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How Sustainable Design and Awareness May Affect the Real Estate Market

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Abstract: In recent years, the desire and requirement for green buildings have increased. The aim of this research is to determine and confirm the increased request for green properties and to investigate whether this is related to a new need or simply a desire of buyers. Moreover, the paper examines people's knowledge of greenness and sustainability and their wish to live and work in sustainable buildings. The methodology used for this research is based on quantitative research methods with the use of questionnaires to better understand the residents' awareness, needs, and desires related to sustainability. The research was based on the hypothesis that increased knowledge and awareness of sustainable design can affect the real estate market. Secondly, this research examined whether the increased desire and need for sustainable buildings may increase the market value of sustainable buildings and if people with higher incomes desire green buildings more. Finally, the last hypothesis examined regarded the differences between residential and commercial buildings in terms of sustainable design. The study explored whether buyers will pay extra to purchase a sustainable property and how sustainability can affect the market value and the construction industry. The participants who took part in the research study were living and working in Cyprus. One of the significant outcomes was the fact that people who have knowledge and awareness related to sustainability are willing to pay extra to purchase green properties. Another interesting outcome was that most people have knowledge of sustainable building design. This awareness is crucial as people's desire is the strongest driver, which can influence them to invest more in green real estate.

Keywords: green buildings; sustainable buildings; valuation; real estate

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1. Introduction

In recent years, the increasingly visible effects of climate change, economic instability, and changing political conditions have dynamically brought sustainability to the forefront. Sustainable development refers to economic, social, and environmental aspects as per the United Nations Commission as mentioned by Garren, 2018 [1]. However, characterizing and measuring sustainability involves making choices about how to define and quantify what is being developed, what is being sustained, and for how long Parris, 2003 said [2]. Sustainable development presupposes the development of the productive structures of the economy alongside the infrastructure for a sensitive attitude towards the natural environment and ecological problems.

Buildings cause one-quarter of the entire global carbon dioxide emission; therefore, they are considered to be the main contributors to climate change as stated by Levine, 2007 [3]. In Europe, 40% of energy consumption is consumed by buildings as referred in the study of Zancanella, 2018 [4]. Therefore, buildings with the correct measures have a high potential to lower their carbon footprint and, consequently, energy consumption Enkvist, 2007 stated [5]. During the last few decades, interest in green developments has been growing rapidly, and this is the main reason that the real estate housing market has faced a

paradigm shift Heinzle, 2013mentioned [6]. In fact, lately, an increased demand for green and sustainable buildings has been observed. The World Green Buildings Council and the network it encompasses in Europe are dynamically investing in communicating the profits of green residential properties to buyers and tenants as reported by Hartenberger, 2017 [7]. However, there are still difficulties concerning green and nearly zero-energy projects, such as high construction costs [6].

The global discourse on sustainable practices has transcended environmental considerations to encompass a holistic approach that permeates various industries. One sector profoundly influenced by this paradigm shift is the real estate market Doyle, 2015 said [8]. As the need for sustainable living gains momentum globally, understanding how sustainable design and heightened societal awareness impact the real estate market becomes not only relevant but imperative. This paper examines the current status and awareness of green and sustainable buildings in Cyprus. It also investigates people's desire and need to live and work in green and sustainable buildings. The motivation for this research stems from the recognition that the intersection of sustainable design and the real estate market remains an underexplored domain, particularly within the unique context of Cyprus. While sustainability discussions have permeated international dialogues, the applicability of these principles to local real estate dynamics, influenced by Cyprus's distinctive environmental, cultural, and economic milieu, has yet to be comprehensively investigated. This research seeks to fill this void by delving into the intricacies of how sustainable design and people's awareness collectively shape the real estate landscape in Cyprus.

The novelty of this study lies in its focused examination of sustainability within the Cypriot real estate market—a region characterized by its historical significance, diverse landscapes, and a burgeoning awareness of environmental issues. Existing literature often lacks granularity concerning the impact of sustainable design on property values, market trends, and consumer preferences in Cyprus. By addressing this gap, our research pioneers a nuanced exploration that goes beyond generic sustainability discussions and delves into the specificities of the Cypriot real estate sector. This research aims for methodological effectiveness by employing a rigorous and contextually relevant approach. By leveraging quantitative methods, such as linear regression, we intend to provide a robust analysis of the relationships between sustainable design features, people's awareness, and key real estate indicators.

In the pages that follow, we delve into the methodologies employed, the results obtained, and the implications derived, aiming to provide a comprehensive and pioneering contribution to the ongoing conversation on sustainable design and its ramifications for the real estate market in Cyprus. Both descriptive and factorial analyses were carried out with the aim of extracting useful information regarding the real estate market and sustainable principles. The study aims to test and critically analyse, via statistical analysis, people's awareness regarding green and sustainable design in residential and commercial projects. The data were coded using IBM SPSS (Statistical Package for Social Studies), and the regression analysis helped with the examination of the relationship between the independent variables and the dependent variables that were set to test the hypothesis of this research project [9].

The Green Building Adoption Model has been reviewed and considered in this research. This model explores the factors influencing the adoption of green building practices in real estate. It considers elements such as economic incentives, regulatory frameworks, and consumer awareness. Fuerst, 2014 reported that the diffusion of innovations theory, which describes how innovations spread through a population, can be integrated into this model to understand how sustainable design practices become widely adopted in real estate markets [10].

Moreover, the Triple Bottom Line (TBL) theory, which focuses on the economic, social, and environmental aspects of sustainability, was used in the questionnaire and study development. In the context of real estate, this theory suggests that sustainable design can positively impact the bottom line by enhancing property values, reducing operational costs

through energy efficiency, and improving social well-being by creating healthier and more inclusive communities [11].

One of the main results indicates the willingness of potential buyers to pay extra to purchase a green development. Also, the research outcome will highlight the possibility of having a higher number of requests for green developments in the future based on people's requests and their willingness to pay extra for offices or homes that fall within the green category. More details of the study are presented in the Methodology section.

Literature Review

The quality of life that homes offer to their occupants is a major factor in shaping the real estate market Arif, 2016, said [12]. To begin with, the impact of air pollutants on real estate market values is substantial and, in the future, is set to increase as homeowners become increasingly aware of the importance of a cleaner environment [13]. Furthermore, noise pollution can also influence real estate values, and a significant decrease in values can be observed in newly built buildings in areas of high noise pollution [14]. Finally, a large environmental burden appears to exist from existing properties that have not installed environmentally friendly and energy-efficient technologies and systems, resulting in lower growth in property values for these properties and the area in general [14].

Green building trends are now beginning to shape the real estate market, with home buyers preferring to invest in more sustainable homes O'Mara, presented in 2012 [15]. These buildings have technologies for improved energy efficiency and are changing the way people buy real estate. Developers and sellers are noticing the growing demand for sustainable living and are responding with more high-tech, energy-efficient buildings [16]. These projects are equipped with solar panels for water heating, photovoltaics, home energy screens, leak detectors to alert for any pipe leaks, and motion sensors for light control and low-flow water features. These new technologies not only save on energy and water costs but can also deliver a healthy return on investment.

The government of Cyprus, as well as other countries, has been promoting green and sustainable development by offering funds and incorporating new laws [17]. The EU Directive (2010/31/EU) was included in the national law of Cyprus in 2010, its main purpose being the improvement of the energy performance of buildings, new and existing, whilst considering the climate conditions of the external environment and the climate requirements of the internal environment of the building [18,19]. Moreover, the European Union has implemented the European Green Deal to be applied to all its member states, which aims to ensure the sustainability of the EU's economy as reported by Tutak, 2021 [20]. The European Climate Law is one of the main elements of the European Green Deal published by the Commission in December 2019 [21]. The goal is to achieve a climate-neutral Europe by 2050. In Cyprus, the government approved the new National Governance System for the European Green Deal, and the implementation of the National Energy and Climate Plan "NECP" was introduced under the Regulation on the governance of the energy union climate action, which will be enforced for the years 2021–2030 as listed in the Cyprus Action Plan, 2020 [22]. The National Energy and Climate Plan for Cyprus is a detailed roadmap for achieving Cyprus Energy and Climate targets by 2030. In addition to Cyprus Energy and Climate targets, the NECP also sets out key policy priorities that will be put in place to allow the country to succeed in reaching its targets. In this way, they aim to restore biodiversity and well-functioning ecosystems. Additionally, the Climate Action Plan is an action plan that enhances the effective use of resources by utilizing them toward a "clean circular economy, restore biodiversity and reduce pollution" [22]. The path towards this plan has been reinforced by the establishment of several actions that have been implemented or are under development related to the building industry. More specifically, in the NECP, Cyprus has committed to increasing the share of renewable energy in its final energy consumption to 22% by 2030. The country also aims to achieve a 32.5% reduction in final energy consumption by 2030 compared to the business-as-usual scenario [22]. This target includes energy efficiency improvements across sectors, such as buildings, industry,

and transport. Regarding building efficiency, Cyprus has committed to promoting the energy efficiency of buildings by promoting renovations and upgrades. The goal is to achieve a 30% reduction in energy consumption in buildings by 2030 compared to the 2007 level [22]. The building industry is now familiar with the photovoltaic system installations on residential and commercial buildings, the thermal insulation of the building envelope, and the installation of smart and energy-saving technologies. The government is promoting green buildings through low-interest loans and subsidies, information campaigns, and incentives. Cyprus also made the Energy Performance of Buildings mandatory, and new projects must achieve Energy Category A or B to receive their building permit [23,24].

