CIRCULAR ECONOMY IN ENHANCING BRAND SUSTAINABILITY OF HOTELS

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ABSTRACT

This paper focuses on exploring the sustainability of a hotel brand by implementing the concept of circular economy to its system. Many research have taken place in the field of sustainability and green practices followed in hotel industry earlier but the papers lacked the concept of how sustainability can play a major role in sustaining the brand in the long run. Concept of circular economy has been gaining importance lately among the government and the academicians. The application of CE strategies in hotel industry is a topic worth discussion. The relationship between the strategies of the circular economy involving Reduction, Reuse, Recycle, Redesign, Replace, Rethink are analyzed to that of brand sustainability of the hotel by the help of structural equation modelling (SEM). In order to do so a total of 230 samples were interviewed with the help of a structured questionnaire. This study would help the hotel industry to inculcate steps which would help them in adopting to circular economic model rather than linear model, which would help them to sustain their brand name in the long run.

Keywords: Circular Economy, Sustainability, Brand, Green Practices, Hotel industry

1. INTRODUCTION

Over the years there has been many evidences speaking about the environmental degradation. A circular economy is an industrial system that focuses on restoring and regenerating things. It replaces the concept of "End of life" by restoring the resources and using an alternative source to preserve the nature and to make the environment sustainable for a longer period of time (MacArthur, 2013).

Tourism as an industry is growing day by day. In order to cater the needs and the demand of the guests, tourism industry depends on the natural resources. With the growing tourists every year, the exploitation of natural resources are increasing and tourism industry tends to play a major role in contributing to the exploitation of the natural environment (Rodriguez et al, 2020).

Hotel industry being a part of tourism industry has also seen a remarkable growth in the last few years because of its direct dependency on tourism industry (Devendra A, 2001). As the growth of the industry is depending on the nature, it is very essential to chalk out various practices which would help the industry in its sustainable growth.

Adopting green practices within the periphery of the hotel's premises is not only a part of the increasing trend but is also seen to be preferred among the customers these days. certain hotels like the ITC, The Alila Diwa Goa, The Orchid Mumbai etc are seen going green in their approach (Aggarwal, 2012).

Green practices can be followed in different areas of the hotel like rooms, food and beverage outlets, food production, human resource etc (Al-Aomar et al, 2017). Starting from giving different amenities in the guestroom till serving a satisfying delicious meal in the restaurant there are small things which can be kept in mind to go green. Also an awareness can be made by the human resource department regarding the various environmental friendly practices among the staff which will help to bring the practice into success both within the periphery of the hotel

and outside the hotel also. As a part of practice, the hotels generate an annual report on corporate social responsibility undertaken by them. This report focuses on the sustainability actions undertaken by the hotels for the financial year. In spite, of following the green practices and the sustainability steps by the hotels, still the objective of preserving the resource is not achieved. As a reason, this paper is focused on the following objectives to adapt to circular economy instead of age old linear economy.

   I.   To identify the strategies of the circular economy that can be used in the hotel industry in order to achieve sustainability.

   II.   To understand how the above strategies help the hotels to excel in their non financial and financial performance

  III.   To evaluate the effect of the strategies on the brand sustainability of the hotel in the longer run.

The article is organized as follows. Part - 2 literature highlights about the concept of circular economy, the strategies involved in CE and its effect on Hotel Industry. The next section focuses on the research methodology developed in this research. Part - 4 deals with the analysis of the results. Part- 5 discusses the significance of this research and also highlights the uniqueness of this study. Part 6 involves the implications of this research and Part - 7 emphasizes on the concluding remarks.

2. LITERATURE REVIEW

The idea of Circular economy was developed by keeping in mind the two phases of economy that is one deals with the flow of material through an economy and the second deals with the economic condition that helps to bring the flow. The idea has been a result of the modern environmental movement that was started in early 1960's and 1970's (Llanwarne, 2016). Circular economy came into existence in the industrial economy where the focus was made on production and consumption where the raw material was produced, sold, consumed and then discarded (Hysa et al, 2020). It is opposite of the linear model that is "Take, Make, Dispose" (Moreno et al, 2016).

There is no single owner for the development of the concept of circular economy (Wautelet, 2018). It started with the industrial economy and then spread into tourism sector with economic, social and environmental ecology (Rodríguez-Antón & Alonso-Almeida, 2019).

