

## The Impact of Climate Change on the Dimensions of Social Responsibility in Five-Star Hotels

أثر التغيرات المناخية على أبعاد المسؤولية الاجتماعية في الفنادق خمس نجوم

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### Abstract

الملخص

The world is witnessing a major challenge in recent years, which is the climate changes that have severe effects on many areas of life, whether economically, socially or biologically, which called for various international organizations to hold many conferences to discuss the effects of these climate changes and work to find appropriate solutions to reach the goal of adaptation. With these changes, Egypt hosted the World Climate Conference in Sharm El-Sheikh COP27 as a global step to contribute to facing the threat of climate change. The study aimed to identify the effects of climate change on the dimensions of social responsibility. (Sheikh and Alexandria), and the questionnaires were distributed to a random sample of hotel guests, the study sample, with a number of 380 questionnaires, and by analyzing the data obtained using the SPSSV26 program, the study concluded that there is a positive correlation between the climate change variable and the social responsibility variable, and that there is a significant effect Statistically between climatic changes and the dimensions of social responsibility. The study recommended the need for hotels to pay attention to applying social practices, directing support and participating in charitable and environmental activities as one of the important ways to confront climate changes.

يشهد العالم تحديا كبيرا في السنوات الاخيرة الا وهو التغيرات المناخية التي لها اثارا بالغة على العديد من مجالات الحياة سواء اقتصاديا او مجتمعيا او بيولوجيا، مما دعى المنظمات العالمية المختلفة لعقد العديد من المؤتمرات لبحث اثار تلك التغيرات المناخية والعمل على ايجاد الحلول المناسبة للوصول الى هدف التكيف مع تلك التغيرات، واستضافت مصر مؤتمر المناخ العالمي في مدينة شرم الشيخ COP27 كخطوة عالمية للمساهمة في مواجهة خطر التغيرات المناخية، وقد هدفت الدراسة الي التعرف على اثار التغيرات المناخية على ابعاد المسؤولية الاجتماعية ، وكان مجتمع الدراسة ممثلا في الفنادق خمس نجوم بكل من ( الغردقة وشرم الشيخ والاسكندرية)، وتم توزيع استمارات الاستبيان على عينة عشوائية من نزلاء الفنادق عينة الدراسة بعدد ٣٨٠ استمارة، وبتحليل البيانات التي تم الحصول عليها باستخدام برنامج SPSS V.26 ، توصلت الدراسة الى وجود علاقة ارتباط موجبة بين متغير التغيرات المناخية ومتغير المسؤولية الاجتماعية، وأنه يوجد أثر ذو دلالة احصائية بين التغيرات المناخية وابعاد المسؤولية الاجتماعية، وأوصت الدراسة بضرورة اهتمام الفنادق بتطبيق الممارسات الاجتماعية وتوجيه الدعم والمشاركة في الاعمال الخيرية والبيئية كأحد السبل الهامة في مواجهة التغيرات المناخية.

**Keywords:** Climate Change; Dimensions of Social Responsibility; Five-Star Hotels.

**الكلمات الدالة:** التغيرات المناخية؛ ابعاد المسؤولية الاجتماعية؛ الفنادق خمس نجوم.

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## Introduction

Climate change is one of the most serious problems facing humanity today. Climate change is increasing and is characterized by record weather events in the form of heavy rainfall, floods and shifts in global temperatures with 2010-2019 being the hottest decade recorded so far (**Conway & Vincent, 2021**). According to NASA (2021), the highest temperatures have been recorded so far in 2020 despite the significant decrease in global emissions due to the COVID-19 crisis. The Intergovernmental Panel on Climate Change (**IPCC, 2021**) report warns that in terms of climate change, “the worst is yet to come” and will include extreme heatwaves, widespread hunger and drought, rising sea levels, extinction, and although “life could Earth has to recover from a drastic shift in climate by evolving into new species and creating new ecosystems (**Kjellstrom& Kovats& Liloyd& Hott& Tol, 2009; Adel & Adelina,2021**). Climate change affects all areas of our lives; Land areas are decreasing due to sea level rise (**IPCC,2014; Roson, 2012**), declining agricultural productivity, (**Boonwichai& Shrestha& Weesakul & Datta, 2018 ; Cline, 2008**). labor productivity and human health (**Kjellstrom & Holmer & Lemeke, 2009; Leal Filho& Bonecke& Speilmann& Azeiteiro& Alves& Lopes& Nagy, 2018**) and the tourism and hospitality industry are all affected (**Hamilton, 2005; Tawatsupa& Yi-Eng& Kjellstrom& Bereckigisof& Seubsman& Sleigh, 2013**).

