (26), green building (24), biodegradable (18), pollution control (13), green certification (32) and greenery in and around hotel (21), reduce energy consumption (18), recycle bins in guest rooms (18), rainwater harvesting (9), energy-efficient lighting (21), local purchasing (22), organic product usage (19), reduce water consumption (14),and use of non-conventional energy sources (23).

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Guest interest in resource savings rewards program: A substantial number (90%) of customers prioritized sustainability efforts and innovations when selecting their accommodations, reinforcing the on-going trend observed in consumer behaviour. Sarode (2022) in the study demonstrated the tangible benefits of doing CSR by hotels. It goes to prove that the main three benefits that accrue are positive effect on guest satisfaction, and hotel profitability and it also ascertains out that a hotel's CSR performance is an important criterion for close to 90% of customers when choosing a hotel. "Sustainability is not just about "doing good"; rather, as this study proves, it also generates genuine business value. It helps a company enhance its brand in the marketplace by demonstrating responsible behaviour, something that customers increasingly value in the companies they do business with. The findings align seamlessly with prior studies, indicating that

Guest willingness to enrol in a global resource saving loyalty program: Majority (81.3%) of respondents expressed their willingness to partake in a universal sustainability rewards program. Prakash et al. (2022) mentioned that operational efficiency plays a vital role in the sustainable and economic growth of the hotel industry. So, this is a clear indication that the adoption of advanced and smart technology solutions can increase the effectiveness and efficiency of all operations by adding innovative solutions to the present status. The outcomes unveil a prevailing sentiment that forward-thinking solutions for sustainability hold paramount importance for the future. This sentiment resonates in the current study, where a noteworthy

To suggest a method to promote sustainability as a Universal Sustainability Rewards Program: This rewards program gives credit points for optimal conservation of resources. It is universal in nature, i.e. these points can be earned as well as utilized anywhere across the globe. Looking at the alarming rate at which natural resources are getting depleted, the supply of most of these assets will get exhausted. Hence, environmental awareness among guests will surely interest them. Under this program, points will be credited into the guest's account depending on the units saved. The guest can redeem these points against various attractive products or services. Nautiyal and Seth (2017) in their study on assessment of environmental practices and awareness level of hospitality students found that 98.3% were aware of the various sustainability initiatives like vermicomposting

pits, walk the talk on various sustainability measures etc. undertaken by the organization. This shows that how youth is running for organizations supporting sustainability for our mother Earth.

The Lean Canvas Model: This matrix takes into account all key areas that need intense brainstorming before a project can be implemented. These include the target customer segments, the problem, its solution, the cost structure, its revenue streams, the business channels, the unique value proposition, an unfair advantage, along with the key statistics that monitor the growth of the project.

Figure 1: Conceptual framework

Data pertaining to energy statistics was collected from two hotels within the same segment and inventory, both situated in Connaught Place, New Delhi. The juxtaposition of these establishments provides a unique insight into their respective energy consumption patterns.

Table2: Energy consumption data from the hotels

S. No.	Particulars	Hotel A	Hotel B
1	Total number of rooms	320	358
2	Standard room size	327 sq ft	315 sq ft
3	Average electricity consumption	94/day	90/day
4	Source of Electricity	NDMC	NDMC
5	Unit price of electricity	Rs12.5/Unit	Rs12.5/Unit
6	Average water consumption	1kL/day	95L/day
7	Source of Water	NDMC	NDMC
8	Unit price of water	0.281/L	0.281/L
9	Cost of Laundering linen per Kg	31/kg	34/kg
10	Brand of washing machine	Milnor, Unimac	Milnor
11	Capacity	200 kg	200lbs
12	Brand of dryer	ADC, Electrolux	ADC

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Electricity Conservation: Electricity is one of the most expensive resources globally. It is one of the biggest contributors to global carbon emission. The average standard room size taken was of 320 sq ft and a stay cycle of 22 hrs for the calculations. The average consumption per room per night was found out to be 90 units. Taking a 22hr cycle, the per hour consumption was 4 units per hour. A threshold level of 1 unit/hour has been established to ensure the active presence of guests in the room. The significance of setting up hourly basis of calculation and threshold level is to cap the maximum possible saving available for the guest. This ensures that the hotel makes no loss in any scenario. To calculate the saving of the guest, an average consumption per hour has been set which is 4 units/hour. This implies that guests can save upto 3 units lying in between the threshold and average consumption. To get the saving for the entire day it was multiplied with 22 hrs that came out to be 66 units. To convert this into monetary terms it was multiplied with the unit cost. In this case it was nearly 12.5 Rs for New Delhi Municipal Corporation. Hence a final amount of Rs. 825 per night for total electrical saving.

Table 3: Energy conservation data from the hotels

Resource	Electricity
Average consumption per room per night	90 Unit
Average consumption per room per hour	4 Unit/hr
Threshold Level	1 Unit/hr
Cost Per Unit (1 Unit=1 kwh)	Rs 12.5/ Unit
Potential Saving	66 Unit
Maximum Monetary Savings	Rs 825
*Avg room size= 320 Sq ft.	

Water Conservation: Water is probably the most essential resource for the existence of life on planet earth. Water is used in an extremely negligent manner in hotels. The calculations for water conservation are quite similar to that of electricity. The obtained information tells us the average consumption of water per room per night is approximately 90-100 litres. The final saving in this scenario is around 66L of water per night. The price of water in the locale was around Rs. 0.28 per L, but this figure is highly variable in other regions like the Gulf countries and European nations. One more important factor to be considered for water is its drainage charges which are levied by the local municipal bodies in a lot of cities. The total water saved accounts for Rs 20 in this case.