2.1 CIRCLAR ECONOMY IN HOTELS

The concept of green hotels has been increasing day by day. Guests are now becoming more and more aware about the importance of sustainability. Many hotels practices various methods and utilize different equipments which help them to save energy, water and treat waste (Julião et al, 2018). Circular economy can help to convert hospitality industry from linear model of consumption and disposal to circular in nature by utilizing the concept of re-consumption and reuse. It is one of the steps adopted by the hotel under the activities of sustainability. The hotels use the following strategies in order to inculcate circular economy to their system, that is Reduction, Reuse, Recycle, Redesign, Replace, Rethink (Rodríguez-Antón & Alonso-Almeida, 2019). Unlike manufacturing industry which basically deals with the making of a product, hotel industry deals with the services. Therefore, it mostly concentrates on the three factors which affects nature that is energy, water and waste. In order to protect nature various innovative technologies and equipments can be replaced with the current equipments and technologies.

Along with that new policies and be re-designed so that it will be easier for the staffs to work towards achieving sustainability (Rodríguez-Antón & Alonso-Almeida, 2019).

2.2 BRAND SUSTAINABILITY IN HOTELS

The concept of sustainability came into existence after the Brundtland report released by united nation "Our Common future" in 1987 (Brundtland et al, 1987). According to the report sustainability is defined as " Development that meets the needs of the present without compromising the ability of future generations to meet their needs" (Johnston et al, 2007). A Brand is defines as " a set of tangible and intangible attributes designed to create awareness and identity, and to build the reputation of a product, service, person, place, or organization"(Sammut-Bonnici, 2015). Therefore, a brand sustainability is defined as "a set of timeless customer benefits rather than particular products or services, one can continuously innovate the products and services to keep the brand fresh and relevant" (VanAuken, 2010). A brand in order to function requires certain principles like brand equity, brand identity, brand positioning etc. But in order to continue having the same value of the brand identity, brand equity etc; it has to follow the three major pillars of sustainability that is the brand should be economically sustained, socially sustained, environmentally sustained in order to stay in the competitive market in the long run (Høgevold & Svensson, 2012).

2.3 THEORY BUILDING AND HYPOTHESIS DEVELOPMENT

Errmann et al (2021) emphasized that the tourists prefer choosing hotels which reduce the usage of materials that are not eco friendly in nature. Tourists tend to become more mindful in choosing more environmental friendly options. Hotels implement a comprehensive program to reduce the carbon footprint (Chan E S, 2021). Managing the energy utilization efficiently helps a hotel to increase its profit by decreasing the operational cost and improving the market share. Data envelopment analysis is a linear programming model for getting comparative efficiency of multiple-input multiple-output decision making units (Önüt & Soner, 2006). Reduction in the use of energy, water and waste production helps in benefiting the hotel economically, socially and environmentally. Taking the above theory into consideration the following hypothesis are jotted down.

H1: Reduction in the use of energy, water and waste production positively influences the Economic Performance of the hotel

H2: Reduction in the use of energy, water and waste production positively influences the Environmental Performance of the hotel

H3: Reduction of the use of energy, water and waste production positively influences the Social Performance of the hotel

Mostly all hotels implement different technology in order to control energy water and waste but when it comes to implementing various programs like using solar energy for light, recycling of leftover foods etc then it becomes a challenge (Wan et al, 2017). A study also highlighted the long term usage of the reusing water from domestic house hold and grey water is the best suitable alternative water conservation technique for maximum water saving (Hocaoglu, S. M. 2017). A research also highlights the fact that when the hotel guests are encouraged to reuse their towels in their rooms, they participated happily in the process especially by knowing that by doing so they would be able to protect the nature (Goldstein et al, 2007). By using innovative techniques, policies and modern equipments to save water and energy, the hotels would be able to improve the economic, environmental and social performance of the hotel (Rodríguez-Antón & Alonso-

Almeida, 2019; Goldstein et al, 2007). Keeping the above theory in mind, the following hypothesis are jotted down.

H4: Reusing the Hotels resources, waste water and leftover food has a positive effect on the Economic Performance of the hotel

H5: Reusing the Hotels resources, waste water and leftover food has a positive effect on the Environmental Performance of the hotel

H6: Reusing the Hotels resources, waste water and leftover food has a positive effect on the Social Performance of the hotel

Waste water coming from the different sources of hotels can be recycled and used again for different operational work like watering plants, using it in water closet etc (Hocaoglu, S. M., 2017). Hotels housekeeping department has designed various innovative techniques in recycling the inventories like towels, pillow covers etc as dusters, swabs etc. Singh et al (2014) studied the role of recycling in increasing the Hotel's business. For doing so they used waste audit technique on various five star hotels, where the result obtained was compared with the cost benefit to the hotel. By this way the hotel is able to excel in the economic, social and environmental performance (Choi et al, 2021). Keeping in mind the above theory the following hypothesis is formulated.