## 1-Literature Review

### Climate Change

Climate changes are those changes that occur in temperatures during the day, night, and seasons of the year, or in humidity, rain, solar radiation strength, clouds, atmospheric pressure, winds, and their rates of occurrence throughout the year (**Salama, 2016; Khalil, 2019**). Climate change refers to long-term shifts in temperatures and weather patterns. These shifts may be natural and occur, for example, through changes in the solar cycle. However, since the 19th century, human activities have become the main cause of climate change, mainly due to the burning of fossil fuels, such as coal, oil and gas (**UNWO, 2023**). Also is the organized change in climatic and weather patterns due to human intervention with the earth system, especially through huge emissions and increased carbon rates (**Susanne, 2015**). Climate change can now be considered a major issue with significant impacts on tourism. It can be said that the hospitality industry does not cause significant environmental pollution and does not consume large amounts of non-renewable resources; Thus, this industry is not at the forefront of environmental concerns (**uk ,2015**). Nevertheless, the debate about the relationship between tourism and climate change (**Hoogendoorn & Fitchett, 2016**) has been going on for several years. There is a body of work on the potential impacts of climate change on tourism and hospitality and the contribution of tourism to climate change (**Dubois& Ceron& Gossling& Hall, 2016; Gössling & hall, 2006; Odimegwu & Francis, 2018; Peeters & Dubois, 2010; Scott& Gossling& Hall,2012**), According to (**Gössling,2013**), this sector is one of the major contributors to greenhouse gas emissions. Tourism contributes significantly to carbon emissions [28, 29], which accounts for 5% of global carbon emissions which are attributable 75% to transportation, 21% to accommodation, and 4% to other tourism activities (**UNWTO, 2020**).

### Impacts of Climate Change (Sookram ,2015; Conway,2021)

- High temperatures.
- Changes in water availability.
- Biodiversity loss.
- Reduced landscape aesthetic.
- Altered agricultural production.

- Increased natural hazards (**IPCC, 2014**).
- Coastal erosion and inundation.
- Increasing incidence of vector- borne diseases.
- Decreased snow cover and fewer glaciers.
- Increased frequency and intensity of storms.
- Decreased precipitation and increased evaporation rates in some areas.
- Exposure to huge fires in some forests.
- Soil changes (moisture level, erosion and acidity) (**Ibrahim, 2020**).
- Sea-level rise has substantial inertia and will continue beyond 2100 for many centuries. Irreversible breakdown of the West Antarctica and/or Greenland ice sheets (**Abo El Nile,2017**)

Since environmental conditions are a critical resource for tourism, a wide range of climate-induced environmental changes will have negative impacts on tourism at the local and regional destination level.

### **Impact of climate change on Egypt**

The Environmental Affairs Agency of the Egyptian Ministry of Environment has identified 9 major risks to which Egypt will be exposed (**SIS, 2022**).

- ❖ An increase or decrease in temperature from its normal rates, as the World Bank recorded in 2017 that the year 2016 is the hottest year since the beginning of temperature records, as a result of the global temperature rising 1.2 degrees Celsius above pre-industrial levels.
- ❖ Sea level rise and its effects on coastal areas, as the sea level is expected to rise by 100 centimeters until the year 2100, which will lead to salt water entering and polluting the groundwater, soil salinization, deterioration of crop quality and loss of productivity.
- ❖ Increased rates of extreme weather events, such as dust storms, heat waves and torrential rains, and decreased precipitation.
- ❖ Increased rates of desertification.
- ❖ The deterioration of agricultural production and the impact of food security.
- ❖ Increasing rates of water scarcity, as the sensitivity of the Nile's headwaters to the effects of climate change has been monitored.
- ❖ Climate change will affect the rainfall pattern in the Nile Basin, and evaporation rates in waterways, especially in wetlands.
- ❖ The deterioration of public health, as climate changes directly affect health when storms or floods occur, and temperatures rise, and indirectly through vital changes to the extent of the spread of diseases transmitted by insects. Insect vector diseases such as: malaria, lymph nodes, dengue fever, Rift Valley fever.
- ❖ The deterioration of ecotourism, as sea level rise is expected to lead to erosion of the Egyptian coasts, coral reefs may be affected, and environmental pressures will lead to increased bleaching, and high temperatures will affect the colors and age of monuments and historical facilities.