Besides the government's efforts to redirect the real estate market towards green and sustainable building development, some real estate investors seemed to demonstrate a lack of awareness and a lack of willingness to invest in green solutions. The main reason is probably the additional cost that puts a burden on green building construction [6]. As a matter of fact, according to the investor's point of view, property buyers used to show low levels of interest in sustainable buildings, and therefore, they are unwilling to invest more in them [6]. At present, about 35% of the EU's buildings are over 50 years old, and almost 75% of the building stock is energy-inefficient [4,25]. The renovation rate of the buildings that are becoming sustainable and energy efficient is 1% per year; this fact illustrates that it would take around 100 years to reduce the carbon levels of the existing buildings in Europe [25]. Green and sustainable buildings, especially a quicker renovation of the existing stock, is one of the key factors that can lower global pollution levels and greenhouse gas emissions [26]. Therefore, since environmental awareness is now increasing [27], it is the ideal time to prioritize green developments [28]. That is why the "Green Deal" has triggered the growth of interest in green and sustainable buildings amongst real estate developers.

Recent studies of Sichali, 2017, show that homeowners now have a growing interest in buying green buildings, and it looks like real estate may be ready to prioritize green buildings [29]. Subsequently, green building technology has been incorporated by real estate developers in order to gain a strategic positioning within the housing market. However, as aforementioned, although green buildings offer lower energy costs in the long term, they still cost more than conventional buildings during the construction phase [30]. These building costs, according to researchers, are based on the high costs of sustainable building materials, in addition to the high prices of efficient mechanical systems [31]. The higher the market cost of the building, the higher its market value, which is a term used to indicate the price that green and sustainable buildings can gain from the benefits they offer and the willingness of the community to pay extra for such properties [32].

2. Methodology

The methodology used for this research is based on quantitative research methods. In order to capture participants opinions, a questionnaire was used, which was drawn up after a study of the existing literature and also a search for similar studies that had been carried out in the past, with the aim of more accurately capturing the subjects' opinions as stated by Madad, 2019 [33] and Assylbekov, 2021 [13].

With the collected data, both descriptive and factorial analyses were carried out with the aim of extracting useful information for inference research. Therefore, the data received have been tested and critically analysed according to each hypothesis of this research. A survey statistical analysis was used for this primary empirical quantitative analysis, and the data were coded using IBM SPSS (Statistical Package for Social Studies), Windows version. For the purposes of this research, a descriptive analysis was conducted along with Pearson's correlation and multiple linear regression analysis [9]. The regression analysis via SPSS has helped in the examination of the relationship between the independent variables and the dependent variables that were set to test the hypothesis of this research project. In the context of a study on how sustainable design may affect the real estate market, the choice of linear regression as a statistical method is used and can be justified based on several key considerations. Initially, linear regression is well-suited for studies seeking

to explain the relationship between one or more independent variables and a dependent variable. In the context of sustainable design's impact on the real estate market, the goal is likely to quantify the extent to which factors such as sustainable features and people's awareness influence real estate outcomes. Linear regression allows for the quantification of the impact of independent variables on the dependent variable. In the case of sustainable design and real estate, this method enables researchers to measure the degree to which variables like sustainable features and awareness contribute to changes in property values or market dynamics. The sign and magnitude of regression coefficients provide insights into the direction and strength of these relationships.

Real estate professionals, policymakers, and the general public may find linear regression results more accessible and interpretable compared to more complex models. The transparency of linear regression coefficients can facilitate the communication of findings and their implications for sustainable design practices in real estate. In summary, linear regression is justified in the context of a study on sustainable design's impact on the real estate market due to its suitability for explanatory analyses, quantification of relationships, interpretability, and common usage in research on similar topics.

The questionnaire has been based on two types of closed-ended questions: multiple choice and five-point Likert scale [34]. In this research, the results of the responses of the sample of one hundred thirteen people in Cyprus are presented. In the present research, the sample belongs to the non-probability category, and in particular, it is a convenience sample. Cyprus was selected for this research since, despite its small size, it is an appealing destination for investment opportunities through property purchases. As per PWC 2022 Real Estate report, Cyprus' economy has maintained solid growth during the last few years. The small size of the Cypriot economy, its flexibility, and its extroversion provide agility to effectively adapt to and overcome difficulties. In this changing landscape, the Cyprus real estate market has proved to be particularly resilient, with transaction activity levels in 2022 exceeding expectations, reaching a record-high of EUR 5,2 bn in value of real estate transactions. Demand appears to be fueled by the ongoing demographic shifts in the context of a continuously growing appetite for foreign companies to relocate to Cyprus. The need for fast evolution in the face of a fluctuating global landscape creates an urgency to pursue a more radical transformation of the sector and for the industry participants to continue revisiting their strategies and priorities, focusing on concepts, products, and infrastructure solutions that are sustainable and fit for the future [35].

The questionnaire was mainly distributed online by email and other types of virtual messages that were published through various online platforms and social media. Google Forms was the instrument that was employed to construct the questionnaires, distribute them, and collect the data output from them. The sampling process had a fairly smooth pace, and the majority of recipients of the questionnaire completed and submitted it and did not refuse to participate. This was certainly helped by the fact that the questionnaire was structured so that it did not require a lot of time, and the questions were formulated in a simple and understandable format. Every participant was informed that they had the right to withdraw from the study at any moment they felt they should do so. Regarding ethics, the anonymity of each participant was ensured since their personal information was not needed at any point of the study, and they did not receive an email with their answers at the end of their participation in this research. Moreover, if there were personal reasons, the participants could avoid answering questions that they did not want to answer.

The people who received the questionnaire were people who have been living and working in Cyprus for at least one year. The participants of this research project included architects and designers, engineers, estate agents, property valuers, property developers, end-users (owner, tenant, and/or property potential buyer), owners (potential sellers), and others (including other people of the general public of Cyprus) who have been asked to identify their occupation. Moreover, the level of education of the subjects included all levels of education. The age of the participants ranged from 20 to over 60 years old. Since Cyprus is a country that attracts a considerable number of immigrants [36], we decided to publish

this questionnaire in the English language. The reasons why this method was chosen were as follows:

Questionnaires were chosen in order to better understand the residents' awareness, needs, and desires related to sustainability and green buildings.

The use of the Internet as a means of easy and quick distribution of the questionnaires through email and social media.

Ability to quickly and continuously monitor the process of collecting research results.

Avoid mistakes and omissions in the questions, thanks to the existence of mandatory answers for the specific program used.

Saving paper by not having to print out hundreds of multi-page questionnaires.

Quick input of the data generated by the editor used.

The research was based on the following four hypotheses:

Hypothesis 1. *Increased knowledge of greenness and sustainability in buildings in the country of Cyprus can affect their market value.*

Hypothesis 2. *Increased desirability and need for green and sustainable buildings increase the building's market value in that people are more willing to pay extra for green and sustainable buildings in Cyprus.*

Hypothesis 3. *People with higher annual incomes desire green and sustainable buildings more than people with lower annual incomes.*

Hypothesis 4. *Greenness and sustainability are more important in residential buildings than in commercial buildings for the people living and working in Cyprus.*

These self-reported questionnaires were separated into four sections. The first section included five demographic questions, which helped to identify the demographic characteristics of the participants in terms of their age, gender, level of education, occupation, and annual household income. These questions helped to create a profile of the participants. All the demographic parameters would be used as independent variables in order to discover the way age, gender, educational level, occupation, and annual household income can affect the level of need and desire for green and sustainable buildings.

The second section of the questionnaire included fourteen sustainability and "Greenness" questions, which were divided into four themes.

1. Understanding and awareness of greenness/sustainability
2. Cost implications.
3. Greenness Desirability and need
4. Residential versus commercial.

These themes have helped to clearly categorize the views of the people's opinions on the subject. The questions in this section were based on five yes or no questions, eight five-point Likert scale questions, and one multiple-choice question. Every degree of agreement was represented by a numerical value from one to five (See full questionnaire attached as Appendix A). Thus, the collected data included a total numerical value that could be summed from the total number of responses.

Nine participants who had not answered the majority of the questions included in the questionnaire were excluded from this research. At the end of this process, the total number of questionnaires that consisted of a suitable sample and were taken under consideration was 104 participants.

Survey Results

The total number of participants who answered the questionnaire was 113. Of these, 104 participants were able to provide a completed questionnaire, and hence, their answers were taken into account for the purposes of this research. As can be observed from Table 1 below, almost half of the participants, 48%, were aged within the higher groups of 40 to

60 years old. A total of 27% of them ranged between 30 and 40 years old, whilst a fourth of them were between either the lower-aged group of 20 to 30 years old and the highest age of over 60 at 13% and 12%, respectively. The majority of the participants were male citizens at 64%, with the female participants being slightly less than a third at 31%, and the remainder who did not wish to justify their gender covered only 5% of subject answers. Identifying the level of education, at 41%, less than half were people who have obtained their Bachelor's degree. Next, 36% of the participants acquired their Master's degree, and 5% were at the Doctorate degree level. It is worth mentioning that there was a small number of participants, and more specifically, 18 of them at 17% with a lesser standard of education, having finished high school level or completed less education. The minority of the participants, 22%, categorized themselves as "end-users". This means that the majority of the participants were either owners or tenants who could be considering purchasing a property in the future and were identified as potential property buyers. Next comes the people who have an occupation in "other sectors", amounting to 20% of the participants. The number of engineers was 16 in total and accounted for 15% of the participants. The number of participants who were occupied as estate agents was 12, accounting for 12% of participants, matching the potential sellers who also consist of 12 participants at 12% and who currently own a property. The number of architects and designers who have participated in this research project was 9 at 9%, followed by 6 property developers at 6%. Finally, property valuers numbered only 5, with the least participation at 5% of the total data set. Data on annual household income for each participant were acquired, and the results present that 25% of the participants earn EUR 31,000 to EUR 40,000 per year. Next, 20 out of the 104 participants, which account for 19%, earn between EUR 21,000 and EUR 30,000 annually, and 19, or 18%, earn between EUR 41,000 and EUR 50,000. Subsequently, some of the people with the higher spending power, at 17%, are in privileged positions with earnings of over EUR 60,000 within the Republic of Cyprus. People who have the lowest annual household incomes comprise 13% of participants, and lastly, the smallest subset of participants at 7% indicate earnings of EUR 51,000 to EUR 60,000 per year. Table 1 presents all the demographic results of the research: age, gender, education level, occupation, and income.