H7: Recycling the Hotels waste water and resources has a positive impact on the Economic Performance of the hotel

H8: Recycling the Hotels waste water and resources has a positive impact on the Environmental Performance of the hotel

H9: Recycling the Hotels waste water and resources has a positive impact on the Social Performance of the hotel

The products and the policies in the hotel can be redesigned so that the product has a very less effect on the environment keeping in mind the environmental dimension of sustainability in mind (Stalcup et al, 2014). Also, changing the policies of the hotel will benefit the employees and the stakeholders of the hotel and the social dimension of the sustainability can be achieved. By achieving an environmentally sustained product the profitability of the organization would also increase which in turn will help the organization to be sustained in business for a longer period of time and hence the economic dimension of sustainability can also be achieved (Olya et al, 2021). Various products are being redesigned so that it can easily enter into the recycle line where the products can be recycled, repaired and reused again and again. IKEA one of the leading furniture brand is one of the best example in doing so (Weetman, 2016). Keeping the above points in mind the following hypothesis is taken into consideration.

H10: Redesigning the Hotels technology, policies of the hotel will have a positive influence on the Economic Performance of the hotel

H11: Redesigning the Hotels technology, policies of the hotel will have a positive influence on the Environmental Performance of the hotel

H12: Redesigning the Hotels technology, policies of the hotel will have a positive influence on the Social Performance of the hotel

Electricity in hotel accounts up to 25 -30% of the total energy consumption. It is used in the form of lighting to illuminate and decorate different areas of the hotel. Also, Kitchen utilizes a lot of heavy machineries which consumes a lot of electricity. So replacing the machines with energy saving equipments and the decorative lights with energy efficient sources or solar powered lights

would make the hotel environmentally sustained (Stalcup et al, 2014). Also, the employees would be able to carry out the effort of sustainability more easily with the help of more energy sustained devices and hence it would make the workplace socially sustained. Since, the energy would be saved it would help the hotel in saving on the electricity expenses and would be economically sustained also (Sloan et al, 2009). Keeping in mind the above points, the following hypothesis are designed.

H13: Replacing the plastics and the harmful chemicals used in the hotels to a bio degradable product would have a positive influence on the Economic Performance of the hotel

H14: Replacing the plastics and the harmful chemicals used in the hotels to a bio degradable product would have a positive influence on the Environmental Performance of the hotel

H15: Replacing the plastics and the harmful chemicals used in the hotels to a bio degradable product would have a positive influence on the Social Performance of the hotel

The hotels have started thinking about their present policies and procedures currently adopted by them in order to act more sustainably. Doing the same started making the organizations realize that it is better to do things in a different manner rather than doing things right (Hashmi & Muff, 2017). Rodríguez-Antón & Alonso-Almeida (2019) cited a case study of four different five star hotels in their research where the hotels have used the technique of "Rethinking" in designing their room with the use smart lighting and air conditioning. They have also pointed out the CE strategies important for the tourism sector. The change in the attitude of thinking have helped the organization in achieving the dimensions of sustainability (social, environmental and economical). Hence , this made us compile the following hypothesis.

H16: Rethinking about the present policies and technologies to be more eco friendly will have a positive impact on the Economic Performance of the hotel

H17: Rethinking about the present policies and technologies to be more eco friendly will have a positive impact on the Environmental Performance of the hotel

H18: Rethinking about the present policies and technologies to be more eco friendly will have a positive impact on the Social Performance of the hotel