## **Impact of Climate Change on Hospitality Industry (Yi-Ping& Michael &Lucie, 2013)**

Climate-dependent changes in the length and quality of tourism seasons (for example, sun and sea holidays or winter sports) can have significant impacts on competitive relationships between destinations, and thus on the profitability of tourism enterprises (**Abo El Nile ,2017; Kittisak, 2020**).

- Certain types of tourism such as winter sports, lakes, sea, mountain, fishing. will also be affected. Hotels that rely on nature itself, such as snow, mountains, lakes or oceans, will be greatly affected with higher altitudes. Temperature. Climate change will have a significant impact on this industry by altering destination patterns and changing industry decisions (**Adel & Adelina, 2022**).
- Coral reefs are drying up, marine animals are starting to die, and this will eventually lead to fewer tourists which means less profit and less profit equals huge loss for the hotel. With the change of weather.
- Tourists may feel unsafe to go to a hotel, even if the hotel offers good incentives. In general, the tourism and hospitality industry are highly affected by bad news or events.
- The shortage that may affect agricultural crops will increase the cost of foodstuffs needed by the hospitality industry (**Corrisl, 2019**).
- Rising temperatures cause an increase in energy loads inside hotel facilities, increasing costs and negative environmental impact.
- Climate changes cause negative effects on the facilities and equipment of hotel facilities, and this also results in an increase in maintenance costs.
- Increasing the role assigned to the institutions operating in the tourism and hospitality industry towards the environment and society, and working to reduce the negative impacts resulting from operating operations, and quickly adapting to climate changes, and turning them into a competitive advantage (**Sharon, 2013**).

## **Corporate Social Responsibility (CSR)**

Corporate Social Responsibility is concerned with the role of business organizations in society and with society's expectations about the operating ethics of organizations in terms of their social and environmental responsibilities to achieve sustainable development (**Behringer & Szegedi, 2016**). Organizations can apply the principles of corporate social responsibility to create a positive image of the company through public relations by considering three important dimensions: economy, environment and society (**Patranit& Patinva& Alan, 2022**). An organization committed to corporate social responsibility must demonstrate that it takes socially responsible actions, not only as part of its legitimate business operations but also in accordance with the needs of the community as determined by its members (**Uhlig & Mainardes & Nossa . 2020**). CSR actions should provide social and organizational benefits In the hospitality industry, there is some evidence that shows the positive impact of CSR on company performance in specific dimensions. One of the positive impacts of CSR on the environment is that it allows the company to generate financial benefits in the long term (**Rhou & Singal, 2020**).

The first to introduce a definition of corporate social responsibility is Bowen (1953), who defined it as “the performance of a businessman’s duties by following certain policies and making certain decisions, or carrying out a set of desirable actions that are compatible with the goals and values of society (**Florence & Rebert, 2011;Li, 2012**). It is also an ethical commitment by institutions towards society in the form of voluntary activities and initiatives, believing that they are part of this society,

aiming to improve the mental image of society and customers and to attract greater investment in the future by promoting the institution through these initiatives (**Darwish, 2019**).

## **Dimensions of Social Responsibility**

According to Carroll; It is the sum of the four types that were referred to above. Social responsibility is: economic responsibility, moral responsibility, legal responsibility, and charitable responsibility. Dimensions of social responsibility: (**Crlni & Grace, 2014**).

1- The economic dimension: This dimension of social responsibility means that companies make the best use of the resources available to them in a rational and systematic manner. To eventually produce high quality goods (**Wahiba, 2014**).

2- The legal dimension: It is a conscious and voluntary commitment by companies and institutions to a set of rules and laws governing society, whether this relates to investment, wages, work, or the competitive environment (**Yasin, 2013**).

3- The ethical dimension: This is the dimension through which the business organization takes care of the various ethical aspects and standards in its decisions and its various industrial paths. In order to avoid prejudice to the moral and value system of the society in which it operates (**Mahmoud & Ahlam, 2016**).

4- The philanthropic dimension: It includes all expenditures and donations granted by the Foundation voluntarily, without desire for profit, to serve the community, or to serve a specific charitable cause (**Elwan, 2019**).

## **2- Study Aim**

This study aims to identify the opinions and attitudes of workers in five-star hotels towards the concept of climate change and the extent of the impact of these changes on the dimensions and practices of social responsibility in the hotels of the study sample.