Table 1. Demographic results of the research survey, including age, gender, education level, occupation, and income. (Dark grey background refer to each demographic question).

Age	Frequency	Percent (%)
20–30	14	13.5
30–40	28	27
40–60	50	48
60 or over	12	11.5
Gender		
Male	67	64
Female	32	31
Other	5	5
Education Level		
High school or less	18	17
Bachelor's Degree	43	41
Master's Degree	38	36
Doctorate	5	5
Occupation		
Architect and Designer	9	9
Engineer	16	15
Estate Agent	12	11

Table 1. *Cont.*

Age	Frequency	Percent (%)
Property Valuer	5	5
Property Developer	6	6
End-User (owner, tenant, and/or potential property buyer	23	22
Owner	12	12
Other	21	20
Household annual income		
Below 20,000 EUR	14	14
21,000–30,000 EUR	20	19
31,000–40,000 EUR	26	25
41,000–50,000 EUR	19	18
51,000–60,000 EUR	7	7
Over 60,000 EUR	18	17

The first topic of the survey was related to the "Understanding and Awareness of Greenness/Sustainability". More specifically, the first question aims to clarify whether the participant understands the meaning of greenness in regard to building sustainability and efficiency. The outcome of this question indicates that the majority of the people who have participated in this research, 89%, appear to comprehend the term greenness in the context of the real estate sector (Figure 1).

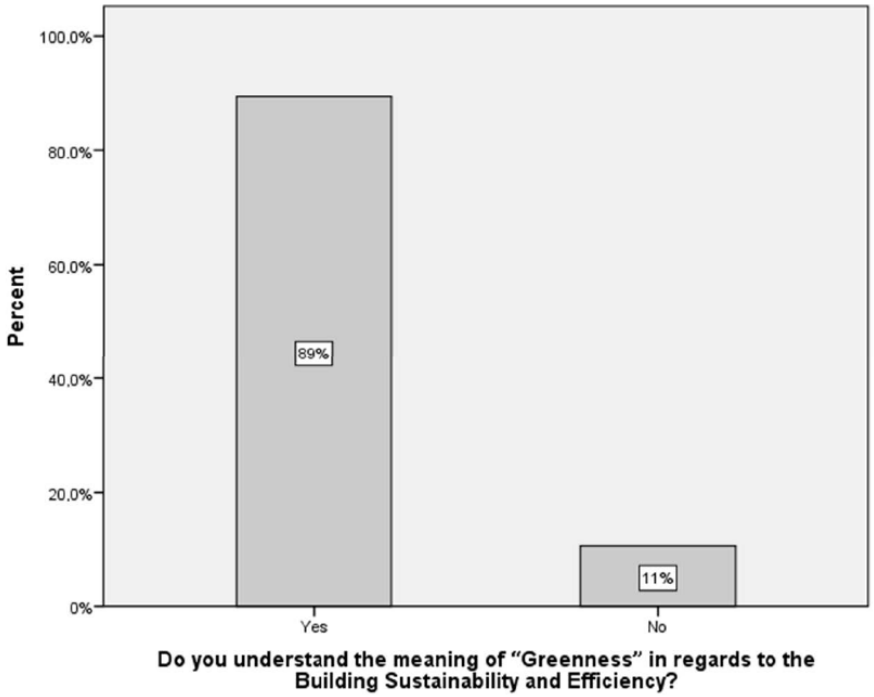

Figure 1. Participants' understanding of the meaning of greenness in regard to building sustainability and efficiency.

The next question referred to the participants' understanding of the levels of sustainability in the Cyprus real estate market. This was a five-point Likert scale question, where the participants could express the levels of their understanding. The majority of the answers to this question indicated that 75% of the people who answered the questionnaire have a moderate to in-depth understanding. These results indicate that even people who

are not closely related to the construction and marketing of green and sustainable buildings are in a position to have an understanding of the levels of greenness. Figure 2 below shows these results in further detail.

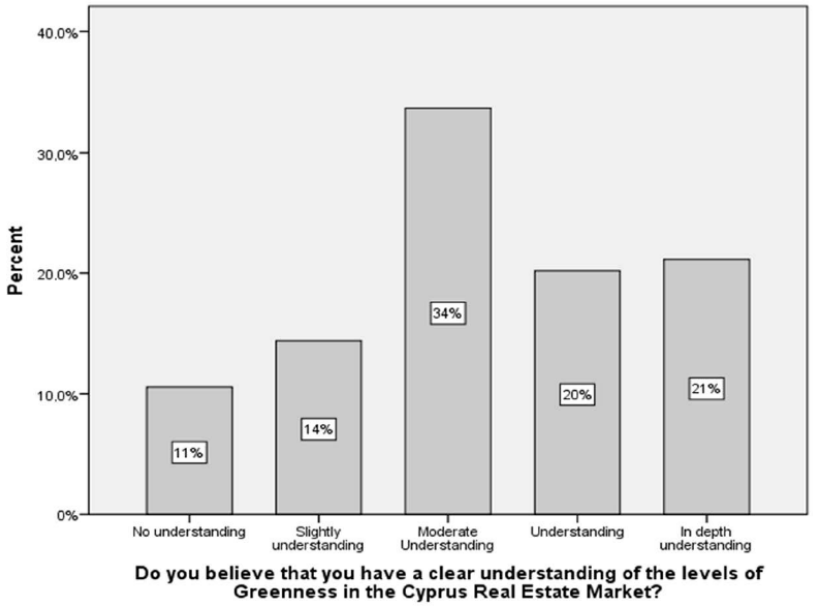

Figure 2. Participants' understanding of the levels of greenness in the real estate market.

The next question relates to the participant's awareness of the Cyprus government's mandatory greenness policy for buildings. This was a yes or no question, where almost half of the participants, 45%, were aware of the mandatory greenness policy in Cyprus, whereas 55% were not. Figure 3 illustrates the results of this question.

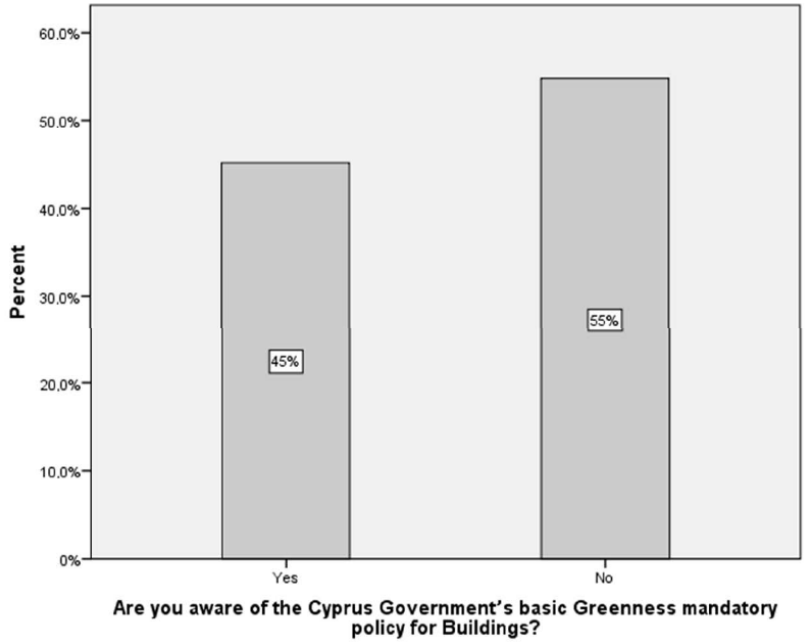

Figure 3. Participant awareness of the Cyprus government's basic greenness mandatory policy.

The following question, Figure 4, referred to the participant's personal judgment as to the extent that sustainability and greenness are practically applied in the country of Cyprus. Here, 42% think that the measures are not adequate or only a few measures are in place.

