جـــامـعـــة الـــشـرق الأوسـط
MIDDLE EAST UNIVERSITY
Amman - Jordan

The Influence of Sustainable Energy on Business Performance through Advertisement
Case study:
"King Abdullah II Industrial City"

أثر الطاقة المتجددة على أداء الأعمال من خلال الإعلان
"الشركات الصناعية العاملة في مدينة الملك عبد الله الثاني الصناعية"

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Authorization

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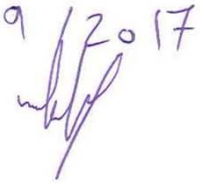
Signature: 

Examination Committee's Decision

This thesis of the student Basem Ghazi Jaber, which studied **"The Influence of Sustainable Energy on Business Performance through Advertisement Case study: King Abdullah II Industrial City",** has been defined, accepted and approved on 5 / 9 / 2017

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Dedication

This thesis is dedicated to my family, my father

Ghazi, my mother Wafa, my brother Taher, my sister Noor, my uncle Hani and to my future wife Rawand, and to my lovely

Friends who helped me to undertake this project.

No words can show my appreciation and thanks to all of the above.

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The Influence of Sustainable Energy on Business Performance through Advertisement Case study: "King Abdullah II Industrial City"

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Abstract

The intent behind this study was to describe any influence the sustainable energy has on business performance through advertisement. This study is considered as descriptive study. The data were collected from 215 project managers from high and middle levels in 25 companies that use sustainable energy through a questionnaire, which was built and developed for this purpose. Data collected through the questionnaires were checked, coded and prepared to be analyzed by SPSS 20. Multiple regressions were used to test the hypothesis after checking normality, validity, and reliability.

The results of this study show that the relationship between sustainable energy variables is medium to high, between business performance variables is medium to high, and between advertisement variables is medium to high. The results also show that there is an influence for sustainable energy on business performance through advertisement.

The results could standardize the selection procedures and implement similar approaches in improving other industries. Additionally, other suggestions related to sustainable energy improvements such as more use of sustainable energy and social media were introduced.

Key words: Sustainable Energy, Business Performance, Advertisement.

أثر الإعلان في إستخدام الطاقة المتجددة على أداء الأعمال
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المشرف: د. هبة حسن ناصرالدين

الملخص

أُجري هذا البحث بهدف وصف أثر استخدام الطاقة المتجددة على أداء الأعمال من خلال الإعلان، وتعتبر هذه الدراسة وصفية. جمعت البيانات باستخدام الاستبانة من 215 مديراً من كلا المستويين الأعلى والمتوسط من 25 شركة تستخدم الطاقة المتجددة خلال الذي تم بناؤها خصيصاً من اجل هذا البحث. الاستبانات التي تم جمعها فحصت ورمّزت، وتم ادخالها على برنامج التحليل الإحصائي (SPSS 20)، بعد التحقق من التوزيع الطبيعي والصدق والثبات والعلاقة بين المتغيرات تم فحص الفرضيات باستخدام الانحدار البسيط والمتعدد.

أظهرت النتائج أن أهمية متغيرات الطاقة المتجددة كانت من متوسطة إلى قوية ضمن العينة المختارة. وأن العلاقة بين المتغيرات الثلاث قوية. كما أظهرت أنه يوجد أثر للطاقة المتجددة في الإعلان، والطاقة المتجددة في اداء الأعمال، والإعلان في أداء الأعمال، وأخيرا أن الطاقة المتجددة تؤثر في أداء الأعمال من خلال الإعلان.

وأوصت النتائج على اجراء دراسات مشابهة حول أثر الطاقة المتجددة في أداء الأعمال وكذلك أثر الإعلان على تشجيع استخدام الطاقة المتجددة لرفع أداء الأعمال. وكذلك أوصت الدراسة على تشجيع الشركات التي لم تستخدم الطاقة المتجددة حتى الآن أن تقوم باستخدامها بأقرب وقت ممكن.

الكلمات المفتاحية: استخدام الطاقة المتجددة، الإعلان، أداء الأعمال.

Chapter One: Introduction

1.1. Background:

The sustainable energy economy (SE) is an explosively growing economic sector over the last decade across the world, as a response to climate change, non-renewable energy sources, and the need for industrial upgrade and structural transitions. For most countries, the most formidable challenge in mitigating climate change is to overcome the financial cost, especially when the country is suffering economic crisis. Thus, it is essential to ensure the durability of a SE economy since the uses of sustainable technologies could provide stable economic growth such as job creation and business growth.

In a sustainable energy economy, businesses have a central role by utilizing sustainable energy through labor forces and technologies to present clean energy services. Importantly, it is necessary to understand the driving parts underlying the growth and decline of sustainable businesses so that policy makers and stakeholders can gain an appropriate adjustment to their policy tools. During the past decade, the states have experienced fast growth of renewable energy, with an accelerating rate over the last few years. As the clean energy economy is not a single industry, but an overarching umbrella that covers burgeoning business activities that provide the conservation of energy and the growth of alternative energy resources.

The clean economics can be defined as “produces goods and services with an environmental benefit or adds value to such products using skills or technologies that are uniquely applied to those products” (Boons, et. al. 2013). While green goods and services can be described as “jobs in businesses that produce goods and provide services that benefit the environment or conserve natural resources”. The two pillars underlying the clean energy economy are industry

establishments and jobs. The creation of green jobs and the growth of green businesses are both required for clean-energy development. In the political arguments, much emphasis was placed on the creation of green jobs, slightly due to the fact that the economy needs more jobs in an economic downturn (Boons and Lüdeke, 2013). Many studies were conducted to evaluate the potential strategies the organizations can adapt in their business in the clean-energy sectors. Given that both green jobs and green businesses are necessary components of the clean economy, the growth and survival of green businesses deserve academic attention and investigations (Yi, 2014). Bocken, et. al. (2014) said that SE is a strategic management tool to increase a company's value and business performance.

Therefore, this study is dedicated to investigating the effect of sustainable energy on business performance through advertisement.

1.2. Study Aim and Objectives:

The main objective of this study is to demonstrate and investigate the effect of sustainable energy on a business performance through advertisement. This will help and aid the business to be conscious and aware of how the organization uses the sustainable energy and measure its effect of business performance.

Moreover, to the best of the researcher's knowledge, this study could be considered as one of few that highlight the sustainable energy from business view. This study also provides recommendations to the organizations and decision makers to make better decisions in the future.

1.3. Study Significance and Importance:

As stated earlier, this study could be one of few studies which investigate the influence of sustainable energy on business performance through advertisement in king Abdullah II industrial

area, this study is important not only for the industrial sector, but also for other practitioners and scholars. The study's significance is stemmed from the fact that this study will enhance the existing body of knowledge on sustainable energy from business view since there were only few researches found which investigated this topic. Briefly, the importance of this study comes from the following scientific and practical considerations:

- Help the decision makers and who are working for sustainable energy organizations to gain the benefits of improving the business performance and advertisement, and give recommendation of using the most effective way of thinking about it.
- Highlight the importance of sustainable energy and its applications on organizations and its importance in achieving high performance levels due to the achievement the project success.
- This study seeks to analyze advertisement, which has high impact on the business performance through sustainable energy.
- Help other researches to analyze the sustainable energy, and its importance either on the same industry or on other industries.

1.4. Problem Statement:

Many organizations start using SE and have better understanding of it. Therefore, the sustainable energy has no limit to houses, industry, organization, or country. Hence, SE can be used anywhere. Leaders of organizations start to understand the advantages and start utilizing SE to reduce cost and start searching for new ways for the most effective use of SE which can lead to the achievement of success and sustainability.

Based on the researcher's experience in sustainable energy sector, many organizations start to focus on advertising how the organization is good for the environment and to increase the business performance even though, many of them also still at research level in this field.

The influence of sustainable energy on business performance through advertisement is not well researched yet, therefore, this study investigates the influence of sustainable energy on business performance through advertisement.

Problem Questions

The issue mentioned in this study is focus on SE and the observation of Jordan Industrial Estates Corporation (JIEC), King Abdullah II Industrial City. Hence, the study shows how SE and advertisement affect the company performance.

In addition to the previous topics, this study tries to answer the following questions:

1. Does sustainable energy have direct influence on advertisement?
2. Does sustainable energy have direct influence on business performance?
3. Does advertisement have direct influence on business performance?
4. Does sustainable energy have indirect influence on business performance through advertisement?

1.5. Study Hypotheses:

H_{01}: Sustainable Energy does not influence on advertisement in "King Abdullah II Industrial City", at ($\alpha \leq 0.05$).