3. METHODOLOGY

The literature on Circular Economy, its importance, the factors that influence its adoption in enhancing the sustainability of the brand in hotel industry is reviewed to develop the research hypothesis, and the conceptual framework for the study shown in figure 1.
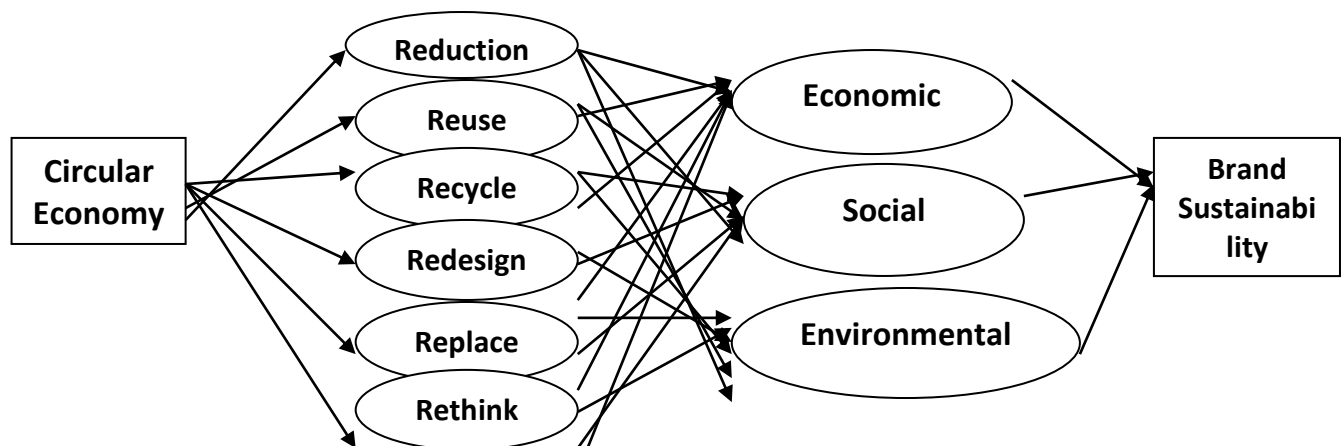

Fig 1: Conceptual Framework

A questionnaire based survey was conducted using a close ended questionnaire. The questionnaire contained 28 items as shown in Appendix 1. The respondents were asked to give their opinions using a five point Likert Scale regarding to what extent they feel that each element of circular economy has an influence in attaining the brand sustainability of the hotel in the longer run. A total of 270 responses were collected, and the demographic profile of the respondents were shown in table 1. This research used Structure equation modelling (SEM) to explore the effect of circular economy in enhancing the brand sustainability of the hotel.

3.1 Structure Equation Modelling

Structure equation modelling was used to analyze the impact of circular economy in enhancing the brand sustainability of the hotels

4 Data Analysis

A five point Likert type scale was used with anchors ranging from 1 (Very Low) to 5 (Very High) for all questions including the factors involved in circular economy and factors of

Variables	Factors	Range	Percentage
Gender	FeMale	23	8.7
	male	247	91.3
Age	< 25 yrs	47	17.4
	25 - 40 yrs	200	73.9
	40 - 55 Yrs	23	8.7
	> 55 yrs	0	0

sustainability. All items were modified to make them relevant within the context of circular economy and sustainability as listed in the appendix.

Table 1 : Demographic profile of the respondents			8.7
			21.7
	Bachelor's	129	47.8
	Diploma	59	21.7
Work Experience	1 - 5 Yrs	94	34.8
	5 - 10 Yrs	47	17.4
	10 - 15 Yrs	70	26.1
	> 15 Years	59	21.7
Star Category Hotel	3 star and below	35	13
	4 star	70	26.1
	5 star	117	43.5
	5 star delux	47	17.4
Current position	Departmental Head	117	43.5
	General Manager	35	13
	Vice President	0	0
	Other	118	43.5

A structured questionnaire was designed and was sent to various staffs working in a star category hotel (hotels with 3 star and above star category were considered for the survey). It was observed that around 73.9% of the respondents were from the age group ranging between 25 - 40 years. 17.4% belonged to the age group of below 25 years old age group and 8.7% were from the age group between 40 - 55 years old. Among the respondents around 91.3% were male and 8.7% were female. Most of the respondents that is around 47.8% were having a bachelor's degree and 21.7% of them were having Diploma and masters as their highest degree of qualification. 34.8% of the respondents were having 1-5 years of working experience whereas 26.1% have 10-15 years of work experience and 21.7% have more than 15 years of work experience. Around 43.5% of the respondents belonged to 5 star category hotel, 26.1% were from 4 star hotel, 17.4% were from 5 star deluxe category hotel and 13% of the respondents belonged to 3 star and below category hotels. Around 43.7% and 43.3% of the respondents worked in various management position in the hotel and as departmental heads taking an active participation in the management decision in the organization. Around 13% of the staffs were in the position of general managers in the hotel.

The questionnaire was first pretested in order to validate the instrument so that the respondents were able to understand the questions clearly. The structural equation modelling (SEM) method was used as it tests hypothesized casual relationships among multiple variables simultaneously

(Anderson & Gerbing, 1988) and measures the strength of interrelationships between latent constructs (Van Tonder & Petzer, 2018).

4.1 KMO and Bartlett's Test

While going for structural equation modelling (SEM), KMO and Bartlett's test indicates the proportion of variance in the variables. High values (close to 1.0) generally indicates that a factor analysis is useful with the given data whereas if the value is less than 0.5, the results of the factor analysis is not be useful. Bartlett's test of sphericity tests the hypothesis, it indicates that the variables are unrelated and unsuited for structure detection. If the value is less than 0.5, the results of the factor analysis are useful. As observed in table 2, the KMO is above 0.5, df is 153 and the significance value is 0.000 which is less than 0.1 so the model is significant.