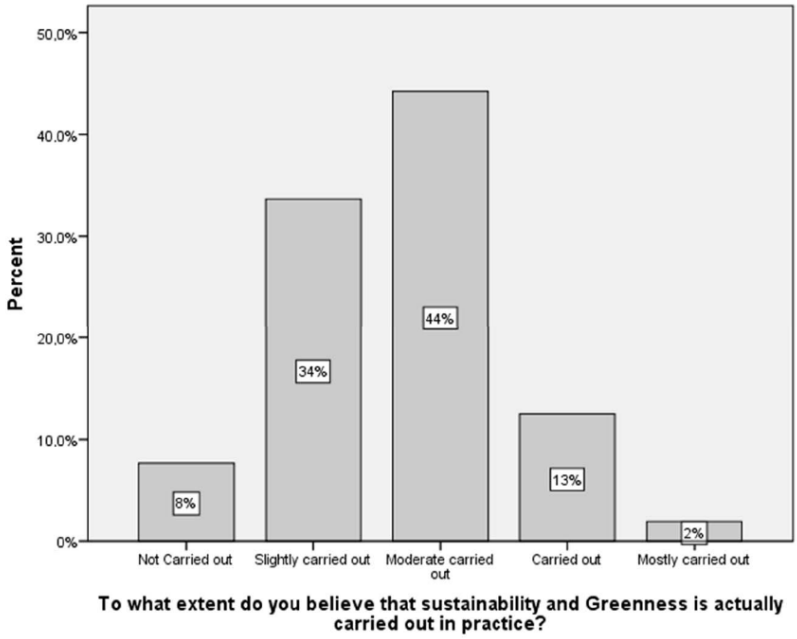

Figure 4. Participants' beliefs as to the extent that greenness is practiced in Cyprus.

The following question was again a yes or no question where the participants had to indicate whether they believed that a property that was constructed according to sustainability and greenness standards could provide more privileges than other properties. Here, almost 88% of the participants agreed to the understanding that a property following the greenness standards could provide more privileges. These results are quite encouraging since participants seem to be aware of the privileges that green properties offer to the people and the environment. The term "privileged" typically refers to having certain advantages or benefits that others do not possess. In the context of sustainability and buildings, there are different aspects to consider:

Economic Privilege: Sustainable buildings might initially require higher upfront costs, which can be seen as a form of economic privilege. Implementing energy-efficient technologies, renewable energy systems, and eco-friendly materials could increase construction expenses. However, over the long term, sustainable buildings often result in reduced operational costs due to lower energy consumption and maintenance requirements.

Access to Information and Technology: Developing sustainable buildings may require access to advanced technologies, materials, and expertise. In regions where access to these resources is limited, there might be an element of privilege associated with building sustainably.

Social and Environmental Privilege: Sustainable buildings can have positive social and environmental impacts, such as reducing greenhouse gas emissions, conserving resources, and improving indoor air quality. In this sense, those living or working in sustainable buildings may experience better health and well-being, which could be seen as a form of privilege. Figure 5 below illustrates these results.

The next four questions within the second section consider the cost implications of green buildings. For the initial question of this set, the participants could state their belief as to whether the development of green and sustainable buildings is affordable to the general public. Here, less than half of the participants, 45%, answered affirmatively that green buildings are affordable to the general public of Cyprus, whilst the majority, 55%, did not share the same opinion and responded negatively. Figure 6 indicates these results.

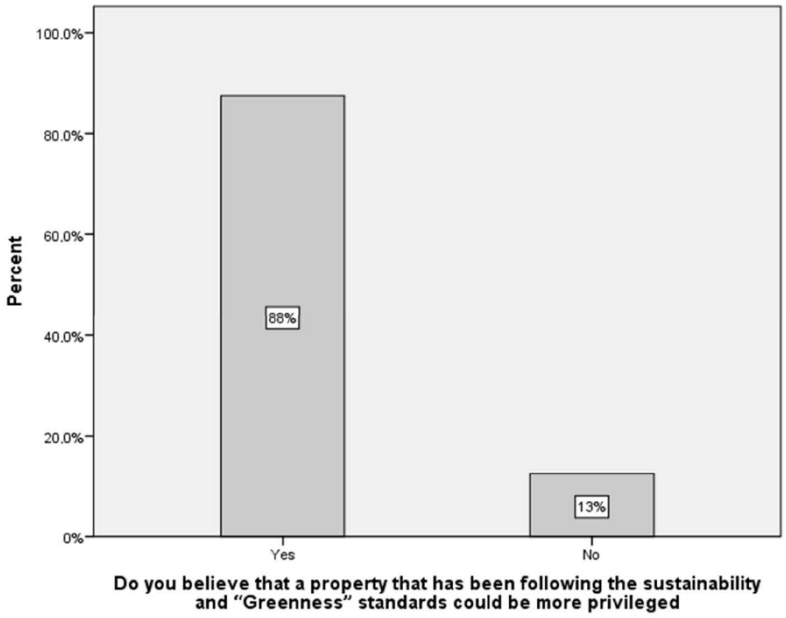

Figure 5. Participants' beliefs on whether or not there are privileges to green properties.

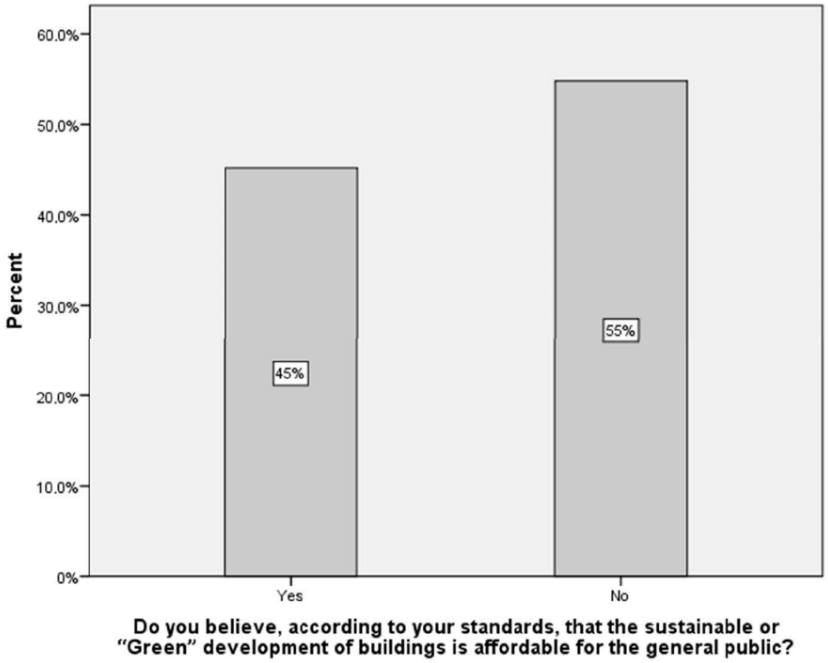

Figure 6. Participant's beliefs on the affordability of a green property for the general public of Cyprus.

Then, the participant's answered in Figure 7 whether or not buildings should be built according to the highest greenness levels on the condition that there are low-cost implications. In this Likert scale question, 62% strongly agreed to the construction of green buildings when low costs were applied.

The next question is whether people expressed their willingness to pay extra for the construction of a building according to the highest possible standards. Here, 69% of the participants seem to have the willingness to pay more money in order to purchase a property of the highest possible greenness standards, whilst 31% have not. Figure 8 contains a demonstration of these results.

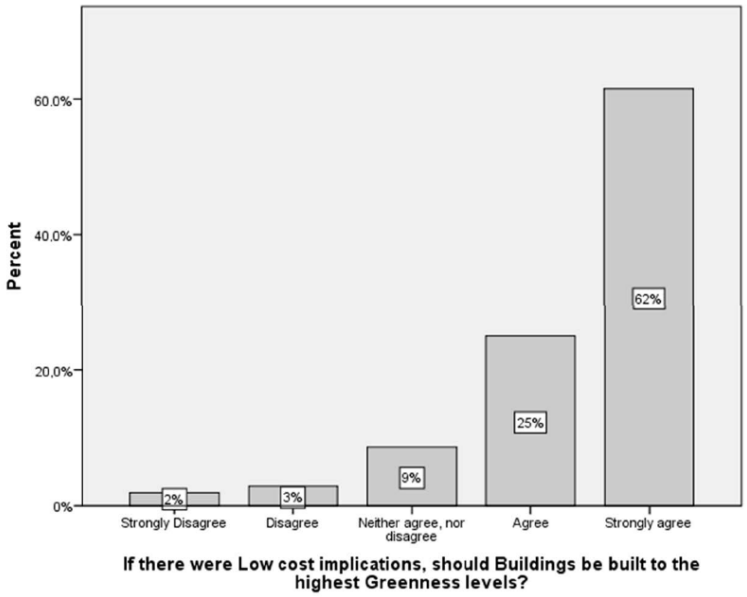

Figure 7. Participants' beliefs on the construction of green buildings of high standards in the case there are low-cost implications.

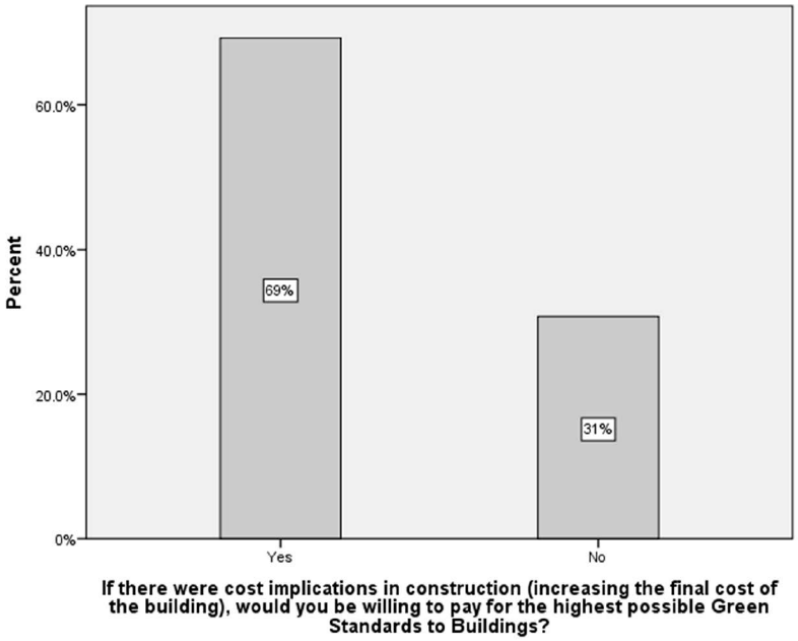

Figure 8. Participants' willingness to pay extra for the highest possible green standards when purchasing a building/property.