H_{02}: Sustainable Energy dose not Influence on Business Performance in "King Abdullah II Industrial City" at the level ($\alpha \leq 0.05$).

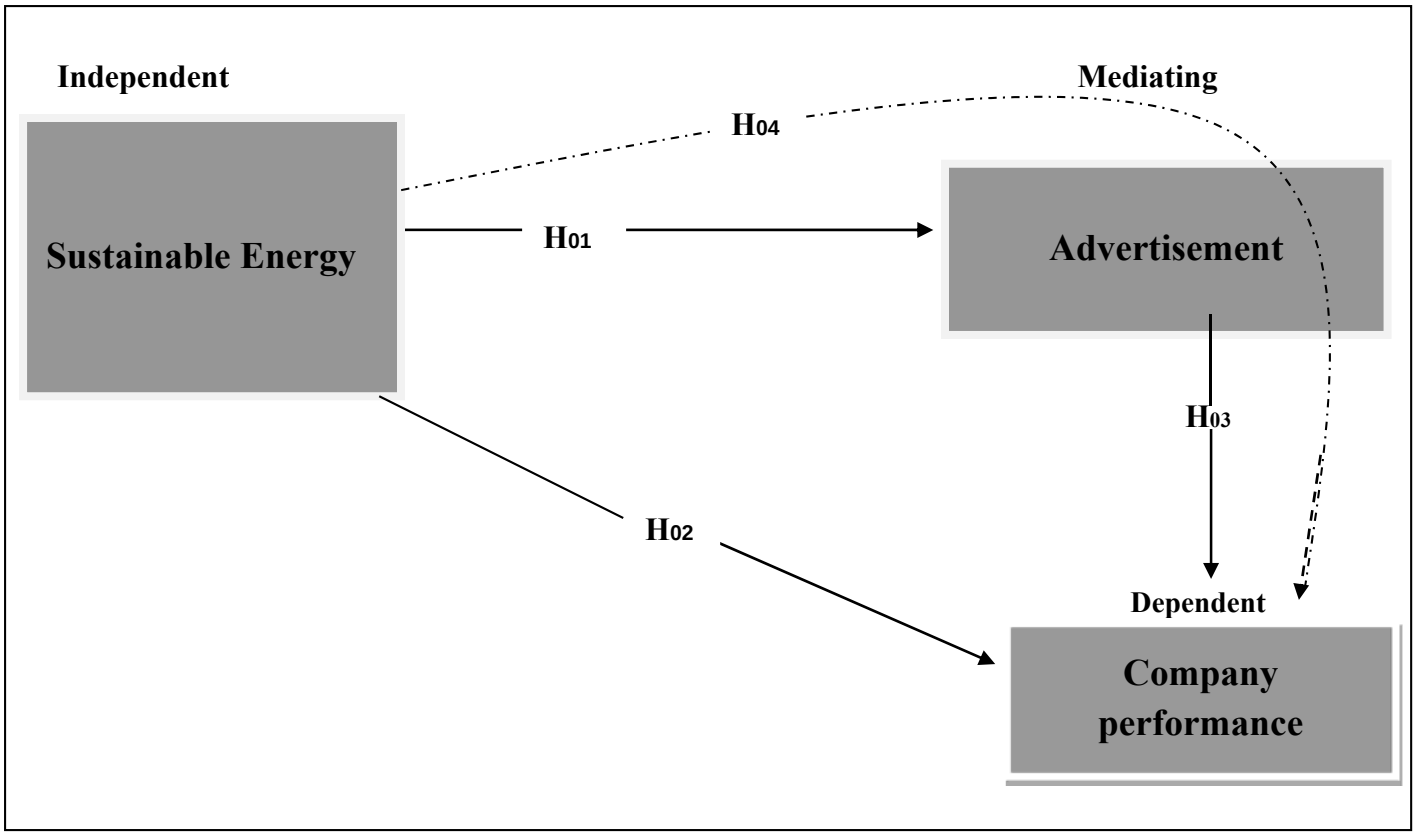
H_{03}: Advertisement dose not Influence on Business Performance in "King Abdullah II Industrial City" at the level ($\alpha \leq 0.05$).

H_{04}: Sustainable Energy dose not indirect Influence on Business Performance through Advertisement in "King Abdullah II Industrial City" at the level ($\alpha \leq 0.05$).

1.6. Study Model :

This study model is developed based on comprehensive literature review and includes three components: Sustainable Energy, Advertisement, and Business Performance**.**

Figure (1): Study Model



Sources: This model was built and developed based on Char, 2016; Wisdom, 2015; and Aguilera, 2013.

1.7. Conceptual and Operational Definitions:

Sustainable energy (SE): any type of energy that does not drain and can meet the needs of the present without compromising the ability of future generation to meet their need.

Business Performance: reviewing the overall business and determining how the business will reach its goal by collecting data to make better decision.

Advertisement: prepared and planned to generate sales revenue ,and encourage consumers to purchase products or services and some of the majors forms of advertisement is television ,radio , social media , magazines , and newspaper.

1.8. Study Limitations:

- **Human Limitations:** This study is conducted on the upper and middle level managers working inside JIEC.
- **Place Limitations:** This study is conducted only on King Abdullah II Industrial City located in Amman – Jordan (all organizations that are using the sustainable energy are included).
- **Time Limitations:** The ability to achieve the study objective on time (Study time 2016-2017).
- **Scientific Limitations:** This study investigates each variable without considering any sub-variable for each.

1.9. Study Delimitation:

Generalizing the results of this study to other industries or countries is questionable and need further future studies.

Chapter Two: The Theoretical Framework and Previous Studies

Introduction:

This chapter contains the theoretical and conceptual framework, definitions of variables, previous studies and study contribution.

2.1. The Theoretical Framework:

Sustainable Energy

Renewable energy comes from any natural sources such as sunlight, wind, rain, tides, plants, algae and geothermal heat (Ahmad and Taher, 2014). These energy resources are renewable; they are naturally replenished, and they are good for a very long time. In contrast, fossil fuels are a finite resource that take millions of years to develop and will continue to diminish with use (Tsai, 2014).

Renewable energy sources have a much smaller impact on the environment than fossil fuels, which produce pollutants such as greenhouse gases as a byproduct, contributing to climate change. Gaining access to fossil fuels typically requires either mining or drilling deep into the earth, often in ecologically sensitive locations (Wang, et. al. 2009).

Renewable energy, however, utilizes energy sources that are readily available all over the world, including the rural and remote areas that do not have access to electricity. Advances in renewable energy technologies have lowered the cost of solar panels, wind turbines and other sources of green energy, placing the ability to produce electricity in the hands of the people rather than those of oil, gas, coal and utility companies. Green energy can replace fossil fuels in all major areas of use including electricity, water and space heating and fuel for motor vehicles (Donovan, 2015).

Types of Sustainable Energy

Research in sustainable, non-polluting energy sources is advancing at such a fast pace, it's hard to keep track of the many types of green energy that are now in development (blazejczak, et. al. 2014). However, there are three most common types of Green Energy:

- **Solar Power** – Solar energy using direct sunlight is potentially the most powerful renewable energy source for electricity and heat. The main ways to convert solar radiation into energy are active and passive solar design. Passive solar design is often based on the optimal design of buildings that capture the sun's energy in order to reduce the need for artificial light and heating.

- **Wind Power** - Airflow on the earth's surface can be used to push turbines, with stronger winds producing more energy. High-altitude sites and areas just offshore tend to provide the best conditions for capturing the strongest winds. According to Lu, et. al. (2009), a network of land-based, 2.5-megawatt wind turbines in rural areas operating at just 20% of their rated capacity could supply 40 times the current worldwide consumption of energy.

- **Biofuels** - biomass energy is essentially solar power captured by green plants in photosynthesis and sorted chemically, usually as carbohydrate, but sometimes as hydrocarbon, molecules. According to Dufey (2006), any fuel subsequently derived from biomass is known as a biofuel, even though biomass can be used as a biofuel directly, such as when firewood is burned. Wood may be considered as a primary biofuel, while ethanol (formed via the microbial fermentation and distillation of crops) biogas (mostly methane produced by the bacterial degradation of biomass) and charcoal (the solid product of pyrolysis of biomass) are examples of secondary biofuels.

- **Geothermal Energy**- Geothermal energy is the heat contained within Earth that generates geological phenomena on a planetary scale. The term geothermal energy is often used to indicate that part of Earth's heat that could be recovered and exploited by humans. The presence of volcanoes, hot springs, and other thermal phenomena clearly demonstrates that the interior of Earth is hot (Watanabe, 2017).