Table 4: Water conservation Data from the Hotels

Resource	Water
Average consumption per room per night	90-100 Litre
Average consumption per room per hour	4 Litre/hr
Threshold Level	1 Litre/hr
Cost Per Unit (1 Unit=1 kwh)	Rs 0.28/ L
Potential Saving	66 L
Maximum Monetary Savings	Rs 18.48
*Avg room size= 320 Sq ft.	

Linen Reuse: Bed and bath linen savings many hotels have an initiative of linen and towel reuse, which encourages the guest to avoid frequent unnecessary change of linen. However, these programs do not offer any benefit or reward to the guest. Our project, through rigorous analysis, has calculated the monetary value of resources consumed during the washing of such dirty linen. Assuming a double room of a business hotel, the average linen used per night is around 4.5 kgs The average market price of linen laundering in a hotel is around Rs. 35/kg, which may vary from hotel to hotel as well as region to region. Calculations revealed the total savings from linen reuse to be Rs.160.

Table 5: Linen Reuse Data from the Hotels

Resource	Linen
Average consumption per room per night	4.5 Kg
Cost of laundering per kg	Rs 35/Kg
Maximum monetary savings	Rs 160
*linen used per night= 1 double bed sheet + double duvet cover + 2 bath towels	

Point Redemption: These earned points can be redeemed against a plethora of services. Each point accounts for 100 Indian rupees. This is a highly variable value and has been chosen keeping in perspective our specific locale. However when applying this to a global scale a standard value, very similar to NUC in the airline industry, will be utilized so that conversion across the globe is easier. Like a typical membership program these points can be utilized for free nights, meals, car rentals, shopping, airline tickets etc all over the world.

The split up of the rewards will take place such that the hotel, guest as well as the environment get equal benefits. In this scenario, the maximum potential saving will account for up to 1000 Indian rupee which is equivalent to 10 reward points.

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These reward points will be divided among the guest and the hotel in a ratio of 3:1 out of which 2.5% from each share will be contributed towards recharging nature.
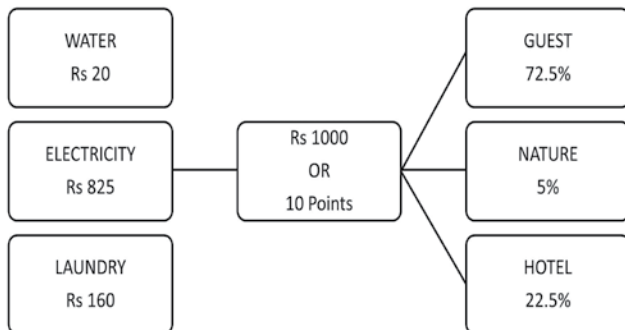

Figure 2: The Savings Split-up

For hotels the project will contributes significantly in reducing the operating cost. According to facts an average hotel spends around 9-13% of the operating expense on energy and natural resources. This project targeted to reduce the operating cost by about 5%. It also involved the CSR initiatives of the hotel along with attracting customers who look for sustainable luxury. For guests as they will collect points just by saving resources which enhances their feeling of responsibility and will also get rewarded for their small contribution towards nature. By earning these rewards from their own efforts, guests will feel the need to express their gratitude and become more encouraged towards saving resources and conserving mother earth. Guests can utilize the earned rewards to avail from an assortment of services whichever best suits their need. Through this, guests and the hotel both contribute towards global sustainability where the guests and nature coexist in ways that enable productive harmony, stability and resilience to support present and future generations.

This study has a promising scope in terms of future worldwide applications. To increase the competency of the project, it has to be expanded further. The most important aspect is to formulate a standard currency format to unify the project globally, followed by having locale based conversions as every locale in the world is unique in resource availability, consumption and viability. Therefore, a need to conduct a survey and establish the conversions for successful international application. The program works in integration with the property management system and the building management system to maintain guest profile & make intelligent calculations. To improve the acceptability

an internal, employee reward program can also be planned all the hospitality personnel. A tier based point value system would also make sure that a more sustainable individual is rewarded in conjunction with his sustainable practices.

CONCLUSION

In summation, the survey, encompassed 500 general consumer respondents frequenting hotels, yielded significant insights. These findings underscore a pronounced consumer consciousness and eagerness to engage in sustainability initiatives within the hospitality sector. A universal sustainability rewards program possesses the inherent potential to instigate significant shifts in the behaviour of both individuals and organizations, fostering a collective embrace of more sustainable practices. Through the strategic use of incentives and rewards for environmentally-conscious actions, this program has the capacity to cultivate a pervasive culture of sustainability, with far-reaching positive impacts on the environment, economy, and societal well-being. However, the successful implementation of such a program demands meticulous planning, collaborative efforts, and unwavering commitment from all stakeholders involved. The multifaceted and enduring advantages stemming from a universal sustainability rewards program underscore its role as a pivotal stride towards forging a sustainable future for generations to come. Hence, it becomes imperative for governments, non-governmental organizations, and businesses to synergize their efforts and enact these programs, fostering a conducive environment that encourages and acknowledges sustainable practices

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proceed to make and publish the study as Research paper in Pusa Journal of Hospitality and Applied Sciences.

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