## **3- Study Model**

To achieve its aim, the study relied on the four dimensions of social responsibility identified by Carroll (the four dimensions of social responsibility identified by Carroll (1979)).

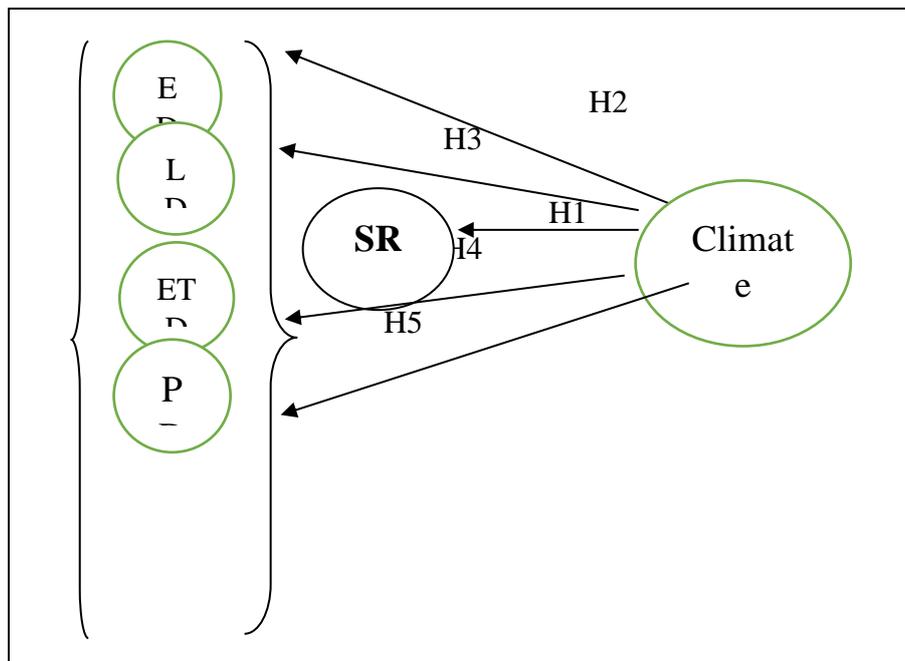


Figure (1): Structural Model of the Research

**ED:** Economic Dimension † **LD:** Legal Dimension † **ETD:** Ethical Dimension † **PD:** Philanthropic Dimension.

#### 4- Study Hypotheses

**H1-The main hypothesis:** There is a statistically significant relationship between the climate change variable and the social responsibility variable.

**H2-** There is a statistically significant effect between the climate change variable and the economic dimension.

**H3-** There is a statistically significant effect between the climate change variable and the legal dimension.

**H4-** There is a statistically significant effect between the climate change variable and the ethical dimension.

**H5-** There is a statistically significant effect between the climate change variable and the charitable dimension.

#### 5- Methodology

This study relied on the descriptive analytical approach. In order to reach the aim of the study, a two-part questionnaire was designed. The first part aims to identify the opinions of the study sample about climate change, and the second part is directed towards determining the sample's opinions towards social responsibility practices. This variable was divided into four parts according to the dimensions of social responsibility. The study relied on building the questionnaire on a Likert five-scale.

The study population was in five-star hotels in (Hurghada, Alexandria, Sharm El-Sheikh). 30 hotels (10 hotels in Hurghada - 15 hotels in Sharm El-Sheikh - 5 hotels in Alexandria), The questionnaire was distributed to a random sample of hotel workers, the study sample (Higher Management - department managers and supervisors) through the Google Forms application. The total number of questionnaires distributed was 380, and the number of questionnaires valid for analysis was 310, with a response rate of 81%. Data were analyzed statistically using SPSS. v26 program. Some statistical

methods were relied upon in analyzing the data: Cronbach's alpha coefficient to check the stability of the scale, regression coefficient, and simple linear correlation coefficient, in addition to descriptive coefficients: means and standard deviations, on a Likert five-scale.

## 6- Results and Discussion

### Reliability Analysis

The reliability coefficient (Cronbach Alpha) is used, one of the most popular measures of reliability testing. The value of Cronbach's alpha coefficient ranges from zero to one and values greater than 0.70 express a high stability coefficient and the lowest acceptable value is 0.60 (Straub et al., 2004).