The influence of Sustainable Energy on Business:

To investigate the link between business and sustainable energy and how find out the effects of SE especially the effects on the performance of companies is of a paramount importance. Therefore, companies during the past years have focused on how to reduce the cost in order to gain the competitive advantage and as a result make sure both survival and growth. One of these advantages of sustainable energy is spending more money in sustainable sources of energy; a business has taken a major step towards lowering their production expenses (Haluza and Slovak. 2010). When you want to buy low energy use light bulbs for the office or if you want to run a factory through solar power it is really simple and easy to generate long-term cost benefits for an organization. Even a review of production processes with the view to embrace more environmentally friendly practices could saves money.

However, there are some **disadvantages** of sustainable energy. One of the disadvantages is that it can effect on societies' current reliance on fossil fuels despite the fact that the resources of the fossil fuels are running out. This is bad for businesses and it can be a big concern for companies (blazejczak, et. al. 2014). This means that the business needs to set up more facilities to match up with the growing demand or look out for ways to reduce our energy consumption.

Advertisement

One of the most modern ways in advertisement is social media marketing known as virtual marketing (Hake, 2007), it is a message about company through customer interaction. Most of this communication takes place informally as family or friends share their experiences about or with your company in conversation. However, companies can become more dogmatic about finding satisfied consumer and promoting opportunities if they get others people to buy. Some of the advertisement main types as Hake (2007) wrote are the following:

1-Broadcast media such as television and radio but some organizations don't use those types these days too much since they have new ways to use such as social media.

2- Print media is one of the oldest and successful ways such as magazine ad or newspapers or print media in the streets

3- Direct marketing is used directly by salesmen

4-Internet is used by organizations as the most modern way of advertisement, it is less costly for the organizations, and it is more accurate to target specific customers.

Using advertisement enhances the business performance and added value for the organizations. Moreover, advertisement can provide the following benefits for organizations:

- **Credibility**

A major advantage of advertisement compared with paid for messages is its credibility (Belonax, et. al. 2007) factor. When people hear messages about a company, its products and services from someone they trust, they are more likely to believe them. When an organization has good budget for marketing and a good strategic marketing plan messages, it could expect that customers are going to say positive things about the company (good word of mouth). This could contribute to the satisfaction of customers. Customer satisfaction is in turn, contributes to the

retention of customers, which leads to more positive ammunition to bring other people to your business (Gilbert-Diamond, et. al. 2017).

- **Low Cost**

In theory, what counts is simply the interaction of customers in the marketplace who share their experiences. However, the investments you make in hiring, training and motivating service employees are indirectly tied word of mouth. You essentially pay to deliver to customers experiences they want to brag about. These costs are still modest compared with money spent on mass media campaigns, especially those involving TV ads (Lueg, et. al. 2015).

Hu and Cole (2015) proposed that advertisement is an action that makes individuals acknowledged and get attention from the public. Advertisement is all around us in order to provide us useful and beneficial information for us, particularly information on products and services. Advertisement appears on magazine, newspapers, television, and radio and many more.

Business Performance

Performance management system sets criteria for evaluating worker productivity and contributions. This allows business owners to turn performance to owe it to their organization's activities and needs. For example, a manufacturer might achieve its organizational objectives by requiring workers to produce a specific number of units per hour. Kjaergaard (2016) proposed that business performance is an approach that looks at the overall business performance and determining how the business can improve better to reach the goals.

Organizational Objectives

A major body of a performance management system is that it allows managers to serve and link employees in ways that are pertinent to the around organization's goals. For example, suppose a

company wants its workers to be in a superior level of productivity. It can do so by implementing a performance management program, the company can divide workers into competent performers, under-performers and over-performers. Group membership is defined by objective criteria, such as items produced per hour, clarifying which workers need remedial training and which should receive bonuses (Walker, 2011).

Objective Criteria

Establishing an objective system of evaluation can remove subjectivity and bias from the evaluation process. Favoritism and fraud are few and far from likely to thrive if managers must handle performance in objective terms, such as items produced. Moreover, an objective performance management program helps workers know what's expected from them. Instead of trying to decipher nebulous directives, workers can compare their performances to clearly defined standards (Neely, 2007).

Market Share

Market share represents the percentage of a market or markets everything sales that is earned by a peculiar company around a specified time-period. Market share is expected by confiscation the company's sales from one end to the other the life and dividing it by everything sales of the industry over the close period. This metric is used to try a general summary of the size of a company in relation to its market and its competitors (Ren, 2010).

2.2. Previous Studies:

This section will present a snapshot from some previous studies.

Awan and Raza (2010) study titled: **"THE ROLE OF THE GREEN IN DEVELOPMENT OF CONSUMER BEHIOR TOWARDS GREEN ENERGY",** aimed to learn about the issues that influencing consumers whilst taking decision towards electricity providing business. For the theoretical framework, this study first begins by showing the context information of energy market, and to presents the concept of green energy, social responsibility, consumer behavior and green marketing in a literature appraisal. In theoretical framework, it adopts consumer strategic model and decision model. These two models will be able to respond to the research main question. Primary data have been collected through a questionnaire. Quantitative method is used to analyze the data. This research investigates some issues that effect on consumer in decision making, consumer behavior as well as other issues. The results showed that quality of service, lower price and green marketing efforts effect the growth and progress of the consumer behavior towards choosing the green energy. The results of the survey demonstrated that consumers are accepting to pay more for the sustainability of the environment. However, consumers perceive that the cost of green energy is really high and expensive contrasted to conventional energy. Therefore, there is a growing consciousness in consumers mind that companies must use more advertisement regarding SE and should put themselves as a socially accountable.

Tang (2010) study titled: "**UNDERSTANDING THE ELECTRONIC WORD-OF-MOUTH COMMUNICATION PROCESS: COMMUNICATION EFFECTIVENESS AND ANALYTIC TOOLS",** aimed to response to of all the fundamental questions drawn from Brunswik's Len Model. The study was developed based 0on the Process Model of electronic word of mouth (E-WOM) communication. It enlarges the Brunswik's Lens Model in numerous

significant and major methods that gives a systematic tool to look at the efficiency. Moreover, an easy and a simple model was developed to trial and check the validity of outcomes in order to demonstrate that E-WOM communication is successful and effective. Business sustainability performance is analyzed and assessed to see how it can influence a firm's price of equity. When using industry adjusted receiving to price proportions and an expected return model, the price of equity was worked out for a sample of more than 3,000 firms from the period of 1990 to 2013. The study discovered three factors of ESG, which are: environment, social, and governance. However, "only environmental and governance sustainability performance reduce cost of equity in a manner consistent with prior research. Social sustainability performance is not significantly associated with cost of equity capital". On the other hand, this study had some extent which means that it can only address the equity side of the price of capital and leaves out the association between the cost of debt and business sustainability performance. The results showed that it was inconclusive, with none of the correlations being statistically significant, some promising conclusions were extracted from the results.

Cobb (2011) study titled **"Model for Sustainable Business Performance Measures for Supply Chain Integration",** focused on how to build performance in social and environmental efforts, and how to put standard for that the standardization of measurement will guide companies to quantify actual impact. This research methodology compares corporate social responsibility reports for three high-profile companies from different industries. The reports are compared and analyzed for consistencies and differences. Consistencies are analyzed to determine if they constitute best practices. The research analyzed to ascertain if they relate to the differences in industries. The data from the analysis are used to build a foundation model, one that can be built upon to create a standard model that crosses industries. The foundation model construct identifies

a process, combines best practices, fills in gaps, and strives to reflect the true effect of sustainable business efforts. The analysis of the corporate social responsibility reports of the three diverse companies did uncover similarity in process. The companies share many of the same long-term goals and use similar strategies in pursuit of those goals. Their performance measurements have some variance, but best practices did seem to emerge. The research was able to suggest a beginning process and best practices.

Musango (2012) Study titled: **"Technology assessment of renewable energy sustainability in South Africa",** created a framework that incorporates a technology assessment approach, namely, system dynamics, within the broader scope of technology development for sustainability. The framework, Systems Approach to Technology Sustainability Assessment which stands for (SATSA), combines three main elements. First in sustainable development, second dynamic systems approach and finally in technology development. However, based on the Systems Approach to Technology Sustainability Assessment framework, Bioenergy Technology Sustainability Assessment (BIOTSA) model was created. The results of this study are helpful and effective in contrasting dynamic consequences. The choices of the chosen stakeholders indicated that the model was very effective in giving knowledge. Moreover, gaps in data and knowledge were recognized and the suggestion for upcoming work in this topic is outlined. On the other hand, the conclusion might notify guidelines and decision-making in biodiesel production development in South Africa.