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.583
Bartlett's Test of Sphericity	Approx. Chi-Square	457.070
	df	153
	Sig.	.000

Table 2: KMO and Bartlett's test

4.2 Rotated Component Matrix

If the value of the loadings is more than 0.5 then the factors can be considered for further analysis. In Table 3, it is observed that the value of the loadings is more than 0.5 and all the correlated factors have more or less similar loadings. Hence, the constructs can be used for further analysis

	Rotated Component Matrix[a]								
	Component								
	1	2	3	4	5	6	7	8	9
Red1	.955								
Red2	.950								
Red3	.951								
Reu1		.973							
Reu2		.973							
Reu3		.946							
Rec1			.784						
Rec2			.829						
Rec3			.726						
Res1				.900					
Res2				.902					
Res3				.867					
Rep1					.937				
Rep2					.921				
Rep3					.922				
Ret1						.865			

						.877			
Ret2						.877			
Ret3						.569			
Ep1							.755		
Ep2							.949		
Env1								.678	
Env2								.876	
So1									.567
So2									.728

Table 3: Rotated Component Matrix

4.3 Confirmatory Factorial Analysis

The data were analysed using AMOS version 16 with maximum likelihood estimation. SEM allows the researcher to build, test and confirm the models of complex relationships. It comprises of two sub-models: a "Measurement model" that allows the user to verify how well the observed variables represent the latent, unobservable constructs that they are hypothesised to measure; and a "Structural model" that allows the user to estimate the strength of interrelationships amongst those unobservable or latent constructs. We have followed the two-step procedure of SEM by first, examining scale validity from the measurement model using Confirmatory Factor Analysis (CFA), and second, focusing on testing the proposed hypotheses using the structural model. Measurement reliability and validity of the model containing the multi-item constructs were assessed using CFA. Table 5 shows the chi-square/ degree of freedom ratio, as well as a number of goodness of fit indicators.

Constructs	AVE	Constructs								
		Red	Reu	Rec	Res	Rep	Ret	EP	Env	So
Red	0.765	**0.874**								
Reu	0.729	0.729*	**0.854**							
Rec	0.827	0.726*	0.583*	**0.909**						
Res	0.837	0.712*	0.576*	0.822*	**0.914**					
Rep	0.624	−0.007	0.049	−0.029	−0.024*	**0.789**				
Ret	0.505	−0.361*	−0.368*	−0.267*	−0.277	−0.004	**0.711**			
Ep	0.719	0.833*	0.667*	0.653*	0.642*	0.002	−0.343*	**0.847**		
Env	0.821	0.843*	0.628*	0.648*	0.662*	0.007	−0.448*	−0.453*	**0.864**	
So	0.856	0.869*	0.645*	0.657*	0.663*	0.008	−0.468*	−0.483*	−0.497*	**0.821**

Table 4: Inter construct correlation matrix

The chi-squared divided by the degrees of freedom ratio for the measurement model was 1.82 and thus within the recommended range of 1 to 3 (McIver & Carmines, 1981). Furthermore, the CFI, GFI and IFI values were all above 0.9 and the RMSEA value was below 0.08 indicating an acceptable fit (Bentler & Bonett, 1980; Steiger, 1990). Based on these indicators, the measurement model demonstrated an acceptable fit with the data collected. Convergent and discriminate validity were assessed. All factor loading estimates measuring the same constructs for the CFA model are highly significant (p # 0.001) showing that all indicators effectively measure their corresponding construct and support convergent validity. Furthermore, the standardised loadings are all above 0.5 with the majority being above 0.7. The variance extracted estimates and construct reliabilities are shown in table no 4. The variance-extracted estimates and the construct reliabilities are shown in Table 3. The variance-extracted estimates exceed the 50 per cent rule of thumb suggesting that the hypothesised items capture more variance in the underlying construct than that attributable to measurement error. The reliability of the constructs was assessed using the measure of construct reliability (CR), which is computed from the squared sum of factor loadings and the sum of error variance terms (Hair et al., 2006). As shown in Table IV, construct reliabilities range from 0.81 to 0.91 and thus exceed the threshold of 0.7 demonstrating adequate reliability (Hair et al., 2006). Taken together, the evidence supports the convergent validity of the measurement model. Discriminant validity was examined by comparing variance extracted measures with the inter-construct squared correlations associated with that factor (Lim and Teo, 1997). Table IV shows that all variance-extracted estimates are greater than the corresponding inter-construct squared correlation estimates, thus confirming discriminant validity.