**Table (1):** Cronbach's Alpha Correlation Coefficient

Variables	Number of Items	Cronbach's Alpha Coefficient
Climate change	4	0.92
Economic dimension	5	0.89
legal dimension	5	0.87
ethical dimension	5	0.91
philanthropic dimension	4	0.90

It is clear from Table (2) that the values of Cronbach's alpha coefficient for the five variables ranged from 0.87 to 0.92, which are values greater than the minimum statistically acceptable level of 0.70, and therefore these values give a high indicator of the stability of this scale and the presence of internal consistency between all its dimensions and elements.

### Descriptive Analysis

Table No. (2) Descriptive Statistics of the Climate Change Variable

Variable (climate change)	Mean	Std. division
Affected types of tourism such as winter sports, lakes, sea, mountain and fishing.	4.23	0.452
Coral reefs dry up, marine organisms die.	3.35	0.521
The guest's feeling of insecurity to go to a hotel.	4.24	0.453
Increasing the cost of foodstuffs needed by the hospitality industry.	3.81	0.671
Increasing energy loads within the hotel facilities, increasing costs and negative impact on the environment.	3.63	0.716
The negative impact on the facilities and equipment of hotel establishments, and the increase in maintenance costs.	3.41	0.784
Increasing the role assigned to hotels towards the environment and society, and increasing contributions to charitable works.	3.43	0.789

It is clear from Table No. (2) that the opinions of the study sample are directed towards agreeing that there is a negative impact of climate change on hotels, and "The guest's feeling of insecurity to go to a hotel. got the highest mean (4.24), As for the standard deviation values, they all indicate an acceptable variance and homogeneity in the responses of the sample members to this dimension, as the standard deviation did not reach the zero value 0.00, which indicates complete congruence in the answers. Also, its value did not exceed 1.5, indicating the absence of a large dispersion in the answers of the sample. Through these results, it is clear that climate changes have many negative effects on the hotel sector in Egypt, and that hotels must develop a strategy through which they can confront these negative effects, whether by working with various government or community agencies, and also

by reassuring current and potential guests that Egyptian hotels are safe to stay. in light of the current climate changes.

Table No. (3) Descriptive Statistics of the Economic Dimension

Variable ( Economic Dimension )	Mean	Std. division
Implement control system for heating/cooling/lighting facilities.	3.82	0.670
Reducing waste of hotel products.	4.23	0.452
Provide locally produced and seasonal food.	3.62	0.715
Recycle waste and raise customers' awareness of waste.	3.34	0.522
Purchase trade green-label products where possible	3.42	0.789

The results in Table No. (3) indicate that the study sample agreed on the need for hotels to activate measures related to the economic dimension to confront climate changes. The second item, which states "Reducing waste of hotel products", received the highest arithmetic average of (4.23). It is clear from the results of the opinions of the study sample on the economic dimension that hotels should adjust some of their procedures in economic transactions to mitigate the effects of climate change by following measures that reduce emissions, save energy, recycle waste, and use local and green food products. By following these changes, hotels can reduce the effects of climate change.

Table No. (4) Descriptive Statistics of the Legal Dimension

Variable( Legal Dimension)	Mean	Std. division
Follow the rules specified in the law when carrying out its activities, including environmental laws.	4.24	0.451
Necessity to fulfill its obligations towards (clients, employees and shareholders).	4.12	0.486
Initiate a hotel environmental policy.	3.84	0.670
Develop an environmental code of ethics for supplier chain.	3.71	0.711
Involve and comply with climate change policies and plans.	4.24	0.451

The results presented in Table No. (4) indicate that the study sample agreed on the need for hotels to activate procedures related to the legal dimension to confront climate changes. Clauses one and five, which provide for "following the rules specified in the law when carrying out its activities, including environmental laws", "participation and adherence to climate change policies and plans." They obtained the highest mean (4.24). Through these results, it can be said that the hotels' adherence in all their practices to the laws in force internationally and locally, especially environmental laws and procedures, will lead to reducing the effects of climate change.

Table No. (5) Descriptive Statistics of the Ethical Dimension

Variable (Ethical Dimension)	Mean	Std. division
Behave ethically with customers.	4,12	0,486
Respecting ethical principles in transactions such as (combating corruption, bribery and nepotism).	4,22	0.452
Provide climate change and environment education for customers and staff.	4,01	0.513
Encourage guests/staff to use green vehicles/public transport.	3,81	0.670

Through the results contained in Table No. (5), the views of the study sample are directed towards agreement on the need for all hotel transactions to be of an ethical nature to face climate changes. The second item, which stipulates "respecting ethical principles in transactions such as (combating corruption, bribery and nepotism). With an arithmetic mean of (4.22). This result confirms the importance of hotels adopting, in all their dealings, the accepted values and morals, which will have

a positive impact on the mental image of hotel guests, and thus can influence the behavior of guests and workers to follow positive behaviors that aim to adapt to climate changes.