Streimikiene, et. al. (2012) study titled: **"Social Responsibility of Business–Important Instrument in Implementing Sustainable Energy Development",** examined the effect of social responsibility of business in order to ensure a sustainable development and to develop concepts of sustainable energy through its main elements – use of renewable energy sources and energy

efficiency improvement –, which not only helps to resolve the issues of energy exclusion and environment change problems, but also makes it possible to fight poverty and ensure welfare of future generations. For many years, the growth of welfare has been similar with the ability to use resources intensively. Lately the dual challenge was built and it has required urgent solutions – not only to satisfy the needs of current generations but not to reduce the ‘‘Societal Innovations for Global Growth. To promote the ideas of sustainable development and sustainable energy, modern companies that try to ensure the successful development of business cannot ignore the stringent legal elements, the growing needs of partners and the growing public interest in the companies' activities, its impact on the environment, quality and safety of production. Socially responsible companies, using energy sources more efficiently, i.e. those have implemented the technology, deserve competitive advantage in the international market and ensure successful business prospects – their profits increase in the long term. This encourages businesses to change their operational policy, to contribute to scientific research in order to provide consumers with safer products, participate in solving important social problems in order not to increase the tension in society and environment to prevent the damage to the environment and drain of natural resources.

Aguilera (2013) study titled**: “Social Media and Green Marketing Strategies An exploratory study of selected leading companies”** wrote about Social Media (E- advertisement) and how it became the most popular in communication channel. This study is all about social media and sustainability. Corporations have started to create sustainability blogs within their websites in order to encourage higher levels of engagement within their various stakeholders. The results from the research conducted illustrated that companies are using different communication channels to demonstrate their commitment to environmental and social challenges. In conclusion,

this study provides further research that improves the social media with a focus on green marketing strategies that promote sustainability.

Karamat (2013) study titled: **"Impact of Leadership on Organizational Performance a Case Study of D&R Cambric Communication"** main subject is to the influence of leadership behaviors on organizational performance. Hence, the aim of this study, is to (discover the types of leadership behaviors and the concepts and examine the influence of leadership behavior on organizational performance). Moreover, the research had explained the qualitative and quantitative methods used in the study. There were 29 respondents out of a total 54 employees in the company. The outcomes driven from the research demonstrated that there is a powerful effect of leadership behaviors on organizational performance. The behavior of the executive officer of Cambric Communication with the employees of the company was one of the major reasons for the company's achievement. Lastly, leadership behaviors discovered are considered extremely significant key factors for the development of the companies in the service area.

Keskivali (2013) study titled: **"Flexible energy management and solar-related business opportunities for households in Finland",** purpose was to raise the comprehension and have more knowledge on the flexible energy management that is associated with business models and chances for households in Finland, however at once incorporating solar power generation into the equation. The main concentration on demand capabilities, hourly consumption and solar production analysis of households in Finland, however other countries like Southern European have also covered for comparison. Moreover, this thesis improved the understanding of the Flexible Energy Management, which is related to business models.

Head (2013) study titled: **"Word of mouth in social learning: The effects of word of mouth advice in the smartphone market"** aimed to analyze word of mouth and its association with

market shares and product sales in the context of the Smartphone market. This study discussed the major characteristic of word of mouth advice from a customer's point of view and to establish the effects of sources and transmission methods on the valuation of word of mouth advice. The statistics exploited for the empirical analysis conclude two datasets counting survey questionnaire responses and sales figures of Smartphone handsets in various markets. The empirical methods exploited in examining the datasets involve the selection model as well as the ordinary least squares method, the fixed effects estimation method and the random effects estimation method.

Lehtovaara (2013) study titled: **"Commercialization of Modern Renewable Energy",** aimed to learn how novel renewable energy technologies, like distributed small-scale bio-fueled combined heat and power production and wind power technologies might be commercialized effectively and efficiently. There are numerous possibilities to classify research methodologies. The business economists were carried out within the subsequent: Positivist vs. interpretive and critical research, quantitative vs. qualitative research and lastly large vs. concise case data research. The research and the findings demonstrates that the richness of the industry's business networks. The results show that firms may apply the best and greatest practices on how a firm's resources and competences can be complemented by collaborating in numerous disparate ways within the business networks to gain competitive advantage and making sure to serve customers in the most excellent way.

Noyan and Bostanci (2013) study titled: **"Changes in Organization Policy According to Environmental Values and How Environmental Values Affect Corporate Perception in the Healthcare Sector in Turkey"** which amid to demonstrate how environmental issues affect organization policies particularly in human resources and how they can improve the corporate perception of an organization both internally and externally. To describe the changes in the

healthcare sector in Turkey and how their possible effects on the practice of human resources and the public perception of the healthcare sector, have been analyzed using literature and actual case studies.

Nowadays, the respect for nature and environmental subjects has caused a tremendous change in organization policy and management. Public knowledge of organizations always increases when organizations show respect for environmental issues. As a result of this, many organizations are changing their employment, employee training, and corporate identity policies. Corporate citizenship is different and important subject for organizations. Employees are encouraged by their organizations to take action for the environment independently of the organization. This is particularly the case in multinational organizations.

Blennsjo and Stenberg (2014) study titled: **"Electronic Word of Mouth and its Effects on the Consumer Purchasing Decision"** aimed to examine and test numerous incentive strategies for accomplishing new consumers via electronic referrals or e-referrals. The purpose was to look at the roles of both the magnitude of the incentive offered to the receiver and the magnitude of the incentive offered to the sender and the effect of equity versus inequity of financial incentives for the two parties. The research in here comprised of a large-scale field experiment. Dependent measure includes the number of e-referrals sent, the number of those e-referrals that lead to a new consumer registering, and the number of new registrants that converted to buyers from finishing a purchase. The results tell us that potential referrers answer not just to referral incentives nevertheless as well to the disparity among their incentives and the receivers' incentives.

Mydock (2014) study titled**: "ON GREEN MARKETING: CONSUMER BEHAVIOUR IN RESPONSE TO MARKETING RENEWABLE ENERGY USAGE",** aimed to look at the

extent to which customer buying behavior is affected by information that a product is made with renewable energy. The second aim was to recognize probable descriptions for the phenomenon that have been observed. The most suitable theoretical framework to formulate the research design is called the planned behavior theory inside this framework, which has two attitudinal constructs. The first one is the perceived consumer effectiveness which stands for (PCE) and the second one is environmental concern which stands for (EC). The research followed a quantitative, positivistic and deductive methodology. The primary data were collected through the administration of online surveys to university students, who live in Australia. Three similar experiments were carried out. Each experiment is used a between- subjects design. Experiment one was carried out to establish the major influence and to determine if EC and PCE mediated answers to the selected dependent variables. The results for experiment one demonstrated an increase in buy intention does exist for a brand that is promoted as being made with renewable energy. However, the results for experiment two and three shows that there were based on regression tests run on the groups. The overall results show that it was not outstanding results for locus of control as a moderator of the dependent variables.

Bocken, et. al. (2014) study titled: **"A Literature and Practice Review to Develop Sustainable Business Model Archetypes"** aim was to develop a common language that can be used to accelerate the development of sustainable business models in research and practice. The models are: Maximize material and energy performance, build a value from waste substitute with renewables and natural processes, deliver functionality rather than ownership, adopt a stewardship role, encourage sufficiency, re-purpose the business for community/ environment, and develop scale-up solutions. Eco-innovations, eco-efficiency and corporate social responsibility practices define much of the current industrial sustainability strategies. While important, they are

insufficient in themselves to deliver the comprehensive changes needed to achieve long-term social and environmental sustainability. How to encourage corporate innovation that significantly changes the way companies operate to ensure greater sustainability. Sustainable business models (SBM) incorporate a triple bottom line approach and consider a wide range of stakeholder interests, including environment and society. They are important in implementing and driving corporate innovation for sustainability, can help enclose sustainability into business purpose and processes, and serve as a key driver of competitive advantage.

Høgevold, et. al. (2014) study titled: **"Sustainable business models corporate reasons, economic effects, social boundaries, environmental actions and organizational challenges in sustainable business practices"** purpose were to define the corporate reasons for, and organizational challenges of sustainable business types, and the growth of economic impacts, social barriers and environmental actions in sustainable business practices. A deductive method to data collection ensured that the companies had sufficient knowledge to relate their sustainable business practices to interviewers. The interviews were subsequently transcribed and analyzed systematically by the research team. The empirical findings indicate evolutionary changes as companies move on a continuum from superficial to embedded sustainable business models and the application of sustainable business practices. The planning, implementation, and evaluation of sustainable business models evolve over time inside organizations and their supply chains, as well as in the marketplace and society.

