

Marketing Alternative Energy Solutions for Residential Homeowners

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Abstract

Using alternative energy systems in residential homes is an increasingly popular choice for homeowners seeking to reduce their environmental impact and lower their energy costs. These systems, including solar panels, wind turbines, and geothermal heating and cooling systems, allow homeowners to generate electricity, heat, and cooling using renewable energy sources. In addition to the environmental and financial benefits, alternative energy systems offer increased energy independence and security as they do not rely on traditional grid infrastructure. Homeowners are considering switching to an alternative energy system. It is crucial to thoroughly research the diverse options and consult a qualified professional to determine the best fit for your home and budget. With proper planning and guidance, switching to an alternative energy system can be an innovative and rewarding decision for homeowners and the planet. The marketing of alternative solar energy systems would reduce the carbon footprint and promote solar energy systems as a clean, renewable, and affordable alternative to traditional electrical energy sources for the next century.

Keywords

Clean Energy, Photovoltaic Panels, Photovoltaic System, Renewable Energy, Solar Electricity

1. Introduction and Background

As concerns about climate change and reliance on fossil fuels continue to grow, more homeowners are turning to alternative energy systems to reduce their environmental impact and save on energy costs. These systems, including solar panels, wind turbines, and geothermal heating and cooling systems, enable homeowners to generate electricity, heat, and cooling using renewable energy sources. The adoption of alternative energy systems in residential homes has increased in pop-

ularity in recent years, driven partly by technological advances and declining costs. In addition to the environmental benefits of utilizing renewable energy sources, alternative energy systems offer financial advantages, as they can significantly reduce or even eliminate energy bills. Furthermore, these systems provide enhanced energy independence and security, as they do not rely on traditional grid infrastructure and are less vulnerable to power outages. While the decision to switch to an alternative energy system can involve a significant investment, it is also a long-term one that can yield reduced energy costs and a smaller environmental footprint. Homeowners should thoroughly research their options and consult a qualified professional to determine the best fit for their home and budget. With proper planning and guidance, switching to an alternative energy system can be a wise and rewarding for homeowners and the planet. According to the [IEA \(2021\)](#), the Global Energy Review 2021 reported that renewable energy increased by 3% in 2020, while other fossil fuels experienced a decline. The primary driver was a 7% growth in electricity generation from renewable sources despite lower electricity demand, supply chain challenges, and construction delays in many parts of the industrialized world. According to the [IEA \(2021\)](#), the Global Energy Review 2021 predicts that solar PV and wind-generated power will account for two-thirds of the increase in renewable energy. China is responsible for nearly half of the global rise in renewable electricity in 2021, followed by the United States, the European Union, and India. Officials from the United States Department of Energy project that the nation's energy needs will continue to grow across the country, with an increasing reliance on renewable sources, such as solar and wind, to meet demands with clean, safe, and reliable energy ([U.S. Department of Energy, 2021](#)). Additionally, IEA data suggested that wind will significantly boost renewable generation by 275 TWh, or almost 17%, surpassing 2020 levels ([IEA, 2021](#)).

Formatting individual papers, 1) automatic compliance with electronic requirements that facilitate the concurrent or later production of electronic products, and 2) conformity of style throughout a journal paper. Margins, column widths, line spacing, and type styles are built-in; examples of the type styles are provided throughout this document and are identified in italic type, within parentheses, following the example. Some components, such as multi-leveled equations, graphics, and tables, are not prescribed, although the various table text styles are provided. The formatter will need to create these components, incorporating the following applicable criteria.

2. The Problem

The problem is that homeowners are often unaware of the lack of alternative marketing strategies and the potential benefits of utilizing alternative energy systems in their homes, which can lead to significant savings.

2.1. Importance of the Problem

The rapid decline in the cost of solar energy systems, combined with federal, state,

and local policy changes, introduced the topic of solar energy into the mainstream. Solar energy systems are available for home use, allowing homeowners to harness the power of these renewable energy resources. Photovoltaic (PV) systems provide a viable option for renewable energy sources and energy-efficient systems that generate electricity and heat, thereby reducing the environmental carbon footprint (Lupangu & Bansal, 2017).

2.2. Method

This study is a systematic literature review. A systematic literature review analyzes a group of studies to determine a solution to the problem (Xiao & Watson, 2019). The primary objective of this study is to summarize, analyze, and categorize existing research on energy-efficient solutions for residential homeowners.