Table No. (6) Descriptive Statistics of the Philanthropic Dimension

Variable (Philanthropic Dimension)	Mean	Std. division
Sponsorship of social activities.	4.01	0.513
Interest in improving the general welfare of society through (supporting education and health)	4.14	0.436
Creating new jobs for the local population.	4.13	0.436
Directing part of the budget to donations and social work	4.41	0.413

Through the results presented in Table No. (6), the opinions of the study sample tend to strongly agree on the need for hotels to direct their attention towards philanthropic works as one of the ways to confront climate change. The fourth item, which stipulates "Directing part of the budget to donations and social work," got a mean of (4.41). It is clear from the results of the table that hotels should adopt Philanthropic and social practices, such as education and health, to counter the effects of climate change, which work to raise the cultural level of society, which is one of the important elements for understanding the causes and consequences of climate change and ways to adapt to it.

## Hypothesis Test

Table (7) The Value of the Pearson Coefficient to Measure the Strength of the Association between Climate Change and Social Responsibility

dependent variable	Value	independent variable
Social responsibility (SR)		
.,68**	R	Climate change
.,002	SIG	

significant correlation at the level of Significant 0.05

The results presented in Table No. (7) indicate that the value of the correlation coefficient between the variable of social climate changes and the variable of social responsibility is equal to 0.68 \*\* and that the level of significance is 0.002, which is less than 0.05.

Based on these results, the main hypothesis is accepted, which states:

**H1-The Main Hypothesis:** There is a statistically significant relationship between the climate change variable and the social responsibility variable.

Table No. (8) Analysis of the Simple Linear Regression Coefficient for the Study Variables

Independent variable Climate change	Dependent variable: social responsibility dimensions			
	R	B	T	SIG
ED	.754**	.661	11.78	00
LD	.661**	.492	9.42	00
ETD	.525**	.464	14.54	00
PD	.633**	.613	16.12	00

significant correlation at the level of Significant 0.05

- It is clear from Table No. (8) that all the values of R (correlation coefficient) between the climate change variable and the dimensions of social responsibility (economic, legal, moral and charitable), respectively, are (0.75 - 0.66 - 0.52 - 0.63), which It means that there is a positive correlation between

the variables of the study, which is a statistically significant relationship at a significant level of less than 0.05.

- With regard to the values of the regression coefficient (b), it shows the extent of the impact of the independent variable on the dimensions of social responsibility (economic, legal, moral and charitable), respectively, which are (0.66 - 0.49 - 0.46 - 0.61), which means that there is an effect with Statistical significance of the climate change variable on the dimensions of social responsibility, and that whenever climate changes increase by one unit, it will lead to a direct change in the dimensions of social responsibility.

- Regarding the T-values, all of them are significant at a significant level less than 0.05.

**Based on these results, the sub-hypotheses of this study are accepted, which states:**

H2- There is a statistically significant effect between the climate change variable and the economic dimension.

H3- There is a statistically significant effect between the climate change variable and the legal dimension.

H4- There is a statistically significant effect between the climate change variable and the ethical dimension.

H5- There is a statistically significant effect between the climate change variable and the charitable dimension.

## **7-Conclusion and Recommendations**

the study aimed to identify the impact of climate changes on the dimensions of social responsibility. The study concluded that there is a positive relationship between the two variables of the study, and that the greater the climate changes, the greater the application of social responsibility practices for hotels to try to reach adaptation to these changes, and try to make climate changes a competitive advantage for hotels. Egyptian. This is through the following recommendations:

- Work to reduce food wastage. - Buying local products and products that enjoy the green mark. - Application of modern technology to reduce consumption (energy - water).
- Training and educating workers to reduce climate impacts.
- Orientation to implement green standards in the hotel.
- Attention to applying social responsibility practices internally (by pursuing justice, transparency and combating corruption) and externally (by participating in education, health and environmental conservation projects).

## **8. Future Studies**

Given the importance of climate change, the study recommends completing research on the effects of this global phenomenon and the extent of its impact on Egypt and its impact on the hospitality sector. Numerous aspects of the effects of climate change and its relationship to the performance of workers in Egyptian hotels can be studied.