Wisdom (2015) study titled: **"The impact of e-marketing on business performance: A case study of the Midlands Meander Association members",** aimed to look at what extent the use of e-marketing has impacted on the Midlands Meander Association (MMA) member's relationship with their customers and influenced their business performance. This research took 149 members

from the Midlands Meander Association as a sample. The research found that a fairly positive perception of e-marketing was held by over half (63%) of the Midlands Meander Association members.

Wang, et. al. (2015) study titled: **"Key factors for renewable energy promotion and its sustainability values in rural areas: findings from Japanese and Chinese case studies. International Review for Spatial Planning and Sustainable Development"** presented two guide cases: Kuzumakicho in Japan and Chongming Island in China. Each of them stands for powerful sustainable energy advancement in their home country and bears particular characteristics. Rather than utilizing a comparative study, this study used local plans, policy documents, and a questionnaire sheet with a SWOT analysis approach integrated in the methods. Key factors included municipal planning concepts and subsidies from national or regional governments among others. In conclusion, various sustainable energy resources do not pose equal value in supporting local sustainability. Some of the highly evaluated sustainability values highlighted in this study are as follows. For wind energy, they contribute to climate mitigation, local tourism, and environmental education. For solar power, they are safe to the environment, citizens' participation, and environmental education. For biomass energy, waste sustainable energy-use, connection with local agriculture and forestry are highlighted in the evaluation.

Char (2016) study titled: **"Sustainability and Business Performance"** aimed to look at whether integrating sustainability into companies' business models can actually make firms more competitive. This thesis had a sample of 980 observations, and used 949 for observation (31 observations had been missing values).The research found that the research should promote and encourage more firms to take steps towards being green, or either to maintain what sustainable initiatives they already had.

Maltz, et. al. (2016) study titled: **"Benchmarking sustainability performance: the next step in building sustainable business models**" aimed to developing sustainable business models including effects on people, profit, and the planet is becoming a more important strategic matter. Benchmarking with peer organizations can help a corporation in setting goals to improve its performance. As such, developing a methodology for effectively benchmarking sustainable business practices is a significant step in the development of sustainability management. Yet, a company's sustainability performance is composed of many factors that may involve complex tradeoffs, and its performance may vary over time. In this paper, the proposed data-driven method of innovatively adapting analytical process control charts, conventionally used in quality control, to simultaneously correlate multiple performance measures and examine change in both trend and performance between companies in a given industry. The approach to benchmarking the sustainability performance of companies in the US utility sector and prove it to be robust and reliable for benchmarking the performance of organizations in virtually all industries.

Biswas and Roy (2016) study titled: **"study aim to adjudicate the impact of social media usage factors on green choice behavior subjected to different level of social media usage perceptions"** tried to assess how different level of perceived ease-of-use or perceived usefulness or perceived feeling from usage influence the impact of advertisements through social media, blogs, peer opinion via social networking or news and product updates in tilting consumers' towards making green purchase decisions. Binary logistic regression analysis, and factor analysis were used for data analysis collected through questionnaire survey. Results indicate that impact of social media factors positively influences consumers' green choice behavior. The interaction among level of perceived ease-of-use or perceived usefulness or perceived feelings positively influences the impact of social media factors. This study enumerates the role of consumers in

discharging environmental responsibility by emphasizing green consumption when being exposed to social media impact factors.

Takata (2016) study titled: **"Effects of industry forces, market orientation, and marketing capabilities on business performance: An empirical analysis of Japanese manufacturers from 2009 to 2011",** investigated the stability and relative importance of the effects of industry forces, market orientation, and marketing capabilities on business performance through partial least squares structural equation modeling (PLSSEM) analysis of survey data (n = 568) from Japanese manufacturers over the course of three years (2009–2011). The findings indicated that the direct effect of marketing capabilities on performance is constant over the three years examined. The results suggested that marketing capabilities are the most important driver of performance, followed by industry forces, specifically, competitive rivalry and power of suppliers, and market orientation. Furthermore, market orientation has an indirect effect on performance through marketing capabilities. Marketing capabilities have a stronger effect on performance in cases of high competitive rivalry compared with those of low competitive rivalry. Within the different marketing capabilities, new product development and pricing are the primary factors. Channel management is more important in cases of high competitive rivalry.

França, et. al. (2017) study titled: **"An approach to business model innovation and design for strategic sustainable development"** is a unifying framework for sustainability analyses, planning, cross-disciplinary and cross-sector cooperation, and cohesive use of the myriad sustainability tools, methods and concepts. It developed a Framework for Strategic Sustainable Development (FSSD). Similarly, a general approach to business model design has been put forward, the Business Model Canvas. This paper revealed how the FSSD could improve business model innovation and design by combining it with the Business Model Canvas and supplementary

tools, methods and concepts such as creativity techniques, value network mapping, life-cycle assessment, and product-service systems. The results showed that the Strategic Sustainable Development and Business Model Canvas combination can support business model innovation and design for strategic sustainable development, as well as strengthen each supplemental tool, method, and concept in its own primary purpose. The study applied the combined approach, for the purpose of initial testing and presentation, to a real case of business model evolution. Based on their findings, the researchers proposed a new approach to business model innovation and design for strategic sustainable development.

Bocken (2017) study titled: **"Business-led sustainable consumption initiatives Development"** presented the potential future position of organizations in sustainable consumption. Organizations are placed as initiators of sustainable consumption patterns by stimulating sustainable consumption with customers, using marketing-type methods and business model change. It contributes to the understanding of the scale and effectiveness of business-led sustainable consumption initiatives. The paper discussed illustrative cases of sustainable consumption initiatives by companies: their strategies, actions, and impacts. Then, it provided insights into the potential of business-led sustainable consumption actions and strategies. Organizations are taking important steps, but initiatives have not yet significantly changed consumption patterns. Further business experimentation with social marketing-type. A 'business-led sustainable consumption strategies framework' was developed to analyze the cases. It was noticed that organizations apply individual, social and wider contextual influencing tactics to encourage sustainable consumption.

2.3. What Differentiate the Current Study from Previous Studies:

This study might be considered as the first study, which investigates **The Influence of Sustainable Energy on Business Performance through Advertisement Case study: "King Abdullah II Industrial City"**. This study is considered as an expansion in the sustainable energy field for both practitioners and researchers. Most of previous researches were conducted to manage blue ocean strategy from the conceptual perspective, and to increase the organizations' business performance indicators disclosure. This study specifically will explain how the contributions of advertisement process design and achieve a distinctive blue ocean strategy. Most of previous studies have been carried out in different countries. This study is conducted in Jordan. Most of previous studies were based on reports of different organizations and industries. The current study is based on perception. The results of this study will be compared with the results of previous studies mentioned earlier in the related literature review in order to highlight the similarities and differences among studies.

Chapter Three: Study Methodology

(Methods and Procedures)

3.1. Study Approach and Design:

This study is considered as descriptive and cause effect since it investigates the influence of sustainable energy on business performance through advertisement at King Abdullah II industrial city. The data were collected from the managers working at King Abdullah II industrial city by means of a questionnaire. After checking the answers (especially the missing data) the accepted questionnaires data were coded and analyzed by utilizing SPSS 20. After checking data normality, validity and reliability, the correlation between variables were tested and regressions were used to check the effect of independent variable on dependent via a mediator.

3.2. Study Population and Sample:

The population of this study includes managers working in the companies that uses sustainable energy and based in kings Abdullah industrial city, they are about 25 companies. All managers working in these companies were targeted, which negate the need for sampling. The questionnaire was distributed to 225 managers. 215 questionnaires were suitable for further analysis (because of the missing data) i.e. the response rate is about 95.5%.

3.3. Study Tool:

To fulfill the purpose of this study, the questionnaire was built and developed, to form the main tool to collect the data. The questionnaire comprises two sections as follows:

First Section: this section is the demographic construct which includes gender, age, education, experience, and position.

Second Section: this section includes the independent variable (sustainable energy), mediating variable (advertisement) and the dependent variable (business performance). All items of the variables were measured by the five point Likert scale, ranging from the value "1" (strongly disagree) to the value "5" (strongly agree) which are used throughout this questionnaire.

3.4. Data Sources:

The data were collected from two different sources: primary and secondary.