3. The Literature Review

Christensen (1997) developed the theory of disruptive innovation in the context of managing technological change. Disruptive innovation refers to innovations that create new markets or services while continuously disrupting existing markets over several years or decades by displacing established business competitors' technologies (Christensen, 1997). This theory is relevant to this study as it helps researchers address consumers' access to new products or services. Moreover, the theory enables researchers to concentrate on the disruptive innovation of energy technologies related to coal, oil, or natural gas (Christensen, 1997). In their initial stages, disruptive businesses often targeted smaller markets, operated with lower gross margins, offered fewer appealing services, and provided more straightforward products than those typically measured by conventional performance metrics (Christensen, 1997). A systematic review of the theory of disruptive innovation is conducted. These disruptive technologies offer distinct advantages over mainstream technologies. Initially, these innovations were often considered inferior regarding high performance and key indicators for mainstream customers (Yu & Hang, 2010). A key aspect of Christensen's disruptive innovation theory is the product performance analysis over time. The performance of disruptive technologies remained lower than that of established technologies (Yu & Hang, 2010). Numerous businesses were proactively inventing products quickly, and some customers quickly adapted to these enhanced innovation cycles (Christensen, 1997). Disruptive innovations were rarely disruptive to customers initially, with a lag time before their disruptive effects influenced mainstream companies (Yu & Hang, 2010). Christensen's theory concluded that existing companies could withstand challenges by pursuing new business acquisitions, adapting to innovations, and altering their business model to reflect the evolving marketplace and disruptive technologies.

3.1. History of PV Cells

The PV cell is a non-organic process that converts light into electricity (National

Renewable Energy Laboratory, 2012). The Greek term *phos* means *light*. The second half of the term, *volt*, is named after Alessandro Volta, one of the pioneers who studied electricity. Thus, the term “*photovoltaics*” translates to “*light electricity*.” Solar cells, commonly referred to as PV systems, have become an integral part of people’s lives. PV absorbs and converts sunlight into an electrical energy current and stores it for later use (Mäki et al., 2011). The light absorption that fuels the PV process has no moving parts, is environmentally benign, and involves no equipment that can be worn out. The *PV effect*, discovered by Edmond Becquerel in 1839, led to several modern discoveries and the development of PV devices and photographic application techniques (Lukasiak & Jakubowski, 2010). During the 1950s, the emergence of the silicon industry led to the development of the first silicon solar cell, which initially achieved an energy efficiency index of 6%. Space projects adopted these early solar cells as a source of power in satellites and spacecraft. The energy crisis of the 1970s spurred interest in the potential of PV for other commercial applications (National Renewable Energy Laboratory, 2012).

3.2. Solar Power Systems

Many consumers require information about commercial PV systems to make informed investments that best suit their energy needs. PV systems are categorized based on their level of autonomy from the electrical grid. Consumers can choose from three types of PV systems: grid-intertied systems, grid-intertied systems with battery backup, and off-grid PV systems (National Renewable Energy Laboratory, 2012). Solar cell panels are crucial components of a photovoltaic (PV) system. These panels operate when the sun’s radiant energy strikes them, converting light into an electric current, while the semiconductors exhibit some limited PV effects. This scientific principle was first discovered in 1839, but it took over 50 years before the first solar cell was constructed. The solar cell must capture and convert the sun’s radiant energy into usable electric current (National Renewable Energy Laboratory, 2012). However, homeowners seek to maximize the efficiency of their energy devices; they desire devices that enhance their ability to harvest energy and achieve optimal yield for electricity production from solar PV installations. Consequently, the solar industry’s marketing strategy has focused mainly on commercial buildings. In contrast, PV systems are classified according to their use, such as thermal applications and electricity production (Lupangu & Bansal, 2017). PV and thermal systems are measured based on thermal output. In a follow-up study, the characteristic performance of PV-thermal and PV systems depends on electrical energy and energy efficiencies (Lupangu & Bansal, 2017). The PV system converts solar energy into direct current electrical power, while PV-thermal systems utilize the thermal energy of solar radiation to generate electrical energy.

3.3. Type of Solar Power Panel Materials

Solar cell panels are a crucial component of a PV system. They harness the sun’s

radiant energy by capturing sunlight and converting it into an electric current. The electrons generated from this energy cause various limited PV effects (U.S. Department of Energy, 2021). Solar panels are available in multiple sizes and shapes for commercial and residential applications. Each solar panel consists of several grids of solar cells. When purchasing a solar system, factors such as the types of solar panel cells were considered: monocrystalline, polycrystalline, and amorphous (National Renewable Energy Laboratory, 2012). The advancement of market-ready solar cells progressed with the introduction of organic PV panels (Nayak et al., 2019). Solar cells are recognized as an innovative technology with numerous features aimed at commercialization.