- The role of climate change in changing the advertising content in the hotels and restaurants sector.
- The role of the hospitality industry 4.0 in addressing the effects of climate change in the hotel sector in Egypt.

## Reference

- Abo El Nile, M. (2017). Potential Impact of Climate Change on Beach Tourism in MENA Countries: A Survey Based Study. *Journal of the Federation of Arab Universities for Tourism and Hospitality*,14(1), P115.
- Adel, B and Adelina, Z. (2021). Hospitality Industry 4.0 and Climate Change, Circular Economy and Sustainability, PP1.44. <https://doi.org/10.1007/s43615-021-00141-x>.
- Behringer, K., Szegedi, K., 2016. The role of CSR in achieving sustainable development-theoretical approach. *Eur. Sci. J.* 12 (22),PP 10–25.
- Boonwichai S, Shrestha S, Babel MS, Weesakul S, Datta A (2018) Climate change impacts on irrigation water requirement, crop water productivity and rice yield in the Songkhram River Basin, Thailand. *J Clean Prod* 198:1157–1164. <https://doi.org/10.1016/J.JCLEPRO.2023.03.146>.
- Carlini, j. and Grace, D. (2014). “Exploring the Synergies of CSR and Brand Strategy “. Proceedings of 29 International Business Research Conference 24-25 November 2014, Novotel Hotel Sydney Central, Sydney, Australia, pp1-15.
- Cline WR (2008) Global warming and agriculture. *Financial Development*. March, 23–27.
- Conway D, Vincent K (Eds) (2021) Climate risk in Africa: adaptation and resilience. Cham, Switzerland: Palgrave MacmillanPP-22-48.
- Corrisl,(2019). Hoteliers Share the Impact of Climate Change, [Hoteliers Share the Impact of Climate Change - hotelbusiness.com](https://www.hotelbusiness.com/7/4/2023).7/4/2023.
- Darwish, S. (2019). Social Responsibility Practices as a Competitive Advantage in the Hospitality Industry: Case study on a sample of Egyptian hotels. PhD in hotel studies. Faculty of Tourism and Hotels, Mansoura University.p11.
- Dubois G, Ceron JP, Gössling S, Hall CM (2016) Weather preferences of French tourists: lessons for climate change impact assessment. *Clim Change*. <https://doi.org/10.1007/s10584-016-1620-6>
- Elwan, M.(2019). Carroll's Pyramid of Social Responsibility: Principles and Dimensions, <https://www.rowadalaamal.com/.10/2/2023>.
- Floranc, B. Robert K. (2011), the dialogue of corporate governance and corporate social responsibility , master’s thesis, Karlstad business school, Sweden, ,p;16. <https://www.diva-portal.org/smash/get/diva2:425863/FULLTEXT01.pdf>.
- Hamilton JM, Maddison DJ, Tol RSJ (2005) Climate change and international tourism: a simulation study. *Glob Environ Chang* 15,PP253–266. <https://doi.org/10.1016/j.gloenvcha.2004.12.009>.
- Hoogendoorn G, Fitchett JM (2016) Tourism and climate change: a review of threats and adaptation strategies for Africa. *Curr Issue Tour* 21(7):742–759. <https://doi.org/10.1080/13683500.2016.1188893>.
- Ibrahim, A. (2020). The impact of climate change on inbound tourism to Egypt: a case study of the Suez Canal region. *Journal of the Faculty of Arts and Humanities*, 3(35), PP297-286.
- IPCC (2014) Climate change 2014: impacts, adaptation, and vulnerability. Cambridge University Press, Cambridge and New York.
- Gössling S, Hall CM (2006) Uncertainties in predicting tourist flows under scenarios of climate change. In *Climatic Change*. <https://doi.org/10.1007/s10584-006-9081-y>.
- Khalil, R.(2019). Climate change and its impact on tourism activity by application to the city of Sharm El-Sheikh, *Journal of Association of Arab Universities for Tourism and Hospitality*, v16, 1,p125.