Constructs	CMIN (χ2/df)	RMSEA	GFI	AGFI	CFI
Reduce	2.796	0.039	0.998	0.989	0.960
Reuse	4.946	0.057	0.864	0.827	0.943
Recycle	3.847	0.049	0.995	0.982	0.999
Redesign	4.970	0.058	0.993	0.975	0.998
Replace	2.449	0.035	0.999	0.990	0.990
Rethink	4.897	0.057	0.997	0.984	0.995
Economic	3.913	0.049	0.988	0.973	0.995
Environmental	4.946	0.057	0.864	0.827	0.943
Social	4.823	0.054	0.956	0.928	0.956
Referential values	<5	<0.06	≥0.850	≥0.800	≥0.900

Table 5: Model Fit Indices of Construct

Note: df = Degree of Freedom; CMIN = chi - square; RMSEA = Root Mean Square Residual; GFI = Goodness of Fit Index; AGFI = Adjusted Goodness of Fit Index; CFI =

4.4 Data Adequacy Tests of Constructs

All the above constructs, namely Reduce, Reuse, Recycle, Redesign, Replace, Rethink, Economic performance, Environmental Performance, Social Performance have been scrutinized against the normality assumptions. Accordingly, an outlook to the values of standard deviation, skewness and kurtosis have been found to establish data normality as all the values fall within the prescribed limit.

Further, internal consistency of all the aforementioned constructs has been assessed emplying Cronbach's α statistics. Accordingly, the measured value of Cronbach's α are reported to fall in the range between 0.567 to 0.973 for the constructs, namely, Reduce (Red1,Red2, Red3), Reuse (Reu1, Reu2, Reu3), Recycle (Rec1, Rec2, Rec3), Redesign (Res1, Res2, Res3), Replace (Rep1, Rep2, Rep3), Rethink (Ret1, Ret2, Ret3), Economic performance (Ep), Environmental Performance (Env1, Env2), Social Performance (So1, So2) (Hair et al, 2012; Tavakol Dennick, 2011)

5. RESULTS

The analysis began with exploratory descriptive statistics with regards to the utility of adapting the factors related to circular economy to enhance the brand sustainability of the hotel in the longer run. An independent sample t-test was used to assess if the males and females differed in their intention to adapt to the factors related to the circular economy. It was observed that the males were significantly more likely to adapt to circular economy compared to the females (Means of 2.73 to 2.27; t 1/4 2:20; p # 0:0.045). This is consistent with the findings of Chau & Hui (1998) who found comparable results in their study of early adopters of new IT products. Furthermore, the employees who adapt to sustainability seem to be very prone to using the features of circular economy (mean of 3.7 to 2.39, t1/4 3:49, p # 0.001). The effect of respondents current frequency of utilising sustainability in their day to day activity in order to adapt the features off circular economy was explored by using ANOVA (f 1/4 17:05, df 1/4 2, p # 0:000). It was observed that a significant difference exits between the people in adopting to circular economy in the hotel.

Further, the dimensionality of all the aforesaid constructs utilized in the development of the model has been examined by the help of Exploratory Factor Analysis (EFA) approach. Accordingly, the values of KMO statistics (ranging from 0.527 to 0.959) and Bartlett's test of sphericity (all values are statistically significant at 1 percent level of significance) are found to meet the norms prescribed by Hair et al (2012) & Williams et al (2012), thereby, substantiating the statistical fitness of the data for employing EFA approach. Also, the values of communality statistics and factor loadings are found to meet the required norms (Hair et al, 2012), i.e., the values of the measures assessing the constructs, namely Red1,Red2, Red3, Reu1, Reu2, Reu3, Rec1, Rec2, Rec3, Res1, Res2, Res3, Rep1, Rep2, Rep3, Ret1, Ret2, Ret3, Ep, Env1, Env2, So1, So2 are seen to be more than 0.5. Adding more, the application of EFA with principal component analysis and varimax rotation has yielded single factor solution in case of all the constructs, namely, Red1,Red2, Red3, Reu1, Reu2, Reu3, Rec1, Rec2, Rec3, Res1, Res2, Res3, Rep1, Rep2, Rep3, Ret1, Ret2, Ret3, Ep, Env1, Env2, So1, So2 and the variance is found to fall in the range between 64.50 percent to 86.84 percent in case of all the aforesaid constructs.

