Business Research Report

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1. **RESEARCH OVERVIEW**

Globally, the challenge of increased temperatures and there is scientific evidence supporting this claim. Increased temperatures result from global warming caused by environmental pollution. Use on non-renewable energy sources such as crude oil has been noted as one of the major cause of global warming (Murray, 2012). Global warming is caused by emission of greenhouse gases which are mainly emitted in various industries such as transportation, electricity production, and industrial activities. As a result, communities, individuals, organizations, governments, and non- governmental organizations are in the front line to encourage the use of renewable sources of energy such as solar energy (Murray, 2012). Experts have indicated that the challenges caused by global warming must be addressed with sustainable solutions such as implementation of renewable energy. However, the use of renewable energies depends on the consumer intentions (Murray, 2012). Currently, across the world several governments have invested a lot of money in renewable sources of energy with an aim of reducing generation of greenhouse gases. Consumers behave differently towards various products in the market depending on the information available in the market as well as their perceptions towards the intended products. Therefore, the main aim of this study is to investigate the individual homeowner living in the South West region of Western Australia regarding their perceptions, attitudes, and beliefs toward global; warming as well as the factors that influence consumers to buy solar panels. To achieve this research objective, a quantitative study was conducted and quantitative data gathered and analysed. This study focuses on the research findings and data analysis section whereby data related to the research question is analysed, presented into tables and figures, and interpreted to answer the research question.

1. **RESEARCH FINDINGS**
   1. **Demographic Profile of Respondents**

The study findings indicated that data was gathered and analysed from 322 respondents. Demographic profile of respondents was analysed using measures of central tendency such as mean and standard deviation. The study findings indicated that the mean values for all the 12 cases tested ranged from 1.37 (whether the respondents’ home was currently paid off or was fully owned) to 6.11 (local government shire of which the respondents live). This information is presented in the Table 1 below.

Table 1: Demographic profile of respondents

| **Descriptive Statistics** | | | | | |
| --- | --- | --- | --- | --- | --- |
|  | N | Minimum | Maximum | Mean | Std. Deviation |
| Lived in current house | 322 | 1 | 5 | 2.38 | 1.385 |
| How old is current house? | 322 | 1 | 9 | 4.53 | 2.745 |
| External infrastructure of house | 311 | 1 | 6 | 1.58 | 1.244 |
| Intend to stay in current house | 315 | 1 | 5 | 2.85 | 1.606 |
| Build, buy or renovate in next 2 years | 313 | 1 | 7 | 2.25 | 1.917 |
| Local government shire | 322 | 1 | 12 | 6.11 | 3.075 |
| Gender | 321 | 1 | 2 | 1.70 | .460 |
| Current age | 320 | 1 | 6 | 3.50 | 1.346 |
| Household income after tax | 303 | 1 | 7 | 2.48 | 1.147 |
| Current house status | 311 | 1 | 2 | 1.37 | .484 |
| How many people live in the house? | 319 | 1 | 8 | 2.88 | 1.278 |
| Highest education level held in household | 314 | 1 | 7 | 2.95 | 1.478 |
| Valid N (listwise) | 273 |  |  |  |  |

Based on the research findings, there were 224 females and 97 males investigated in the study as illustrated in Fig 1 below. This implies that more female customers than males were investigated to understand their purchasing intentions towards solar panel. The study findings agreed with Central Intelligence Agency (2015) report that there are more females than males in Australia.

Fig 1: Gender



The study findings indicated that the highest age for the respondents was 35-54 years (167). The study findings agreed with the Central Intelligence Agency (2015) report that majority of the working class in Australia are aged between 30 and 50 years.

Fig 2: Age



As indicated in Fig 3 below, a large number of respondents had a household income after tax of $50,000- $99,999 while only 2 respondents had income of over $300,000.

Fig 3: Household income after tax



* 1. **Homeowners’ Intentions Toward the Purchase of Environmentally FriendlyLiving**

Pearson’s correlation analysis was used to measure homeowners’ buying intentions towards purchasing environmentally friendly living. As indicated in Table 2 below, the significance level value for value most of the variables is zero tested in the study are less than 0.5 at 95% confidence level indicating that there is a relationship between homeowners’ intentions and purchasing environmentally friendly living. The study findings agreed with Murray (2012) and Anton and Lawrence (2014) that homeowners have mixed reactions towards buying environmentally friendly living.