The last question of this section is a 5-point Likert scale question where participants expressed their willingness to pay extra money in order to purchase a green and sustainable property. The results of this question indicate that the majority of the participants, 36%, are either willing to pay extra or very willing to do so, 19%. Moreover, 30 out of 104 participants show a moderate willingness to pay extra, and the rest, 17%, of the participants are either slightly willing, 11%, or not willing, 6%, to pay extra. Figure 9 illustrates these results.

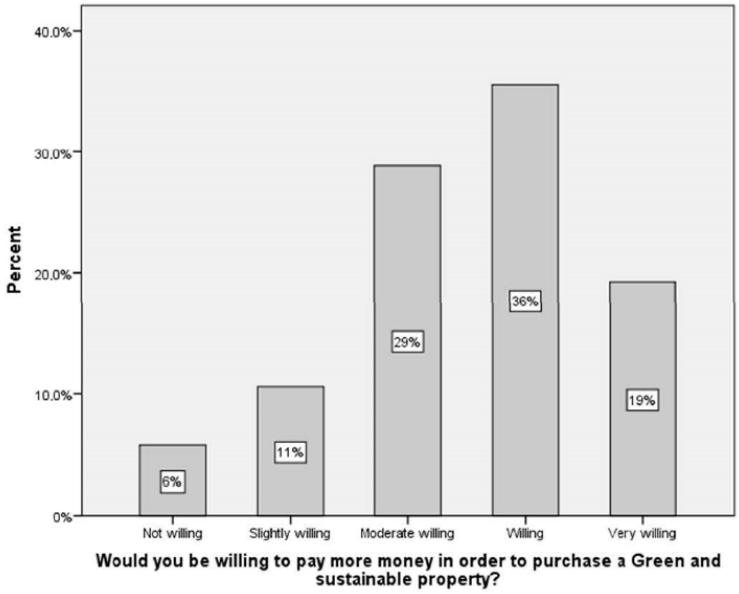

Figure 9. Participants' willingness to pay extra in order to purchase a green and sustainable property.

The next three questions that follow are placed under the greenness desirability and need section, where the participants have expressed their levels of need and desirability for purchasing a green and sustainable property. The first of this set of questions is a 5-point Likert scale question where 43% of the participants clarified that they desire very much to live and work in a green environment, 32% of them show desire, and 13% show moderate desire to do so. It is encouraging to see that the majority of the participants express a desire to pay more money in order to spend time in a green property, leaving only 5% of them expressing no desire at all to do so. Figure 10 below shows the results of this question.

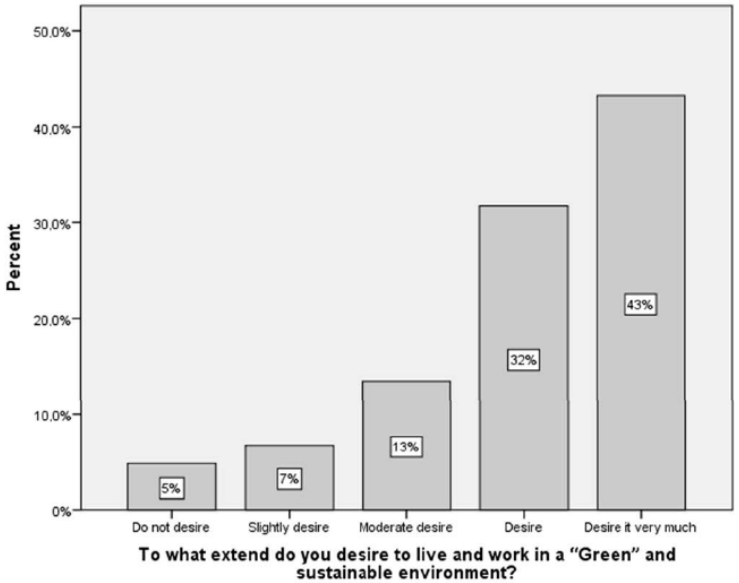

Figure 10. Participants' desire to live and work in a green and sustainable environment.

The following question was similar but more related to the levels of their need to live and work in a green and sustainable environment. The need is translated into economic reasons, upgraded indoor environmental quality, or resilient factors. Sustainability is not a luxury issue; sustainable buildings are crucial for creating a greener, healthier, and more resilient future for both the environment and humanity. Therefore, regarding this question, the majority of the participants expressed a great need (39%) to live and work in a green

environment, 27% expressed a need, and 21% stated they had a moderate need to do so. The results of this question seem to have similarities with the results of the previous one (Figure 11).

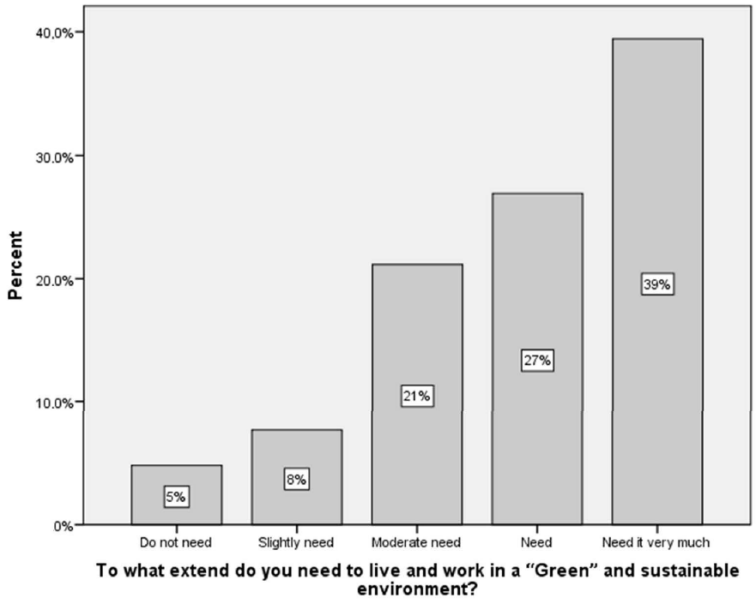

Figure 11. Participants' need to live and work in a green and sustainable environment.

This section ends with a multiple-choice question, where the participants had to pick the most important factor, according to their awareness, that influences the application of sustainability and greenness in practice in the country of Cyprus. Here, 39% of the subjects believed that the government's imposition through law was the most influential factor of all, with the financial benefit factor following with a slightly lesser percentage. The need, 13%, and desire, 9%, seem to be the less influential factors and cannot really make a difference in the real estate market. These results contradict the results of the two previous questions, where the participants expressed their need and desire to live and work in a green environment, implying that although the need and desire of the participants are high, they are not the actual driving factors that influence the practical application of greenness.

For the final section of this questionnaire, there are two questions that indicate the level of importance of commercial versus residential properties according to each participant. Both questions were 5-point Likert scale questions where the participants expressed the level of importance of greenness to residential and commercial buildings, respectively.

One question was on how important participants think that greenness is for residential buildings. The results indicate that the majority think that greenness is very important for residential properties (Figure 12).

Finally, the questionnaire of this research ends with the question of how important greenness and sustainability are in the context of commercial buildings and this is illustrated in Figure 13. The answers to this question seemed to be relevant to the answers in the previous questions, where the majority of the participants believe that greenness is very important for commercial buildings.

From the last two graphs, it can be observed that it is equally important to have green and sustainably constructed residential and commercial buildings, according to the Cypriot citizens' opinion. Therefore, the fourth hypothesis of this research project, suggesting that green residential buildings are more important than green commercial buildings, does not seem correct following the participants' answers.

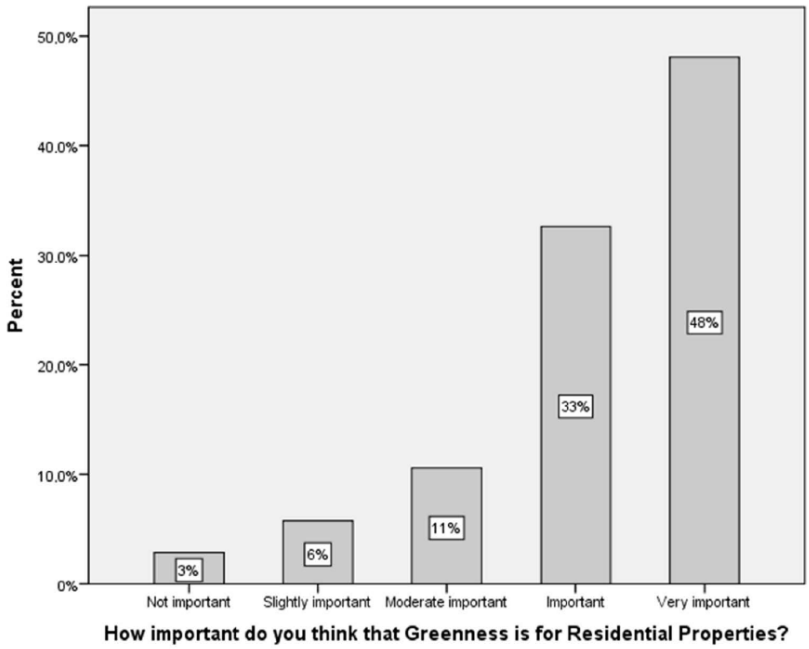

Figure 12. Importance of greenness in residential buildings.