Types of Panels

Solar panels are available in several market types with different application purposes (Abdulrazzaq & Ali, 2018). The applications of solar panels include photovoltaic (PV) panels, solar water heating panels for warm climates, and solar water and radiant heating panels for colder climates. The development of PV technology has primarily focused on enhancing the efficiency of cells and reducing the production costs of modules. Furthermore, such technological diversity is essential for enhancing solar energy deployment, contributing to a greener and cleaner environment (Moustakas et al., 2020). The U.S. Department of Energy's Solar Energy Technologies Program (SETP) collaborates with national laboratories, academic institutions, and businesses across the solar energy industry to develop cost-competitive solar energy systems (U.S. Department of Energy, 2021). The SETP's objective is to advance research and development in PV technology to achieve investment-cost competitiveness by 2015. PV technology introduces new products that support long-term carbon reduction goals while maintaining a stable PV manufacturing base. The SETP aims to make PV technology competitive and cost-effective in generating electricity at costs comparable to those of conventional utility-grid electricity (U.S. Department of Energy, 2021).

3.4. Lifecycle and Environmental Performance of Silicon Solar Panels

The lifecycle environmental performance of solar panel production encompasses gas emissions from energy generation, recycled water consumption, hazardous byproducts released during production, and waste materials generated (Meadowcroft et al., 2018). A key benefit of positive lifecycle environmental performance is the emission-free energy that eliminates carbon pollutants from coal and natural gas energy generation. Therefore, the positive impacts outweigh any environmental concerns related to the production and recycling of silicon panels. In Catalonia, Italy, the lifecycle analysis of PV systems has served as a crucial tool for assessing the potential environmental impact of solar technologies compared to traditional technologies (Meadowcroft et al., 2018). This assessment tool is particularly valuable for technologies reliant on non-renewable fossil fuels, including the fabrication of PV system components and the raw materials used in production and installation. Researchers specializing in photovoltaic (PV) technologies

have indicated that silicon panels generate less toxic air emissions than conventional fossil fuel technologies (Abdulrazzaq & Ali, 2018). Abdulrazzaq and Ali (2018) noted that 89% of poisonous emissions are associated with electricity generation. This process is preventable if electricity comes from PV and is generated off the grid. PV electricity is ten times less emission-intensive than coal-fired plants but four times more emission-intensive when compared to a nuclear power plant or a wind farm (Uddin et al., 2017). Solar panels contribute to an 89% reduction in greenhouse gas emissions and a 60% reduction in electricity produced from the national grid mix (Abdulrazzaq & Ali, 2018). Based on the national energy grid mix, producing 1,000 kilowatts per hour of solar electricity can eliminate sulfur dioxide, nitrogen oxides, and carbon dioxide (National Renewable Energy Laboratory, 2012).

3.4.1. Benefits of Solar PV Panels

Most residential homes powered by the local utility company likely use a coal-fired power plant that burns fossil fuels, emitting carbon dioxide and air pollution. When homeowners install solar panels on their rooftops to produce electricity, they transform their houses into green power plants, utilizing renewable energy. The solar panels generate abundant, clean, and efficient energy throughout the year. PV technologies have experienced considerable growth rates of up to 70% over the past year. This growth rate was supported by low total carbon dioxide emissions and a positive energy balance for PV (Zuser & Rechberger, 2011). Alongside the increasing demand for energy and steady advancements in renewable energy technologies, global environmental concerns have opened new venture opportunities for utilizing renewable energy resources (Husain et al., 2018). Over the past decade, U.S. electricity prices have been highly volatile, making it challenging for individuals to plan their electricity budget effectively (Razykov et al., 2011). Once homeowners install solar panels, they no longer need to worry about rising electricity prices for the portion of their electricity sourced from solar power. If prices rise, homeowners with solar panels benefit more significantly from their prudent early investment. By utilizing solar energy, U.S. homeowners can reduce their reliance on foreign oil and gas, thereby increasing their energy independence. As domestic sources of oil and gas dwindle in the coming years, it becomes increasingly urgent to find alternative energy sources to lessen U.S. dependence on foreign fuel (Marques & Fuinhas, 2012).