Secondary data were collected from books, articles, journals, published papers, thesis, dissertations and Internet. While, primary data were collected via questionnaire, this questionnaire is built and developed to fulfill the purpose of the study.

The questionnaire was the mean instrument to collect the data which includes the following two sections:

Section One: The demographic information are collected with closed-ended questions, through five factors (Gender, Age, Educational level, and experience years, and job position).

Section Two: This section includes 6 questions to measure the independent variable (**sustainable energy)**, and is based on Char (2016) study. The mediating variable (**advertisement**), is measured by utilizing 13 questions and are based on Wisdom (2015) study. Finally, dependent variable **(Business performance),** is measured by utilizing 15 questions and based on Aguilera (2013). All items used the by five Likert scale, as follows:

Strongly Agree	Agree	Agree to an Extent	Disagree	Strongly Disagree
5	4	3	2	1

Normality:

To confirm normality, One-Sample Kolmogorov-Smirnov Test is used. Table (3-1) shows the variable items answers are normally distributed, where Kolmogorov-Smirnov significant rated more than 5% except for sustainable energy.

Table (3-1): One-Sample Kolmogorov-Smirnov Test for All Variables

	Sustainable Energy	Advertisement	Business Performance
Kolmogorov-Smirnov Z	1.849	0.788	0.641
Asymp. Sig. (2-tailed)	0.002	0.564	0.805

Tool Validity:

To confirm the validity of the questionnaire the study used two methods: content validity and face validity. Content validity is confirmed through previous literature reviews (books, articles, journals, published papers, thesis, dissertations and Internet), which used to build the questionnaire. While face validity is confirmed via panel of judges comprises 6 referees.

Reliability

To confirm the internal consistency (reliability) of the tool, Cronbach alpha is used .If reliability is more than 0.70, it indicates adequate convergence or internal consistency and will be accepted (Hair, et. al. 2006). Table (3-2) shows that all variables were rated more than 0.7, so reliability was confirmed.

Table (3-2) Reliability of Questionnaire Dimensions

No.	Variable	No. of items	Alpha Value (α)
1	**Sustainable Energy**	6	0.662
2	**Advertisement**	13	0.521
3	**Business Performance**	15	0.574

3.5. Demographic Analysis:

The tables from (3-3) to (3-6) below explain the characteristics of the respondents in terms of gender, education qualification, job title, and years of experience.

1. Gender table (3-3) shows that most respondents are males with 166 (77.2%) while female 49 (22.8%). This indicates that most mangers from the top and middle levels in king Abdullah II industrial city are males; due the nature of the job, the area, and the culture.

Table (3-3) Distribution of the Study Sample by Gender

Gender	Repetition	Percentage
Male	166	77.2%
Female	49	22.8%
Total	**215**	**100%**

2. Age: Table (3-3) shows that the highest percentage of the age is the age that falls in the event 31-35 (34.4%), then the event 36-40 (33%), and the lowest is the event 25-30 with (9.8%). The average age of the mangers falls in the event 31-40.

Table (3-4) Distribution of the Study Sample by Age

Age groups	Repetition	Percentage
25-30 years	21	9.8%
31-35 years	74	34.4%
36-40 years	71	33%
41-45 years	26	12.1%
46 years and above	23	10.7%
Total	**215**	**100%**

3. Qualification: the most respondent in Table (3-4) are holding Bachelor degree 121 (56.3%), Diploma 60 (27.9%), Master 25 (11.6%), and the lowest percentage is the PhD holders with 9 (4.2%).

Table (3-5) Distribution of the Study Sample by Academic Qualification

Category	Repetition	Percentage
Diploma	60	27.9%
Bachelors	121	56.3%
Masters	25	11.6%
PHD	9	4.2%
Total	**215**	**100%**

4. Job Title: Table (3-5) shows that the majority of job position is executive official 155 (72.1%) and the lowest is director general with 11 (5.1%).

Table (3-6) Distribution of the Study Sample by Job Title

Category	Repetition	Percentage
Executive official	155	72.1%
Director general	11	5.1%
Department manager	37	17.2%
Others	12	5.6%
Total	**215**	**100%**

5. Experience: Table (3-6) shows that the majority of the respondents experience falls in the event 6-10 years with the total of 107 (49.8%), the lowest represented event 16 years and above total of 20 and a percentage of (9.3%).

Table (3-7) Distribution of the Study Sample by Job Experience Years

Experience years	Repetition	Percentage
Less than 5 years	31	14.4%
6-10 years	107	49.8%
11-15 years	57	26.5%
16 years and above	20	9.3%
Total	**215**	**100%**

Chapter Four: Data Analysis

4.1.Introduction:

In this chapter, three methods are used to attain the purpose of the study; descriptive analysis, correlation between variables, and regression analysis to test the direct and indirect effect of independent variable on the dependent variable through the mediator.

4.2.Descriptive Analysis of Study Variables:

To describe the current study variables, the mean, standard deviation, level of importance and ranking are used.

This study used the Fifth Likert Scale throughout the questionnaire, the level of importance will be calculated based on the following equation (Sekaran and Bougie, 2010). The range is calculated as follows: (5-1)/3 = 1.33

Length of the category + least weight = 2.33, so that the first agreement degree becomes (1-2.33) is the low level.

To move to the second category 2.33+1.33 = 3.66, so that the second agreement degree becomes (2.34-3.66) is the medium level.

To move to the third category 3.66 + 1.33 = 5, so that the third agreement degree becomes (3.67-5) is the high level.

Arithmetic averages	Agreement degree
1-2.33	Low
2.34-3.66	Medium
3.67- 5	High

All Variables:

Table (4-1): Mean, Standard Deviation, Importance and Level of All Study Variables

No.	Variable	Mean	S.D.	Importance	Rank
1	Sustainable Energy	3.805	0.662	High	1
2	Advertisement	3.722	0.521	High	3
3	Business Performance	3.803	0.574	High	2

Table (4-1) shows that the mean of sustainable energy is 3.805 with S.D 0.662, which means that the responds agree on the high importance of the sustainable energy, the mean of business performance is 3.803 with S.D 0.574 which means that the responds agree on the high importance of the business performance, and finally the mean of advertisement is 3.722 with S.D 0.521 which means that the responds agree on the high importance of the advertisement.

Sustainable Energy

Table (4-2): Mean, Standard Deviation, Importance and Level of Sustainable Energy Items

No.	Advertisement	Mean	S.D.	Importance	Rank
1	The company is aware of sustainable energy	4.149	0.777	High	1
2	Do you think the company increase the use of renewable energy	3.837	0.900	High	3
3	The organization have (solar panels /PV)	3.540	1.071	Medium	5
4	The company aware of government grants to help you to invest in renewable energy such as solar panels, small wind turbines, wood fired boiler systems	3.493	1.085	Medium	6
5	The company have a future plan to install more renewable energy technology.	3.795	0.935	High	4
6	The company use (electricity, oil, gas)	4.019	0.922	High	2
General mean and standard deviation of sustainable energy		**3.805**	**0.662**		

Table (4-2) shows that the mean of sustainable energy items ranges between 3.493 and 4.149, and the standard deviation ranges between 0.777 and 1.085. This means

that there is a semi agreement among respondents on medium to high importance of the implementation of sustainable energy items. The general mean for sustainable energy variable is 3.805 with standard deviation 0.662. This indicates that the surveyed companies are concerned with and implement the sustainable energy.

Moreover, the results of this study indicate that the companies who use the sustainable energy are very interested in understanding and aware of all items of sustainable energy. On the other hand, this study indicates that the companies have less knowledge in what governments can grants to help the companies that are able to install or add the suitable energy technology, so it need to have more courses and advertisement from the governments that focus on this matter.