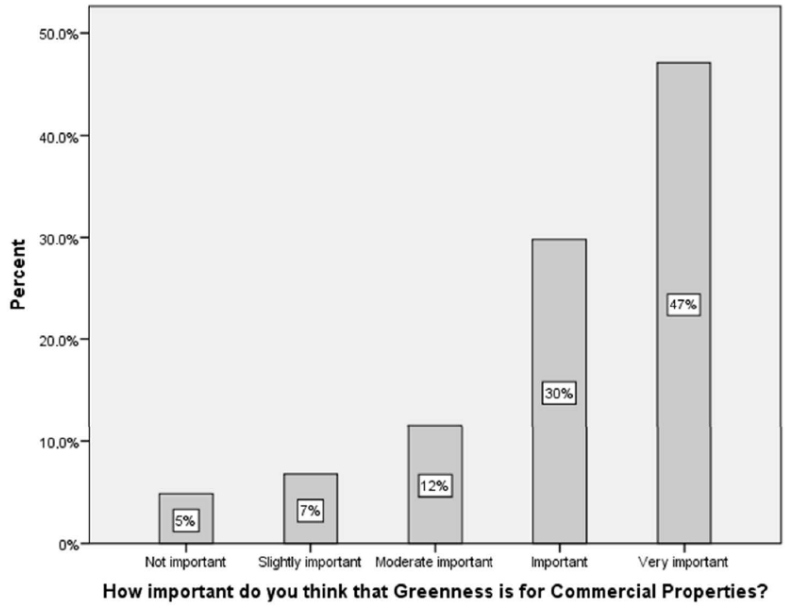

Figure 13. Importance of greenness in commercial buildings.

From the analysis above, we can see that the desire of the participants to live and work in a green and sustainable environment is the most important factor that can influence the market value of green buildings, as well as people's opinions on the importance of greenness in residential and commercial properties. The next important factor that influences the participant's opinions is their understanding of greenness in buildings, which can also affect the market value of the building, as well as the understanding of how important greenness and sustainability are to residential and commercial buildings. This research shows that people's awareness of the benefits of green and sustainable properties is a factor that influences their desire to live and work in such buildings and their willingness to pay extra in order to do so. In Cyprus, just like in other countries, certified green buildings incur higher rental and selling costs. This is because of the great benefits they offer to their occupiers, who can, amongst other advantages, benefit from their reduced operational costs.

This research constitutes a starting point from where several factors can be further analysed. Legal framework and local regulations can be re-evaluated in order to enhance sustainable practices in the real estate market.

3. Regression Analysis and Discussion

The multiple linear regression analysis of the data through the use of SPSS can help to discover the relationship between several factors that could have influenced the decisions of participants to provide their answers. In order to do that, the identification of the dependent (DV) and independent variables (IV) was necessary. Table 2 indicates the DVs and IVs of this multiple linear regression analysis.

Table 2. DVs and IVs.

DV	IV
(**A**) **Theme 2—Cost Implications** (**Including Q. 6–9**)	Demographic Questions (Including Q. 1–5) Theme 1—Understanding and awareness of greenness/sustainability (including Q. 1–5) Theme 3—Greenness desirability and need (including Q. 10–12)
(**B**) **Theme 3–Greenness desirability and need—Q.10 To what extent do you desire to live and work in a green and sustainable environment?**	Demographic Questions (Including Q. 1–5)
(**C**) **Theme 4—Residential versus commercial—Q. 13 How important do you think greenness is for residential properties?**	Demographic Questions (Including Q. 1–5) Theme 1—Understanding and awareness of greenness/sustainability (including Q. 1–5) Theme 3—Greenness desirability and need (including Q. 10–12)
(**D**) **Theme 4—Residential versus commercial—Q. 14 How important do you think greenness is for commercial properties?**	Demographic Questions (Including Q. 1–5) Theme 1—Understanding and awareness of greenness/sustainability (including Q. 1–5) Theme 3–Greenness desirability and need (including Q. 10–12)

The DVs in this research were four. The (A) DVs about "cost implications" were linked to the market value of the green properties. This multiple linear regression analysis has helped to test the two first hypotheses (H1 and H2) of this research project. The alternative hypothesis is accepted here. The following Tables 3–5 illustrate the results of this analysis.

Table 3. Model summary from SPSS–DV cost implication.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.753	0.567	0.505	0.29483

Table 4. ANOVA [a] DV cost implication.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	**Regression**	10.261	13	0.789	9.081	0.000 [b]
	Residual	7.823	90	0.087		
	Total	18.084	103			

[a] Dependent Variable: Cost Implications; [b] Predictors: (Constant) what is your household annual income? What is your education level?, What is your occupation?, What is your gender?, What is your age?

Table 5. Coefficients [a] DV cost implication.

Model		Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.
		B	Std. Error			
1	(Constant)	2.943	0.409		7.191	0.000
	What is your age?	−0.055	0.041	−0.114	−1.366	0.175
	What is your gender?	−0.048	0.057	−0.067	−0.837	0.405
	What is your education level?	−0.085	0.040	−0.163	−2.111	0.038
	What is your occupation?	0.047	0.015	0.270	3.123	0.002
	What is your household annual income?	−0.046	0.023	−0.178	−1.962	0.053
	Do you understand the meaning of "Greenness" in regards to the Building Sustainability and Efficiency?	−0.204	0.123	−0.151	−1.663	0.100
	Do you believe that you have a clear understanding of the levels of Greenness in the Cyprus Real Estate Market?	0.046	0.036	0.138	1.281	0.204
	Are you aware of the Cyprus Government's basic Greenness mandatory policy for Buildings?	−0.273	0.080	−0.326	−3.415	0.001
	To what extent do you believe that sustainability and Greenness is actually carried out in practice?	−0.033	0.043	−0.069	−0.787	0.434
	Do you believe that a property that has been following the sustainability and "Greenness" standards could be more privileged	−0.077	0.101	−0.061	−0.759	0.450
	To what extent do you desire to live and work in a "Green" and sustainable environment?	0.276	0.050	0.745	5.502	0.000
	To what extent do you need to live and work in a "Green" and sustainable environment?	−0.086	0.052	−0.238	−1.663	0.100
	Which of the following do you believe is the most important factor that influences the application of sustainability and Greenness in practice?	−0.008	0.023	−0.027	−0.366	0.715

[a] Dependent Variable: Cost Implications.

The coefficients that have *p*-values less than 0.05 are considered to be of statistical significance (Ye, 2022) [37]. From the tables above, it can be observed that the factor of greater significance, which can influence the participant's opinion the most in paying more money to purchase a green property (adding market value), is their desire to live and work in a green and sustainable environment (Theme 3 Q. 10) because its *p*-value is 0.000. The next factor that has proven to be of great significance, having a *p*-value of 0.001, is the level of awareness of the Cyprus government's basic mandatory greenness policy for buildings (Theme 1 Q. 3). This means that the more aware the people are, the more willing they are to pay extra for purchasing a green property.

Next, the occupation of the participants seems to be significantly important since it had a *p*-value of 0.002 (less than 0.05). This variable is closely related to the previous variable since the awareness of the green policy is correlated to the occupation of the participants. Last, the educational level of the participants seems to have significant importance in the

cost implications and the market value of the building since its *p*-value was 0.038 < 0.05. This means that the participants with a higher educational level are more willing to pay extra for a green and sustainable property than the rest, maybe because they learn the benefits of green developments. The coefficients with the least statistical significance here are Theme 3 Q. 12 with a *p*-value of 0.715 and Theme 1 Q. 5 with a *p*-value of 0.450. This might outline the fact that information regarding sustainable design is still not very clear in the market, and people do not recognize the important factors that influence green practices. Based on this, it is hard to identify the advantages of sustainable buildings.

The (B) DV that has been examined refers to the participant's desire to live and work in a green and sustainable environment correlated to the demographics. This multiple linear regression analysis can help prove the third hypothesis, indicating that the higher income of the participants can affect their desire levels to live and work in a green environment. The following Tables 6–8 show this regression analysis. The alternative hypothesis is accepted here.

Table 6. Model summary DV participants' desire to live and work in a green environment.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.333 [a]	0.111	0.065	1.09420

[a] Dependent Variable: To what extent do you desire to live and work in a "Green" and sustainable environment?

Table 7. ANOVA [a] DV participants' desire to live and work in a green environment.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	**Regression**	14.629	5	2.926	2.444	0.039 [b]
	Residual	117.333	98	1.197		
	Total	131.962	103			

[a] Dependent Variable: To what extent do you desire to live and work in a "Green" and sustainable environment? [b] Predictors: (constant), what is your household annual income? What is your education level? What is your occupation? What is your gender? What is your age?

Table 8. Coefficients [a] DV participants' desire to live and work in a green environment.