Besides, all the constructs used in the present composition have also been scrutinized for analyzing their structural validity by employing Confirmatory Factor Analysis (CFA) approach. Accordingly, the results of construct validity and reliability are found to be in compliance with the prescribed norms of 0.5 and 0.7, respectively as suggested by Hair et al (2012). Also, the results of Model fit indices have confirmed structural validity of the constructs (Refer Appendix II). Further, the correlation statistics among all the aforesaid constructs have also been examined in order to detect the problem of multicollinearity. Accordingly, all the correlation coefficients (Refer table no 6) are found (ranging from 0.002 to 0.833) below the threshold limit of 0.85 (Lei & Wu, 2007).

Correlations																		
	Red1	**Red2**	**Red3**	**Reu1**	**Reu2**	**Reu3**	**Rec1**	**Rec2**	**Rec3**	**Res1**	**Res2**	**Res3**	**Rep1**	**Rep2**	**Rep3**	**Ret1**	**Ret2**	**Ret3**
Red1	1	.789**	.437*	.737**	.564**	0.213	0.263	.636**	.660**	.666**	.489*	.571**	.466*	0.350	.604**	.551**	.473*	.628**
Red2	.789**	1	.760**	.505*	.533**	.513*	.473*	.767**	.737**	.857**	.780**	.835**	.755**	.688**	.795**	.615**	.640**	.769**
Red3	.437*	.760**	1	0.175	.575**	.619**	.565**	.665**	.554**	.690**	.883**	.869**	.839**	.892**	.858**	0.393	.550**	.665**
Reu1	.737**	.505*	0.175	1	.556**	0.205	-0.041	0.378	0.345	.428*	0.203	0.300	0.378	0.258	0.378	.444*	0.228	0.405
Reu2	.564**	.533**	.575**	.556**	1	0.405	0.165	0.262	0.186	.433*	.494*	.602**	.430*	.477*	.568**	0.134	0.160	0.290
Reu3	0.213	.513*	.619**	0.205	0.405	1	.664**	0.366	0.223	.443*	.532**	.574**	.659**	.640**	.532**	0.413	.460*	.545**
Rec1	0.263	.473*	.565**	-0.041	0.165	.664**	1	.442*	0.252	0.397	.486*	.493*	0.402	.440*	.428*	0.349	0.366	.557**
Rec2	.636**	.767**	.665**	0.378	0.262	0.366	.442*	1	.852**	.714**	.645**	.658**	.678**	.574**	.671**	.565**	.555**	.701**
Rec3	.660**	.737**	.554**	0.345	0.186	0.223	0.252	.852**	1	.652**	.617**	.600**	.619**	.424*	.640**	.515*	.532**	.616**
Res1	.666**	.857**	.690**	.428*	.433*	.443*	0.397	.714**	.652**	1	.787**	.845**	.657**	.754**	.816**	.684**	.684**	.722**
Res2	.489*	.780**	.883**	0.203	.494*	.532**	.486*	.645**	.617**	.787**	1	.895**	.792**	.845**	.910**	.415*	.606**	.630**
Res3	.571**	.835**	.869**	0.300	.602**	.574**	.493*	.658**	.600**	.845**	.895**	1	.802**	.822**	.831**	.506*	.573**	.785**
Rep1	.466*	.755**	.839**	0.378	.430*	.659**	0.402	.678**	.619**	.657**	.792**	.802**	1	.867**	.790**	.446*	.560**	.699**
Rep2	0.350	.688**	.892**	0.258	.477*	.640**	.440*	.574**	.424*	.754**	.845**	.822**	.867**	1	.869**	0.371	.511*	.614**
Rep3	.604**	.795**	.858**	0.378	.568**	.532**	.428*	.671**	.640**	.816**	.910**	.831**	.790**	.869**	1	.417*	.575**	.588**
Ret1	.551**	.615**	0.393	.444*	0.134	0.413	0.349	.565**	.515*	.684**	.415*	.506*	.446*	0.371	.417*	1	.886**	.763**
Ret2	.473*	.640**	.550**	0.228	0.160	.460*	0.366	.555**	.532**	.684**	.606**	.573**	.560**	.511*	.575**	.886**	1	.688**
Ret3	.628**	.769**	.665**	0.405	0.290	.545**	.557**	.701**	.616**	.720**	.630**	.785**	.699**	.614**	.588**	.763**	.688**	1
**. Correlation is significant at the 0.01 level (2-tailed).																	
*. Correlation is significant at the 0.05 level (2-tailed).																	