3.4.2. The United States Solar Industry Marketplace

The *National Solar Jobs Census 2021 Report* showed that the solar industry added more jobs in 12 months than any other industry and remained optimistic regarding the solar industry's future (Abareshi, 2011). The U.S. solar industry employed about 100,237 solar workers in 2010. The results from the survey were relevant because the overall expected 12-month growth rate in solar energy industry employment for the entire US economy was only about 1.4% (Abareshi, 2011). The *National Solar Jobs Census 2021 Report* drew three principal conclusions about the solar industry: 1) The number of solar energy workers in the U.S. increased

from 93,000 in 2010 to 100,237 in 2011. 2) The overall growth rate of 6.8% from 2010 was ten times higher than the national average of the unemployment growth rate of 0.7%. 3) Forty-four percent of manufacturing companies expected to add 3473 jobs in 2011, yielding a 14% growth rate (Abareshi, 2011). Data from the *2011 National Solar Jobs Census indicated that the solar industry was strong, employing thousands of people*. Solar jobs increased despite an economic downturn. The solar sector outperformed other industry segments in the US economy, experiencing significant market growth over the past decade. Tax incentives, increased consumer awareness, declining prices, cost reductions, cultural shifts, and governmental support for solar energy policies drive market growth. The optimism among solar employees during periods of economic downturn suggests that solar job growth will continue (Abareshi, 2011).

Solar energy is the fastest-growing energy technology in the US (Abareshi, 2011). The market expanded to a \$6 billion industry in 2010, representing a 67% increase from \$3.6 billion in 2009. However, despite spectacular growth, the market has slowed due to complexities in state-to-state regulations, incentives, utilities, and financing structures.

In 2010, homeowners in the US purchased 2593 megawatts (MW) of solar electric capacity. The data included approximately 2086 MW of PVs and 507 MW of utility-scale concentrating solar power. In addition to photovoltaics (PVs) growth, solar heating capacity increased by 5% in 2010, with an estimated 2.4 million square feet of solar heating capacity installed in homes and businesses throughout the US. Moreover, the US ranked fourth globally in 2010 for installing new solar-electric systems. As a result, the US became the world's largest solar market, and photovoltaic (PV) technology became an increasingly vital energy source. Solar energy offers extensive environmental benefits and is a clean energy source; few other power-generating technologies have a significantly smaller ecological impact than PV (Abareshi, 2011).

3.4.3. International Solar Energy Marketplace Producers

In the international solar market, the solar energy markets in China and India received little attention in the past because solar energy overshadows other fossil fuel markets (Kang, 2009). In 2008, China and India developed their solar energy plans. China announced the *China Solar Subsidy Plan*. India released its draft of a *National Solar Mission Plan, which paved the way for this country's rapid growth of solar energy markets*. China's solar energy market was disappointing until 2007; solar power represented a negligible portion of total electricity generation, accounting for only 100 MW (Kang, 2009). China's solar energy market entered a new phase in 2009, growing to a 1000 MW market. Solar energy enhances energy security and fosters China's socioeconomic development. Solar thermal energy applications in China primarily focus on low- and medium-temperature applications, including solar water heating, cooling, air conditioning, building heating, solar drying, and solar power generation (Chen et al., 2017). China focuses on silicon-based solar cell technology, known as thin film, instead

of thermal energy for solar cells. Thin film solar cell technology is a next-generation technology. Thin-film solar cell technology is the next-generation technology in China's research and development phase in solar power generation (Chen et al., 2017). Several foreign companies have penetrated this market. In comparison, India installed a solar system to manage 100 MW, of which 97% are off-grid systems in remote operation.

In other countries, solar cell systems operate on a grid-tied system connection. Many international locations operate small, on-grid solar systems. India's approach had produced a mere 2.74 MW as of 2008, which was connected to the nation's central electrical grid. As reported in the *National Solar Mission Plan*, the Indian government aims to expand the capacity of solar power plants to 20,000 MW by 2020, allocating \$20 billion over the next 30 years. If the *National Solar Mission Plan* is implemented, solar power in India is expected to account for one-eighth of today's total power generation (Nykamp et al., 2012).