	Unstandardized Coefficients			Standardized Coefficients Beta	t	Sig.
	Model B		**Std. Error**			
1	(Constant)	2.891	0.722		4.003	0.000
	What is your age?	0.072	0.145	0.055	0.500	0.618
	What is your gender?	0.223	0.206	0.115	1.083	0.281
	What is your education level?	0.220	0.140	0.157	1.568	0.120
	What is your occupation?	−0.080	0.047	−0.172	−1.723	0.088
	What is your household annual income?	0.156	0.076	0.223	2.056	0.042

[a]. Dependent Variable: To what extent do you desire to live and work in a "Green" and sustainable environment?

The constant here is significantly different from 0 at the 0.05 alpha level [37], as it has been in previous multiple linear regression analyses. From the data analysis above, it can be seen that the coefficient that has shown statistical significance is the household annual income of the participants, which has a *p*-value of 0.042 < 0.05. This multiple linear regression analysis was established in order to prove whether or not the third hypothesis of this research was correct. The rest of the coefficients did not have statistical significance, with the least significant ones being the age coefficient (*p*-value 0.618) and the coefficient of gender (*p*-value 0.281).

The following multiple linear regression analysis was established in order to statistically correlate the (C)–DV regarding the importance of greenness in residential buildings.

The last three Tables 6–8 that follow illustrate the result of the regression analysis. The null hypothesis is accepted here (Tables 9 and 10).

Table 9. Model summary DV importance of greenness in residential buildings.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.856 [a]	0.732	0.694	0.56908

[a] Dependent Variable: Important of greenness in residential buildings.

Table 10. ANOVA [a] DV importance of greenness in residential buildings.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	**Regression**	79.738	13	6.134	18.939	0.000 [b]
	Residual	29.147	90	0.324		
	Total	108.885	103			

[a] Dependent Variable: Important of greenness in residential buildings. [b] Predictors: (constant), what is your household annual income? What is your education level? What is your occupation? What is your gender? What is your age?

Again, the coefficients that have *p*-values less than alpha (0.05) are considered to be of statistical significance [37]. In Table 11, it can be seen that there is a significant statistical value for the desire of the participants to live and work in a green environment, with a *p*-value of 0.000 <0.05. This is followed by the understanding of the meaning of "Greenness", with a *p*-value of 0.002 < 0.05. Subsequently, the factors that influence the application of sustainability in practice also showed a statistical significance as its *p*-value was 0.004 < 0.05. This result contradicts the statistical significance of this coefficient in the previous (A)–DV cost implications since it was the least significant coefficient.

Table 11. Coefficients [a] DV importance of greenness in residential buildings.

Model	Unstandardized Coefficients	B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	4.426	0.790		5.603	0.000
	What is your age?	−0.089	0.078	−0.075	−1.137	0.258
	What is your gender?	−0.078	0.110	−0.044	−0.706	0.482
	What is your education level?	−0.207	0.077	−0.163	−2.677	0.009
	What is your occupation?	−0.010	0.029	−0.024	−0.360	0.720
	What is your household annual income?	−0.052	0.045	−0.082	−1.142	0.257
	Do you understand the meaning of "Greenness" in regards to the Building Sustainability and Efficiency?	−0.739	0.237	−0.222	−3.118	0.002
	Do you believe that you have a clear understanding of the levels of Greenness in the Cyprus Real Estate Market?	0.075	0.070	0.091	1.071	0.287
	Are you aware of the Cyprus Government's basic Greenness mandatory policy for Buildings?	−0.260	0.154	−0.126	−1.685	0.095
	To what extent do you believe that sustainability and Greenness is actually carried out in practice?	−0.045	0.082	−0.038	−0.546	0.586

Table 11. *Cont.*

Model	Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.
	B	Std. Error			
	Do you believe that a property that has been following the sustainability and "Greenness" standards could be more privileged	−0.449	0.195	−0.145	−2.311	0.023
	To what extent do you desire to live and work in a "Green" and sustainable environment?	0.578	0.097	0.637	5.976	0.000
	To what extent do you need to live and work in a "Green" and sustainable environment?	−0.069	0.100	−0.078	−0.694	0.490
	Which of the following do you believe is the most important factor that influences the application of sustainability and Greenness in practice?	0.132	0.044	0.174	2.996	0.004

[a] Dependent Variable: Important of greenness in residential buildings.

Furthermore, the educational level is statistically significant because its *p*-value is 0.009. Moreover, again, in contradiction with (A)–DV, here, green buildings could afford more privileges since they are statistically significant with a *p*-value of 0.023. The less significant value in this DV seems to have the coefficient of occupation with a *p*-value of 0.720. This contradicts the results of the analysis performed with (A)–DV cost implications, where the coefficient of occupation had a great significance.

The next multiple linear regression analysis is based on the (D)–DV of the importance of commercial properties. In this multiple linear regression, the null hypothesis is being accepted (Tables 12–14).

Table 12. Model summary DV importance of greenness in commercial buildings.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.808 [a]	0.652	0.602	0.71795

[a] Dependent Variable: Important of greenness in commercial buildings.

Table 13. ANOVA [a] DV importance of greenness in commercial buildings.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	**Regression**	86.994	13	6.692	12.983	0.000 [b]
	Residual	46.390	90	0.515		
	Total	133.385	103			

[a] Dependent Variable: Important of greenness in commercial buildings. [b] Predictors: (constant), what is your household annual income? What is your education level? What is your occupation? What is your gender? What is your age?

gain, in this multiple linear regression analysis, every coefficient that has a *p*-value less than alpha (0.05) is considered to be statistically significant [38]. From Table 14 above, it can be observed that the coefficient of the desire to live and work in a green environment is statistically great since its *p*-value is 0.000. The results here come in line with the results of the previous regression analysis. The next coefficient of statistical significance is the understanding of the terms green and sustainable, with the *p*-value again being 0.00. This result is relevant to the result of the previous multiple linear regression analysis. Furthermore, the coefficient of age seems to show a statistical significance here (*p*-value

0.007 < 0.05). This factor actually appears to have a statistical significance for the first time. Moreover, the coefficient of the educational level is statistically important (*p*-value 0.016 < 0.05), and the coefficient of the factors that can influence the sustainable application (*p*-value 0.048 < 0.05). These two coefficients have also been statistically significant in the previous multiple linear regression analysis (DV importance of greenness in residential buildings). The most minor statistical significance has shown the coefficients of the need to live in a green environment (*p*-value 0.707 > 0.05) and the understanding of the levels of greenness (*p*-value 0.677 > 0.05).

Table 14. Coefficients [a] DV importance of greenness in commercial buildings.

Model		Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.
		B	Std. Error			
1	(Constant)	4.545	0.996		4.561	0.000
	What is your age?	−0.272	0.099	−0.207	−2.754	0.007
	What is your gender?	−0.073	0.139	−0.037	−0.522	0.603
	What is your education level?	−0.240	0.098	−0.171	−2.460	0.016
	What is your occupation?	0.038	0.037	0.080	1.037	0.302
	What is your household annual income?	0.048	0.057	0.068	0.837	0.405
	Do you understand the meaning of "Greenness" in regards to the Building Sustainability and Efficiency?	−1.088	0.299	−0.295	−3.635	0.000
	Do you believe that you have a clear understanding of the levels of Greenness in the Cyprus Real Estate Market?	0.037	0.088	0.040	0.418	0.677
	Are you aware of the Cyprus Government's basic Greenness mandatory policy for Buildings?	−0.368	0.195	−0.162	−1.890	0.062
	To what extent do you believe that sustainability and Greenness is actually carried out in practice?	−0.052	0.104	−0.040	−0.505	0.615
	Do you believe that a property that has been following the sustainability and "Greenness" standards could be more privileged	−0.103	0.245	−0.030	−0.421	0.675
	To what extent do you desire to live and work in a "Green" and sustainable environment?	0.583	0.122	0.580	4.777	0.000
	To what extent do you need to live and work in a "Green" and sustainable environment?	−0.047	0.126	−0.048	−0.376	0.707
	Which of the following do you believe is the most important factor that influences the application of sustainability and Greenness in practice?	0.112	0.056	0.133	2.008	0.048

[a] Dependent Variable: Important of greenness in commercial buildings.

Outcomes Brief

As an outcome, the results of the first regression analysis that have been analysed can be related to the first hypothesis of this research, where it is stated that the increased knowledge of greenness and sustainability in buildings may affect their market value.

In other words, it seems that people are more willing to pay extra money to purchase a green property when they are educated and aware of the benefits of green properties and, moreover, when they are aware of their country's policies in regard to buildings.

The occupation of the participants, since many are related to construction, can be translated to the outcome that more knowledge is driving a more sustainable future for the real estate industry. For example, the architects and designers, the engineers, the estate agents, the property valuers, and the property developers (46% of the total participants) are participants who are mostly aware of the greenness and sustainability policy for buildings and are more willing to pay extra in order to buy a green and sustainable property, as observed in the cost implication theme of the questionnaire.

Taking into consideration the results of the first multiple linear regression analysis, which was related to cost implications, the desire of the participants seems to be statistically significant. This fact probably proves the second hypothesis, where it was assumed that the higher levels of desire for green and sustainable buildings increase the market value of these buildings. It looks like the desire of the participants to live and work in green buildings is a driver that makes them more willing to pay extra in order to purchase such properties. The question to investigate further is how much this additional payment is. On the other hand, the participant's needs did not seem to have any statistical significance. These results show that the need of the participants is not a factor that could affect the market prices of the green and sustainable properties, or it shows that people did not connect green properties with other needs like the need to overcome the energy crisis or the need to deal with climate change.