- Kjellstrom T, Holmer I, Lemke B (2009) Workplace heat stress, health and productivity—an increasing challenge for low and middle-income countries during climate change. *Glob Health Action* 2:2047. <https://doi.org/10.3402/gha.v2i0.2047>
- Kjellstrom T, Kovats RS, Lloyd SJ, Holt T, Tol RSJ (2009) The direct impact of climate change on regional labor productivity. *Arch Environ Occup Health* 64,PP217–227. <https://doi.org/10.1080/19338240903352776>
- Kittisak, J.(2020). Climate Change, Growth Determinants and Tourism Industry: Time Series Analysis from Malaysia, Chulalongkorn University, Thailand, P1. [eai.5-11-2019.2292498 \(eudl.eu\)](http://eai.5-11-2019.2292498.eudl.eu).
- Leal Filho W, Bonecke J, Speilmann H, Azeiteiro UM, Alves F, Lopes de Carvalho M, Nagy GJ (2018) Climate change and health: an analysis of causal relations on the spread of vector-borne diseases in Brazil. *J Clean Prod* 177:589–596. <https://doi.org/10.1016/J.JCLEPRO.2017.12.144>
- Li, W. (2012). Study on the relationships between corporate social responsibility and corporate international competitiveness. *Energy Procedia*, 17(A), PP 567-572.
- Mohamed, F. Ahlam, H.(2016). The impact of the application of social responsibility practices in enhancing the reputation of the institution, the cellular communications company operating in Algeria as a model, research files in the economy, No. 5.
- Odimegwu F, Francis OC (2018) The interconnectedness between climate change and tourism. *J Contemp Sociol Res* 1(1):48–58.
- Patranit, S; Patinya, S; Alan, M.(2022), The role of food waste hierarchy as Thai hotels seek to fulfill their corporate social responsibility, *heliyon*,8. <https://www.cell.com>.
- Rhou, Y., Singal, M., (2020). A review of the business case for CSR in the hospitality industry. *Int. J. Hospit. Manag.* 84, 102330.
- Roson R, Van der Mensbrugge D (2012) Climate change and economic growth: impacts and interactions. *Int J Sustain Econ* 4:270–285. <https://doi.org/10.1504/IJSE.2012.047933>.
- Salama, Z.(2016). Thermal islands in the city of Assiut and its relationship to human comfort. *Assiut Journal of Environmental Studies*. N43, p38.
- Sharon, F. (2013). Climate Change and Tourism: An Overview. *Asia Pacific Journal of Tourism Research*.18/1-2, pp4-20.
- SIS, (2022), Egypt and the issue of climate change, <https://www.sis.gov.eg/Story/41146?lang=ar,2/4/2023>
- Sookram, S. (2015) The impact of climate change on the tourism sector in selected Caribbean countries, ECLAC – Project Documents collection, Caribbean Development Report.
- Scott D, Gössling S, Hall CM (2012) International tourism and climate change. In *Wiley Interdisciplinary Reviews: Climate Change*. <https://doi.org/10.1002/wcc.165>.
- Susanne, B. (2015) Climate change, tourism, *Encyclopedia of Tourism*, 28 (1), 1-3.
- Tawatsupa B, Yiengprugsawan V, Kjellstrom T, Berecki-Gisolf J, Seubsman S-A, Sleigh A (2013) Association between heat stress and occupational injury among Thai workers: findings of the Thai cohort study. *Ind Health* 51:34–46. <https://doi.org/10.2486/indhealth.2012-0138>.
- Uhlig, M.R.H., Mainardes, E.W., Nossa, V., (2020). Corporate social responsibility and consumer's relationship intention. *Corp. Soc. Responsib. Environ. Manag.* 27 (1), 313–324
- Uk , E.(2015), Climate Change And Effects On Hospitality Industry Environmental Sciences Essay, [Climate Change And Effects On Hospitality Industry Environmental Sciences Essay \(ukessays.com\)](http://ukessays.com). 12/3/2023.
- UNWO, (2023), climate action, <https://www.un.org/ar/climatechange/science/causes-effects-climate-change>, 22/3/2023.

- UNWTO, UNEP, and WMO. (2008). Climate change and tourism – responding to global challenges. In Climate change and tourism – responding to global challenges. <https://doi.org/10.18111/9789284412341>.
- Wahiba, M.(2014).Evaluation of the response of business organizations in Algeria to social responsibility, an applied study on a sample of western Algerian institutions, Ph.D. thesis, Faculty of Economic, Commercial and Management Sciences, University of Oran, Algeria.P22.
- Yassin, B.(2013). The Role of Social Responsibility in Improving the Effectiveness of Corporate Governance, Master Thesis, Mohamed Khudair University, Faculty of Science and Economics, Biskra, Algeria,P33.
- Yi-Ping, SU, Michael, C, Lucie, O.(2013). Hospitality Industry Responses to Climate Change: A Benchmark Study of Taiwanese Tourist Hotels. *Asia Pacific Journal of Tourism Research*. 18/1-2, pp92-107.