Storing solar energy-generated power makes electricity available during natural disasters and adverse weather conditions and sells energy reserves to other countries. The growth potential for wind and solar electricity generation has prompted Chinese and U.S. utility companies to consider energy storage as a means to manage supply and demand. The world faces dual challenges like fossil fuel depletion and carbon dioxide emissions. Using alternative energy sources, such as photovoltaic (PV) panels and wind energy conversion systems, presents new challenges for an electronic society and the solar industry (Abdulrazzaq & Ali, 2018).

The main challenges facing the world's fossil fuel depletion are coal with carbon capture and storage, nuclear, and renewable energy sources. Solar energy is a minor contributor to the energy constraints in the US due to its high cost. Nevertheless, the cost reductions in PV production have made solar technology cost-competitive with fossil fuel energy generation. Therefore, the future trend for this technology is a minor energy-distributed generation system in which consumers could function as energy sellers for local utility companies (Amanor-Boadu et al., 2018).

3.4.4. Market Threats Faced by the Solar PV Industry

Global energy demand is expected to increase over several years, with an estimated energy consumption rate of 20 gigawatts by 2013 (Haley & Schuler, 2011). Many government policies and business strategies related to solar PV production must overcome regulatory uncertainty in the global PV inverter market (Notton et al., 2010). Global demand caused the solar industry to change from a supply-constrained to a demand-driven market. The utility company's concern regarding power discrepancy is the leading factor contributing to market growth. Based on the solar market outlook, economic and social threats exist within the solar industry.

3.4.5. Economic Threats

The economic threat to the solar energy industry is the impact of the economy, capital investments, and solar PV installations within the industry. Financial in-

centives make solar PV-generated electricity more attractive to consumers than electricity from fossil fuels. Nineteen states offered various solar project rebates and established renewable energy standards that required utility companies to purchase a percentage of their power from solar sources (Bradford, 2010). Unfortunately, these incentives were not distributed equally among the states, and solar companies faced a complex and confusing array of financing options for consumers in various locations. The financing and installation costs for solar PV systems have been decreasing; however, 75% of solar electricity costs in the US are higher than those of grid-based electricity over the operating life of the installation. Financing options can take up to four months to finalize. The complex financing included rebates, tax credits, non-standard contracts, loans, and permits (Sarzynski et al., 2012).

3.4.6. Uncertainty of New Technology Systems

The demonstration project and trials successfully adopted low-carbon energy systems, resulting in a comprehensive review of solar PV and wind turbine systems (Munshi et al., 2018). The early stages of the demonstration project and trials involved experimentation with technology, followed by subsequent phases of development aimed at reducing uncertainty in adopting innovative technologies. The demonstration project and practices overcame innovation uncertainties in renewable energy for electricity supply systems (Munshi et al., 2018). The countries benefiting from innovation in renewable energy for electricity supply systems included the US, countries in the European Union, and Japan. In many situations, the government intervenes to mitigate market failures that affect economic opportunities, societal benefits, and national security. The urgency to implement and reduce carbon emissions from fossil fuels can mitigate or avert catastrophic climate change. The demonstration project and trials provide lessons about the initial design process and the management and coordination of future measures. Additionally, the process enabled others to leverage the knowledge gained from companies participating in the demonstration project and trials for solar PV and wind turbine systems (Munshi et al., 2018). Therefore, the demonstration project and practices depend on reassessing the role of bricolage. In this context, bricolage is a multifaceted learning process that combines interactive learning from science-based research and experience-based learning (Sarzynski et al., 2012). The Danish used this learning-based process to advance the wind turbine system as a new competitive energy technology. In 2012, the demonstration project and trials database were updated to include programs from the European Union, the United States, and Japan, facilitating science-based research and experience-based learning coordination.

4. Findings

The environment is the most significant benefit of installing a solar energy system, and protecting it is its most important benefit. A key benefit of a solar system is

reducing energy costs, saving money, and lowering your electricity bill. Alternative energy is one of the key issues driving social change. If solar energy systems become more affordable, the study's findings suggest that the cost and equipment will play a vital role in their decision-making process.

Business Initiatives

The study's findings suggested that the research insights may prove helpful to business leaders and those responsible for establishing and implementing energy diversification programs.