The third hypothesis was tested through the second multiple linear regression analysis. Here, it was suggested that the participants who earn higher annual incomes desire green and sustainable buildings more than the participants who earn lower annual incomes. According to the results, this hypothesis was proven to be correct. In fact, it was discovered that the annual income of the participants was the only coefficient that had a statistical significance out of the demographic questions. Therefore, it can be concluded that the higher the annual income of a person is, the more desire they have to live and work in a green environment.

Finally, the fourth hypothesis of this research stated that greenness and sustainability are more important in residential than commercial buildings for the people living and working in Cyprus. This hypothesis seems to be unfounded based on the survey outcomes. Indeed, participants stated that it is equally important for them to be in green and sustainable residential and commercial properties. According to the multiple linear regression analysis that has been established in the previous chapter, (C)–DV, the desire of the participants to live and work in a green environment is shown to be significant. According to the regression analysis on the (D)–DV, it was again found that the desire to live and work in a sustainable environment is the most important factor and, therefore, might influence the market value of green buildings. It might also influence people's opinion on the importance of greenness in residential and commercial properties. The next important factor that influences the participants' opinions is their understanding of the meaning and the benefits of greenness in buildings. This research constitutes only the starting point for other research to be conducted on this subject, which will further analyse the factors that drive people's desire to live and work within a green and sustainable environment.

4. Conclusions

Green and sustainable properties have entered our lives in our efforts to reduce the negative human footprint on the planet. The outcome of this research project has revealed that the meaning of greenness and sustainability has reached the majority of the population living and working in Cyprus since 75% of the participants that took part in this research study have a moderate to in-depth understanding of the levels of greenness in the real estate market in Cyprus. Moreover, in Cyprus, the government has a set of policies for sustainable buildings. Half of the population of Cyprus is aware of the policies regarding

greenness and sustainability in the real estate field. Although the government of Cyprus seems to have been making an effort to ensure that sustainability is carried out in practice, the people living and working in Cyprus seem to believe that these efforts are somehow fruitless. Therefore, further research on this matter should be carried out, including audits, the expansion of policies, and the engagement of the public.

The majority of the participants understand the privileges of sustainable properties, and they also believe that the cost of such buildings is quite high; therefore, the buyers cannot afford to buy such properties. Therefore, further investigation needs to be carried out to understand the cost difference and how much the buyers are willing to spend on sustainable features. It was clear that if the general cost of a green property was lower, then the majority of the participants would be willing to buy such a property.

Furthermore, this research has come to agree with other research established in other countries, which also demonstrated that people's desire is the strongest driver, which can impact them to pay extra in order to purchase a green property. Moreover, this fact illustrates that people's desire can also add market value to green and sustainable properties. The knowledge and understanding of greenness have also proven to be a significant factor that can have an effect on the market. Thus, the real estate market in Cyprus should make a more extensive effort to promote the advantages of greenness in residential and commercial buildings in order to increase the awareness of people living and working in Cyprus. Living and working in a green building may result in energy savings, increased productivity and health, and resilience against climate change weather events, and this should be spread among the people.

When conducting research on how sustainable design may affect the real estate market in Cyprus, there are several limitations to consider. The use of a small country as a sample may limit the generalizability of the findings. The real estate market can be diverse, and economic fluctuations and market variations influence the real estate market. And this research is related to sustainable design. Also, Cyprus has diverse cultural and regional characteristics that may impact how sustainable design is perceived. However, this paper contributes significantly to the real estate literature by offering empirical evidence and insights specific to the Cypriot context. By deciphering how sustainable design and heightened awareness might impact property values, market dynamics, and consumer choices, our research adds a crucial layer of understanding to the global discourse on sustainable real estate practices. Real estate professionals, policymakers, and researchers will find value in our findings, as they not only expand the scope of the existing literature but also offer practical implications for sustainable development in Cyprus and potentially serve as a model for similar regions.

In future studies, social media data will be utilised to gauge public sentiment and awareness regarding sustainable design, providing additional context to complement survey results. The goal is to conduct longitudinal studies to track the impact of sustainable design on the real estate market over an extended period, providing a more comprehensive understanding of trends and patterns. For this study, the sample size will be increased to ensure greater representativeness, allowing for more robust statistical analyses and enhancing the external validity of the findings. Finally, in the continuation of this study, the role of government policies and incentives in promoting sustainable design within the real estate sector and their impact on market dynamics will be examined.

Addressing these limitations and incorporating these future study suggestions can contribute to a more nuanced and comprehensive understanding of how sustainable design influences the real estate market.

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Conflicts of Interest: The authors declare no conflict of interest.

Appendix A

Appendix A.1. Research Questionnaire

This questionnaire refers to the people of the general public who are living and working in Cyprus for at least a year. Since Cyprus is a country that attracts a considerable number of immigrants, it was decided to publish this questionnaire in the English language, since English is considered to be the international leading language. Your answer is anonymous and the data will be used for research purposes only.

Appendix A.2. Definition of Green Building & Sustainability

For the purpose of this research definitions for Green Buildings and Sustainability from United States Environmental Protection Agency have been used.

Green building is the practice of creating structures and using processes that are environmentally responsible and resource-efficient throughout a building's life-cycle from siting to design, construction, operation, maintenance, renovation and deconstruction. This practice expands and complements the classical building design concerns of economy, utility, durability, and comfort. Green building is also known as a sustainable or high-performance building.

Appendix A.3. Questionnaire

- Demographic questions
  1. What is your age? 20–30 30–40 40–60 60 or over
  2. What is your gender? Male Female Other
  3. What is your level of education? High school or Less Bachelor's Degree Master's Degree Doctorate
  4. What is your occupation Architect and Designer Engineer Estate Agent Property Valuer Property Developer End-User (Owner, Tenant, and/or Property Potential Buyer) Owner (Potential Seller) Other
  5. What is your household annual income? Below 20,000 Euro 21,000–30,000 Euro 31,000–40,000 Euro 41,000–50,000 Euro 51,000–60,000 Euro Over 60,000 Euro
- Sustainability and Greenness Research Questions

Theme 1—Understanding and awareness of Greenness/Sustainability

1. Do you understand the meaning of "Greenness" in regards to the Building Sustainability and Efficiency? Yes No
2. Do you believe that you have a clear understanding of the levels of Greenness in the Cyprus Real Estate Market? Please answer the Likert Scale question from 1 not understand to 5 understand in depth. ((1) no understanding; (2) Slight understanding; (3) Moderate understanding; (4) Understanding; (5) In depth understanding.) 1 2 3 4 5
3. Are you aware of the Cyprus Government's basic Greenness mandatory policy for Buildings? Yes No
4. To what extent do you believe that sustainability and Greenness is actually carried out in practice? Please answer the following Likert Scale question from 1 the less to 5 the most. ((1) not carried out; (2) Slightly carried out; (3) Moderate carried out; (4) Carried out; (5) Mostly carried out.) 1 2 3 4 5

5. Do you believe that a property that has been following the sustainability and "Greenness" standards could be more privileged? Yes No

Theme 2—Cost Implications

6. Do you believe, according to your standards, that the sustainable or "Green" development of buildings is affordable for the general public? Yes No
7. If there were Low cost implications, should Buildings be built to the highest Greenness levels? Please answer the following Likert Scale question from 1 strongly disagree to 5 strongly agree. (1) Strongly disagree; (2) Disagree; (3) Neither agree nor disagree; (4) Agree; (5) Strongly agree.) 1 2 3 4 5
8. If there were cost implications in construction (increasing the final cost of the building), would you be willing to pay for the highest possible Green Standards to Buildings? Yes No
9. Would you be willing to pay more money in order to purchase a Green and sustainable property? Please answer the following Likert Scale question from 1 not willing at all to 5 very willing. ((1) not willing; (2) Slightly willing; (3) Moderate willing; (4) Willing; (5) Very Willing.) 1 2 3 4 5

Theme 3—Greenness Desirability and Need

10. To what extend do you desire to live and work in a "Green" and sustainable environment? Please answer the following Likert Scale question from 1 the less to 5 the most. ((1) Do not desire; (2) Slightly desire; (3) Moderate desire; (4) Desire; (5) Desire it very much.) 1 2 3 4 5
11. To what extend do you need to live and work in a "Green" and sustainable environment? Please answer the following Likert Scale question from 1 the less to 5 the most. ((1) Do not need; (2) Slightly need; (3) Moderate need; (4) Need; (5) Need it very much.) 1 2 3 4 5
12. Which of the following do you believe is the most important factor that influences the application of sustainability and Greenness in practice? Please choose the most appropriate factor from the following. A–Government imposition through Law B–Desire C–Need D–Financial Benefits

Theme 4—Residential versus Commercial

13. How important do you think that Greenness is for Residential Properties? Please answer the following Likert Scale question from 1 the less to 5 the most. ((1) Not important; (2) Slightly important; (3) Moderate important; (4) Important; (5) Very important.) 1 2 3 4 5
14. How important do you think that Greenness is for Commercial Properties? Please answer the following Likert Scale question from 1 the less to 5 the most. ((1) Not important; (2) Slightly important; (3) Moderate important; (4) Important; (5) Very important.) 1 2 3 4 5 Thank you very much for participating in this research. Your opinion is very valuable for the purposes of this research project.

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