Table 2: Homeowners’ purchasing intentions and environmentally friendly living

|  |  | Purchasing environmentally friendly items that are more expensive |
| --- | --- | --- |
| Purchasing environmentally friendly items that are more expensive | Pearson Correlation | 1 |
| Sig. (2-tailed) |  |
| N | 321 |
| If YES, how much extra a you willing to pay? | Pearson Correlation | .a |
| Sig. (2-tailed) | .000 |
| N | 263 |
| Have you opted to purchase 'Green' energy from Synergy? | Pearson Correlation | .062 |
| Sig. (2-tailed) | .265 |
| N | 321 |
| If NO, would you consider purchasing 'Green' energy? | Pearson Correlation | .277\*\* |
| Sig. (2-tailed) | .000 |
| N | 288 |
| If Likely, how much more are you willing to pay? | Pearson Correlation | .120 |
| Sig. (2-tailed) | .086 |
| N | 204 |
| Do solar panels make a difference to the environment? | Pearson Correlation | .260\*\* |
| Sig. (2-tailed) | .000 |
| N | 319 |
| I believe the environmental problems are exaggerated by environmentalists | Pearson Correlation | .196\*\* |
| Sig. (2-tailed) | .000 |
| N | 316 |

* 1. **Sources of Electricity That Creates The Greatest Impact On The Environment**

This section aimed at ascertaining homeowners’ views toward the sources of electricity that creates the greatest impact on the environment. In this case, mean was used to analyse homeowners’ views and as indicated in Table 3 below, solar energy had the highest mean value (5.15) followed by wind power (5.00), tidal (4.73), micro hydro (4.57), and thermal (4.46) while nuclear (2.10), coal (2.27) and oil (2.50) had the least mean values. The study findings agreed with Murray (2012) that solar energy is the most effective source of renewable energy.

Table 3: Sources of electricity with greatest impact on the environment

|  | N | Mean | Std. Deviation |
| --- | --- | --- | --- |
| Rate of electricity - Nuclear | 315 | 2.10 | 1.440 |
| Rate of electricity - Coal | 317 | 2.27 | 1.209 |
| Rate of electricity - Natural Gas | 316 | 3.38 | 1.283 |
| Rate of electricity - Oil | 313 | 2.50 | 1.251 |
| Rate of electricity - Large scale Hydro | 313 | 4.34 | 1.266 |
| Rate of electricity - Micro-hydro | 314 | 4.57 | 1.173 |
| Rate of electricity - Wind | 310 | 5.00 | 1.240 |
| Rate of electricity - Solar | 313 | 5.15 | 1.250 |
| Rate of electricity - Thermal | 306 | 4.46 | 1.270 |
| Rate of electricity - Tidal | 315 | 4.73 | 1.291 |
| Rate of electricity - Bio-energy | 305 | 4.27 | 1.184 |

* 1. **Homeowners’ Beliefs Toward Issues Concerning Energy Consumption**

Measures of central tendency were used to determine homeowners’ beliefs toward issues concerning energy consumption. The average mean value was 4.63 with majority of respondents indicating that the government is responsible to control energy consumption while others arguing that construction of cities in South West should consider energy consumption.

* 1. **Contribution of Social Factors To The Decision Process Of Families Living In The South West region of Western Australia**

Regression analysis was used to determine the relationship between social factors and intentions to purchase environmentally friendly living. As indicated in the table below, the significant level value was 0.00 indicating that there is a relationship and mean square regression value was 0.385 indicating a weak positive relationship. The study findings indicated that social factors had weak relationship with the decision making processes of families living in the South West region of Western Australia regarding purchasing environmentally friendly sources of energy. The study findings contrasted a study by Shi, Wang and Yang (2010) and Semmann, Krambeck and Milinski (2005) who argue that climate changes experienced across the world influence individuals in their decisions to purchase and use renewable sources of energy.

| ANOVAb | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| Model | | Sum of Squares | df | Mean Square | F | Sig. |
| 1 | Regression | 6.155 | 16 | .385 | 2.920 | .000a |
| Residual | 37.544 | 285 | .132 |  |  |
| Total | 43.699 | 301 |  |  |  |

1. **CONCLUSIONS AND RECOMMENDATIONS**

The study findings indicated that homeowners have positive attitudes and actions towards the purchase and costs associated with environmentally friendly living. This evident from the study as majority of the respondents agreed that they can purchase environmentally friendly energy sources at higher costs than conventional energy sources. Based on the study findings it can be concluded that solar energy is regarded as a good source of energy by several people in South West region. This is because majority of respondents selected solar energy as the best alternative energy source. The study findings indicated that respondents have different views concerning energy consumption with some people focusing on the government to reduce energy consumption and others having no issue with energy consumption.

Based on the study findings, it is recommended that renewable sources of energy should be used in all industries to minimize the negative impacts of greenhouse emissions. It is also suggested that the Australian government should take the initiative to ensure that energy consumption levels are remained low by encouraging the use of solar energy among other sources of renewable energy. Solar energy should be increasingly used in Australia because majority of the respondents indicated that they prefer solar energy over other sources of energy.

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