Advertisement

Table (4-3) Mean, Standard Deviation, Importance and Level of Advertisements Items

No.	Advertisement	Mean	S.D.	Importance	Rank
7	Product can survive competition with intensive advertisement	4.005	1.012	High	2
8	Advertising will increase organization target market	3.260	1.206	Medium	12
9	The advertising target often includes everyone in the firm target	3.572	1.116	Medium	10
10	The advertising programme of the company has no impact on the sales volume of their product.	3.340	1.184	Medium	11
11	Most advertisement are misleading	3.958	0.769	High	4
12	Advertising enables producers to enjoy economic of large scale	3.893	0.882	High	5
13	The effect/impact of advertising can be change as market grow older	4.102	0.696	High	1

14	there is positive significant relationship between advertising and sales volume of a product	4.005	0.770	High	3
15	Advertising is a power tool capable of motivating large audiences	3.865	0.878	High	6
16	Consumer's loyalty can be further guaranteed through consistent advertising	3.056	1.221	Medium	13
17	Advertising justifies its existence when it is used in the interest of the public	3.702	0.909	High	9
18	Advertising increases the number of hours worked	3.819	0.837	High	7
19	The existing facilities and services in advertising organization are considered inadequate to face any competition	3.814	0.887	High	8
General Arithmetic mean and standard deviation Advertisement		**3.722**	**0.521**		

Table (4-3) shows that the mean of advertisement items ranges between 3.493 and 4.149, and standard deviation ranges between 0.696 and 10221. This means that there is a semi agreement among respondents on medium to high importance of the implementation of advertisement items. The general mean for advertisement variable is 3.722 with standard deviation 0.521. This indicates that the surveyed companies are concerned with and implement the advertisement. Moreover, this indicates that companies who use the sustainable energy are more aware of using the advertisement and focus on it as a major key. On the other hand, this study indicates that the companies must use new tools and understand the consumer needs. Finally, the advertisement is necessary for all companies what they do and wherever they perform their business.

Business Performance:

Table (4-4) Mean, Standard Deviation, Item Importance Level of Business Performance Items

No.	Paragraph	Mean	S.D.	Importance	Rank
20	Decisions are usually made at the level where the best information is available	3.930	0.803	High	4
21	Business planning is ongoing and involves everyone in the process to some degree.	3.963	0.853	High	2
22	People work like they are part of a team	3.926	0.904	High	5
23	Work is organized so that each person can see the relationship between his or her job and the goals of the organization	4.033	0.898	High	1
24	The capabilities of people are viewed as an important source of competitive advantage	3.767	0.933	High	10
25	Problems often arise because we do not have the skills necessary to do the job	3.753	0.937	High	11
26	There is a clear and consistent set of values that governs the way we do business	3.874	0.994	High	8
27	Ignoring core values will get you in trouble	3.953	1.017	High	3
28	It is easy to coordinate projects across different parts of the organization	3.851	0.989	High	9
29	The way things are done is very flexible and easy to change	3.907	0.967	High	6
30	Attempts to create change usually meet with resistance	3.740	0.900	High	12
31	There is a clear mission that gives meaning and direction to our work	3.879	0.944	High	7
32	There is a clear strategy for the future	3.423	1.095	Medium	14
33	The leadership has "gone on record" about the objectives we are trying to meet	3.698	1.049	High	13
34	People understand what the organization will be like in the future	3.344	1.108	Medium	15
General Arithmetic mean and standard deviation Business Performance		**3.803**	**0.574**		

Table (4-4) shows that the mean of business performance items are ranges between 3.344 and 4.033, and standard deviation ranges between 0.803 and 1.108. This means that there is a semi agreement among respondents on medium to high importance of the implementation of business performance items. The general mean for business performance variable is 3.803 with standard

deviation 0.574. This indicates that the surveyed companies are concerned with and implement the business performance.

4.3. Relationships between Variables:

To test the relationships between the variables Bivariate Pearson Correlation test is used. Table (4-5) shows that the relationship between sustainable energy and advertisement is strong, where r equals 0.542. The relationship between advertisement and business performance is very strong, where r equals 0.699. The relationship between sustainable energy and business performance is strong, where r equals 0.457.

Table (4-5) Bivariate Pearson Correlation

	Variables		1	2	3
1	**Sustainable Energy**				
2	**Advertisement**	Correlation	0.542**		
		Sig.	0.000		
3	**Business Performance**	Correlation	0.457**	0.699**	
		Sig.	0.000	0.000	

****. Correlation is significant at the 0.01 level (2-tailed).**

4.4.Study Hypotheses Testing

Multiple Regressions:

After confirming study tool normality, validity, reliability, and correlation between variables, the following tests were carried out.

1- Multi-collinearity test: Table (4-6), shows that the VIF value is less than 10 and the tolerance value is more than 0.2. This indicates that there is no Multi-

2- Independence of errors: Since Durbin Watson test is (d=1.828), is about two, the independence of errors is not violated.

Table (4-6) Study Instrument for the Study Variables

Model		Collinearity Statistics		Durbin-Watson
		Tolerance	VIF	
1	**(Constant)**			1.828
	Sustainable Energy	0.707	1.415	
	Advertisement	0.707	1.415	

Based on the above justification, multiple regressions will be used to test the effect of sustainable energy on business performance through advertisement directly and indirectly.

Simple and Multiple Regressions:

Testing the first hypothesis:

H_{01}: Sustainable Energy does not influence on advertisement in "King Abdullah II Industrial City", at ($\alpha \leq 0.05$).

To test this hypothesis, this study uses the simple regression analysis to ensure the direct effect of Sustainable Energy on Advertisement in "King Abdullah II Industrial City" at the level ($\alpha \leq 0.05$).

Table (4-7): Simple Linear Regression Model to Test the Influence of Sustainable Energy on Advertisement

Independent variable	Calculated value (T)	Tabled value (T)	Significance level (sig)
Sustainable energy	9.401	1.960	0.00*
Value (R)	0.542		
Value (R^2)	0.293		
Calculated value (F)	88.383		
Degree of Freedom (DF)	214		

*** With statistical significance at level of ($\alpha \leq 0.05$)**

Table (4-7) shows that there is a direct positive relationship between sustainable energy and advertisement, where r or β equals 0.542. Sustainable energy can explain 29.3% of the variance of advertisement, Where (R^2=0.293, F=88.383, sig. =0.000*). Therefore, the null hypothesis is

rejected and the alternative is accepted, which states that: **Sustainable Energy has influence on advertisement in "King Abdullah II Industrial City", at (α≤0.05).**

Testing the Second hypothesis:

H_{02}: Sustainable Energy dose not Influence on Business Performance in "King Abdullah II Industrial City" at the level (α ≤ 0.05).

To test this hypothesis, this study uses the simple regression analysis to ensure the direct effect of Sustainable Energy on Business Performance in "King Abdullah II Industrial City" at the level (α≤0.05).

Table (4-8): Results of Testing the Second Hypothesis for Influence of Sustainable Energy on Business Performance

Independent variable	Calculated value (T)	Tabled value (T)	Significance level (sig)
Sustainable energy	7.495	1.960	0.00*
Value (R)	0.457		
Value (R^2)	0.209		
Calculated value (F)	56.170		
Degree of Freedom (DF)	214		

*** With statistical significance at level of (α≤0.05)**

Table (4-8) shows that there is a direct positive relationship between sustainable energy and business performance, where r or β equals 0.457. Sustainable energy can explain 20.9% of the variance of Business Performance, Where (R^2=0.209, F=56.170, sig. =0.000*). Therefore, the null hypothesis is rejected and the alternative is accepted, which states that: **Sustainable Energy has influence on Business Performance in "King Abdullah II Industrial City", at (α≤0.05).**

Testing the Third hypothesis:

H_{03}: Advertisement dose not Influence on Business Performance in "King Abdullah II Industrial City" at the level (α ≤ 0.05).

To test this hypothesis, this study uses the simple regression analysis to ensure the direct effect of Advertisement on Business Performance in "King Abdullah II Industrial City" at the level ($\alpha \leq 0.05$).

Table (4-9): Results of Testing the Third Hypothesis for Influence of Advertisements on Business Performance

Independent variable	Calculated value (T)	Tabled value (T)	Significance level (sig)
Advertisements	14.272	1.960	0.00*
Value (R)	0.699		
Value (R^2)	0.489		
Calculated value (F)	203.704		
Degree of Freedom (DF)	214		

*** With statistical significance at level of ($\alpha \leq 0.05$)**

Table (4-9) shows that there is a direct positive relationship between advertisements and business performance, where r or β equals 0.699. Advertisements can explain 48.9% of the variance of Business Performance, Where (R^2=0.489, F=203.704, sig. =0.000*). Therefore, the null hypothesis is rejected and the alternative is accepted, which states that: **Advertisements has influence on Business Performance in "King Abdullah II Industrial City", at ($\alpha \leq 0.05$).**

Testing the Fourth hypothesis:

To test this hypothesis, this study uses the multiple regression analysis to ensure the indirect effect of Sustainable Energy on Business Performance through Advertisement in "King Abdullah II Industrial City" at the level ($\alpha \leq 0.05$).

H_{04}: Sustainable Energy dose not indirectly Influence on Business Performance through Advertisement in "King Abdullah II Industrial City" at the level ($\alpha \leq 0.05$).