Table 6: Correlation Coefficient Matrix

Thus, no problem of multi-collinearity has been expected among the constructs. Adding to the point. discriminant validity of all aforesaid constructs has also been examined. The same can be done in two ways. In this regard, Saadé & Bahli (2005) have suggested that the values of squared inter-construct correlation should be compared with the values of Average Variance Extracted (AVE) and the latter values should be greater than the former values for establishing

Discriminant Validity (DV) of the constructs. Also, Fornell and Larcker (1981) have suggested that the square root of AVE should be higher than the values of correlation coefficient for establishing discriminant validity of the constructs and the same method has been used to analyze discriminant validity in the present study. As shown in Table 4, all the values of square root of AVE (diagonal elements) are found to be greater than that of correlation coefficients (off-diagonal elements), thereby, establishing discriminant validity of the constructs.

5. DISCUSSION

Sustainability is a broad concept in itself which means how can a product or an organization survive in the longer run that too in this growing competition. The hotels need to adapt new changes in their policies and strategies of running the business so that the brand has a stable market value no matter what kind of situation comes. The concept of sustainability of the nature has started becoming popular after the Brundtland meeting. Currently the hotel industry follows a linear strategy in order to run the business. However, this strategy has a very little scope for the sustainability of the nature. Instead, the circular economy is designed in such a way that one step leads to the other and it aids in better sustainability of nature.

In our above research, it is observed that all the factors of circular economy that is Reduce, Reuse, Recycle, Redesign, Rethink and Replace are all interrelated to each other. Also, they establish a good correlation between all the factors of sustainability that is economic performance, environmental performance and social performance. They not only help the hotels in maintaining the sustainability of the nature but they also help the hotels in achieving more profit making the organization more economically sustainable. Also, in this growing world of pollution where every person is aware about the benefits of protecting nature, it makes the hotel more socially acceptable among its customers.

Keeping in mind the current situation where we all are facing different natural calamities and pandemic situation like COVID-19, the hotels need to prepare itself so that it can sustain in the growing competition for a longer period of time. This study highlights the strategy that would help the hotel industry to establish its brand in this competitive market.

5.1 UNIQUE CONTRIBUTION OF RESSEARCH

Brand plays a major role in hotel industry. It speaks about the quality of service, amenities, an organizations achievements over the years and how much trust a guest has on that particular organization. Sustainability is using something in a way so that it is available for future. Hotels being a part of the tourism industry is dependent on nature. So it's a prime duty of the industry to preserve nature while not harming the expectation of the guests in their services. Circular economy provides an outlines strategy which when followed by the organization, would help them in achieving the goals for sustainability without harming the demands of the guest. This paper provides insights of what strategy has been followed by the management team of the hotels and what further changes can be made in the strategies keeping in mind the factors of circular economy so that the brand can be sustained for a longer period of time.

5.2 IMPLICATION OF RESEARCH

Adapting to sustainable strategies so that the guests needs are not compromised stands out as one of the motivating factor for adapting to circular economy. In this research, various employees working at different management positions have been interviewed to study their

intention of involving the factors of circular economy to be a part of the policies and strategies (both long term and short term). It is observed that the management team feels that adapting to circular economy is going to benefit the hotel economically, socially and environmentally. This will also help the hotel industry to spread a word of awareness among the guests who are coming to stay with them. Also, just staying in this hotel would also influence the guests by making them feel that they have contributed in a way in sustaining the nature which would benefit the hotel directly.

Also, hotel industry being a part of the tourism industry can have an influence on policy makers by motivating them to adapt the strategies of circular economy in the tourism industry. This would not only help in the process of sustaining nature but would also educate the tourists to be more responsible with their actions when they visiting a place.

6. CONCLUSION

This study is focused on adapting to the strategies of circular economy in order to enhance the brand sustainability of the hotel in the longer run. In order to fulfil our objective, we have first tried to list all the factors influencing circular economy. In the process, we have jotted down 23 factors that would have a direct influence on enhancing the brand sustainability of the hotel. The research used the structural equation modelling (SEM) method in order to compare the factors with each other so that the influence of one factor on the other can be studied. The model was empirically tested using the opinion of 270 respondents through the conceptual framework designed to study the relation of circular economy on the brand sustainability of the hotel and it was found that Reduce, Reuse, Recycle, Redesign, Rethink, Replace has a direct impact on the economic performance, social performance and the environmental performance of the hotel, which satisfies our objective of the study. The proposed model, integrates the linear and nonlinear relationship among the variables identified in this research. The accuracy of the prediction of the integrated framework in this study is found to be good. The decision makers and the academicians can use a similar type of model in other domains of the industry. The research can further be extended with other technology based models with a different predicting variable. Further, the validity of the model can also be tested in other countries.

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