The business strategy aims to address the lack of knowledge about solar energy systems and establish statewide acceptance of alternative energy systems. St. Lucie County, Florida, developed a business initiative that allowed residents to reduce their utility bills by saving energy. The County introduced the Clean Energy Loan Program, offered through the Solar and Energy Loan Fund (SELF) in 2010 (St. Lucie County, 2021). SELF provided county residents with a revolving loan program that offered more favorable terms than traditional banks. SELF offered the County residents financial terms for several types of energy-efficient and renewable energy options that included: 1) weatherization, 2) replacement of inefficient air-conditioning systems, 3) window tinting, 4) light-emitting diodes (LED) lighting, 5) extraordinary roof construction, and 6) installation of solar thermal and solar PV systems (St. Lucie County, 2021). The solar energy industry could emulate a SELF program within Franklin County, OH, as a business model for a strategic marketing campaign to promote solar energy systems for residential use. The solar industry could lead the nation in establishing a lending institution with a social mission, providing low-cost financing and facilitating energy-saving property improvements. The study results could contribute in various ways to professional literature, where little theory or no research exists to explain the viewpoints of residential homeowners. The study results may provide insight into the effectiveness of marketing strategies for solar energy systems, informing business leaders in the solar energy sector on how to effectively promote these systems.

4.1. Implications for Social Change

The implications for positive social change include the potential to develop a marketing strategy that promotes using alternative energy for residential purposes. The use of electricity, natural gas, and petroleum products has become a necessity of life in modern society; however, rising prices have taken a toll on the poorest citizens and individuals with fixed incomes (Andrews, 2008). The promotion of energy diversification includes solar, wind, and thermal energy as alternatives. Fossil fuel-based electricity generation poses significant risks to public health due to the release of greenhouse gases and the increased incidence of respiratory illnesses resulting from air pollution. Solar energy systems produce no pollution and help to improve air quality and public health. Solar energy systems can generate strong and diverse economic benefits that vary across institutions, cultures, and commercial sectors, providing significant economic benefits to Ohioans.

4.2. Recommendations for Actions

The research aimed to explore the extent of residential homeowners' awareness of solar energy systems and their knowledge about technological advancements in the solar industry related to solar energy systems. Homeowners are unaware of the ongoing phenomenon. Solar energy leaders must develop a marketing strategy to promote energy diversification solutions for residential users. The literature review revealed a lack of empirical studies on homeowners' views regarding marketing strategies for residential solar energy systems. Solar energy technology is categorized into three basic types of solar energy systems: active, passive, and hybrid. The study highlighted the dynamic nature of the solar system due to the presence of PV panels on the rooftops of residential homes.

Global energy demand has grown beyond the limits of installable generation capacity. Numerous renewable energy sources are available, and solar energy systems are a promising alternative and widely accessible for residential use. Passive solar power systems are more cost-competitive with other energy sources and are an innovative technology for achieving energy sustainability in homeowners' homes. The application of passive solar energy devices can benefit the environment, the nation's economy, and the lives of millions of underprivileged individuals in developing countries (Devabhaktuni et al., 2013).

Recommendations

Solar energy industry leaders must capitalize on the opportunity to transform the nation's alternative energy plan initiative (Meadowcroft et al., 2018). The potential impact of redistributing the nation's alternative energy plan must include provisions to protect the most vulnerable consumers in society while ensuring the security of the nation's electrical grid. Integrating renewable energy sources, such as solar power, into the power grid increases consumer interest (Barsoum & Lee, 2013). The study could help create awareness and highlight the diverse types of renewable energy options. Fossil fuel resources are expected to remain the dominant source of primary energy generation for the next 25 years.

4.3. Summary and Study Conclusions

Product choice and communication channels enable millions of consumers to access emerging market products and services (Atsmon et al., 2012). Homeowners have become a powerful consumer group in the emerging solar industry market. Consumer empowerment has increased. Three factors influence the consumer's decision-making process:

Initial brand.

The initial brand consideration set was much smaller. Initially, consumers tend to switch to another brand later if it was not their initial choice.

Word of Mouth.

Word of mouth plays a crucial role due to the higher rate of first-time buyers and the shorter history of brand familiarity. Word of mouth includes a culture of societal validation and a fragmented media landscape.

In-store experience.

The in-store experience influenced a high volume of consumers in their final decisions, and many rarely miss the firsthand in-store expertise they need to make the final decisions. Business leaders across the solar energy sector must implement effective marketing solutions to promote solar systems as alternatives to traditional energy sources. Recommendations that would help residential homeowners have access to better energy choices include: 1) improving the availability of solar energy systems for energy independence 2) increasing awareness of different energy-powered systems, 3) avoiding rising fuel costs, 4) reducing the US dependence on foreign fuel sources, and 5) reducing the carbon emissions footprint.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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