Table (4-10). Summary of Results: Impact of Mediated Regression

Dimension	Model "1"		Model "2"	
	β	t-value	β	t-value
Sustainable energy	0.457	7.495	0.111	1.910
Advertisements			0.639	11.038
R^2	0.457		0.705	
F	56.170		104.943	
ΔR^2	0.209		0.289	
Δ F	56.170		121.848	

*** With statistical significance at level of (α≤0.05)**

Table (4-10) shows that there is an indirect positive relationship between sustainable energy and business performance through advertisement, where β equals 0.111. Sustainable Energy can explain 28.9% of the variance of Business Performance through Advertisement, Where (ΔR^2=0.289, ΔF=121.848) therefore, the null hypothesis is rejected and the alternative is accepted, which states that: **Sustainable Energy has influence on Business Performance through Advertisement in "King Abdullah II Industrial City", at (α≤0.05).**

Summary:

In summary, this study shows that organizations that are highly implementing all study variables sustainable energy, advertisement, and business performance; organizations are concerned or focus on the three variables.

The relationships among the three variables; sustainable energy, advertisement, and business performance are very strong, which means that they affect each other and any change in one of them will affect the others.

In conclusion, this study shows:

1. Sustainable Energy has influence on advertisement.
2. Sustainable Energy has influence on Business Performance.

3. Advertisements has influence on Business Performance.
4. Sustainable Energy has influence on Business Performance through Advertisement.

Chapter Five: Results Discussion, Conclusions and Recommendations

5.1. Results and Discussion:

In this section, the purposes of this study are discussed through the presentation of the results that are obtained and explored in the previous sections, in order to derive the recommendations and suggestions based on the conclusions of this research.

The results show that sustainable energy affects advertisements in **"King Abdullah II Industrial City"** since (R2=0.293, F=88.383, Sig=0.000*). The result of sustainable energy is in line with previous studies such as Wang et. al. (2015) which showed that the basis for sustainable energy promotion and abundant sustainable energy resources are fundamental. To initiate local sustainable energy development, a positive municipal energy planning concept and a vision that is developed by the local government are significant.

The results show that the sustainable energy affects business performance in **"King Abdullah II Industrial City"** since (R2=0.209, F=56.170, Sig=0.000*). The result of sustainable energy is in line with previous studies such as Høgevold et. al. (2014) empirical findings indicated evolutionary changes as companies move on a continuum from superficial to embedded sustainable business models and the application of sustainable business practices. The planning, implementation, and evaluation of sustainable business models evolve over time inside organizations and their supply chains, as well as in the marketplace and society.

Finally, the results show that the advertisement affects business performance in **"King Abdullah II Industrial City"** since (R2=0.489, F=203.704, Sig=0.000*). The result of sustainable energy is in line with previous studies such as Wisdom (2015) which aimed at looking at what extent the use of e-marketing has impacted on the relationship with their customers and influenced

their business performance. The research found that a fairly positive perception of e-marketing was held.

5.2. Conclusion:

Results of this study show that the relationships between the sustainable energy variables are strong, the relationships between business performance variables are strong, the relationships between advertisement variables are strong, and finally, the relationship between sustainable energy, business performance, and advertisement is strong.

The relationships among the three variables; sustainable energy, advertisement, and business performance are very strong, which means that they affect each other and any change in one of them will affect the others.

This indicates that the organizations inside “King Abdullah II Industrial City” who applies the sustainable energy methods know the importance of implementing advertisement.

5.3. Recommendations:

Based on the conclusions, this researcher recommends the following:

Recommendations for King Abdullah II Industrial City:

1- The current study recommends applying sustainable energy.

2- The current study recommends focusing on new techniques in advertisement such as social media and websites for more efficiency in order to reach the maximum audiences.

3- The current study advices to conduct more training for employee in marketing. Moreover, departments should have a link between advertisement and sustainable energy.

4- The current study recommends taking sustainable energy in consideration.

Recommendations for researchers:

5- This study was conducted on King Abdullah II Industrial City. Therefore, the study recommends carrying out similar studies in different sectors and countries.

6- This study suggest to developing more indicators and questions to the same field.

7- The current study recommends for future research to study another business characteristic, moreover studying the influence of sustainable energy from other business views.

8- Finally, there is a need to analyze data from other organizations over a longer period in order to clearly examine the assumptions of sustainable energy. The significant differences between organizations and/or industries could be examined by further studies. So, it's recommended that future researches should compare results with other countries particularly developing countries under similar assessment and assumptions.

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Appendixes

1. Appendix1 : Questioner

جـــامـعـة الـــشـرق الأوسـط
MIDDLE EAST UNIVERSITY
Amman - Jordan

Scientific Research Questionnaire

Dear Participant,

The researcher is currently conducting a scientific study intended to identify the: "**The Influence of Sustainable Energy on Business Performance through Advertisement".**

The purpose of this study is obtain master's degree in e-Business, your assistance to answer the study questionnaire means a lot to us, and will add value to our study. It will be used only for academic purpose and will not be used outside the scope of this scientific research.

I should appreciate very much your kind assistance to answer the attached questions.

Thank you very much in anticipation.

Supervisor
Dr. Hebah H. O. Nasereddin

Researcher
Basem G. jabber

First Section: Demographic Variables
Gender

□ Male. □ Female.

Age

□ 25-30 years old. □ 31-35 years old.

□ 36-40 years old. □ 41-45 years old.

□ More than 46 years old.

Educational Qualification

□ Collage/ Diploma. □ Bachelor's Degree.

□ Master's Degree. □ PHD Degree.

Job Title

□ Executive officer. □ Director General.

□ Department manager. □ Other Position……..

Years of Experience in Current Company

□ Less than 5 years. □ 6-10 years.

□ 11-15 years. □ More than 16 years.

Second Section: Study Questions (Sustainable Energy).

No.	Sustainable Energy	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Sustainable Energy						
1.	The company is aware of sustainable energy					
2.	Do you think the company increase the use of renewable energy					
3.	The organization have (solar panels /PV)					
4.	The company aware of government grants to help you to invest in renewable energy such as solar panels, small wind turbines, wood fired boiler systems					
5.	The company have a future plan to install more renewable energy technology.					
6.	The company use (electricity, oil, gas)					

Third Section: Study Questions (Advertisement).

This section are seeking about **Advertisement**. Please read the following questions and tick (√) in the appropriate column which you think is appropriate:

No.	Advertisement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Advertisement						
7.	product can survive competition with intensive advertisement					
8.	Advertising will increase organization target market					
9.	The advertising target often includes everyone in the firm target					
10.	The advertising programme of the company has no impact on the sales volume of their product.					
11.	Most advertisement are misleading					
12.	Advertising enables producers to enjoy economic of large scale					
13.	The effect/impact of advertising can be change as market grow older					
14.	there is positive significant relationship between advertising and sales volume of a product					
15.	Advertising is a power tool capable of motivating large audiences					
16.	Consumer's loyalty can be further guaranteed through consistent advertising					
17.	Advertising justifies its existence when it is used in the interest of the public					
18.	Advertising increases the number of hours worked					
19.	The existing facilities and services in advertising organization are considered inadequate to face any competition					

Third Section: Study Questions (Business Performance).

This section are seeking about **Business Performance:**

Please read the following questions and tick (√) in the appropriate column which you think is appropriate:

No.	Business Performance	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Business Performance						
20.	Decisions are usually made at the level where the best information is available					
21.	Business planning is ongoing and involves everyone in the process to some degree.					
22.	People work like they are part of a team					
23.	Work is organized so that each person can see the relationship between his or her job and the goals of the organization					
24.	The capabilities of people are viewed as an important source of competitive advantage					
25.	Problems often arise because we do not have the skills necessary to do the job					
26.	There is a clear and consistent set of values that governs the way we do business					
27.	Ignoring core values will get you in trouble					
28.	It is easy to coordinate projects across different parts of the organization					
29.	The way things are done is very flexible and easy to change					
30.	Attempts to create change usually meet with resistance					
31.	There is a clear mission that gives meaning and direction to our work					
32.	There is a clear strategy for the future					
33.	The leadership has "gone on record" about the objectives we are trying to meet					
34.	People understand what the organization will be like in the future					

2. Appendix 2: Panel Judge (Referee) Committee.

No.	Name	Specialization	Work Place
1	Dr. Ahmad Ali Saleh	Business Administration	MEU
2	Dr. Emad Masoud	Business Administration	MEU
3	Dr. Mohammed Ma'ita	Business Administration	MEU
4	Dr. Hanadi Zghair	Business Administration	ASU
5	Dr. Jamal Joudeh	Marketing	MEU
6	Dr. Sameer Al Jabali	Marketing	ASU