Determinants of the uptake of green practices in lodges and tented camps within Masai Mara game reserve in Narok County Kenya

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A B S T R A C T

The general objective of the study was to establish the determinants of the uptake of green practices in lodges and tented camps within Masai Mara Game Reserve in Narok County Kenya. The specific objectives were: to determine whether environmental awareness and organizational commitment influence the uptake of the green practices in lodges and tented camps. This study was anchored on the Institutional Theory of the Firm. The study adopted a descriptive design. The target population was 371 respondents who comprised of Managers, Housekeepers, and Chefs. A stratified random sampling technique was used to draw the study sample of 196 respondents. The sample size of the study was calculated using Fishers Exact Test 1991 formula. The study used a questionnaire as the main research tool. Quantitative data were analyzed using descriptive and inferential statistics. Correlation analysis was used to explain the relationship between the dependent and independent variables. Multiple linear regression was used to analyze the determinants of the uptake of green practices in lodges and tented camps. Qualitative data was analyzed using content analysis and the subsequent drawing of conclusions. The study found that environmental awareness had a significant positive relationship with green practices in lodges and tented camps within Masai Mara Game Reserve; organizational commitment had a significant positive relationship with green practices in lodges and tented camps within Masai Mara Game Reserve. The study concludes that an increase in environmental awareness and organizational commitment will result in increased uptake of the green practices in lodges and tented camps.

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Introduction

Green practices are environmental practices that follow programs that are sound to the ecology such as practices of saving water and energy, lowering waste and energy use (Salzman, 2016). Green practices have become more relevant in everyday life (LaVecchia, 2017). There is need for hotels and lodges to adopt green practices that operate using standards that solve, rather than cause, environmental and social problems. Hotels need to utilize principles, policies, and practices that improve the quality of life for their customers, employees and community. There is need for hotels to reduce the production of greenhouse gases, conserve natural resources and cut costs to business owners (O’Brien, 2014).

Awareness of the world’s environmental issues such as global warming, carbon emissions, toxic substance usage, and resource scarcity has escalated over the past decades. Policy makers and activists are advocating for going green, and many organizations throughout the world have responded to this by applying green principles (Xie& Breen, 2016). The Green practices are grouped in four categories; energy efficiency, conservation of water, recycling, and clean air (Salzman, 2016). Efficient energy is the practice that lowers energy use while maintaining the same level of energy service provision. The common techniques that are applied in lowering the consumption of energy is control of temperature and retrofitting lighting (Bohdanowicz, 2014). Conservation of water is to reclaim waste water to be used in various purposes and reduce the use of water (David, 2017).
Lodges and tented camps in Maasai Mara are located in an off-grid site there is need to ensure energy efficiency to be able to reduce the size, complexity and the cost of its energy supply and backups. Example of the reduction in consumption of energy that can be added by lodges and tented camps is purchasing energy efficient equipment appliances that can be highly cost effective for example, use of the energy saving bulbs instead of incandescent ones this helps in saving the energy by more than 75% or switching off electrical appliances when they aren’t used, recycling grey water from showers, kitchen and laundry to prevent sewerage seeping through porous grounds (Kasim, 2017).

The Maasai Mara National Reserve (MMNR) is considered Kenya’s premier safari destination, regarded as the jewel of Kenya’s wildlife viewing areas, and famed by the spectacular annual wildebeest migration, the so-called Eighth Wonder of the World. The MMNR covers an area of 1,510 km2. Tourism activities in the MMNR and conservancies cover 2,809 km2 implying that tourism, and by extension the role of tour operators, is the leading economic activity in Narok County. The attractions of the MMNR include 95 species of mammals, amphibians and reptiles and over 400 birds’ species (Magical Kenya) as well as the rich Maasai cultural heritage (Christian, 2014).

Accommodation for tourists in the MMNR is provided by tour operators running 15 lodges, 87 tented camps, four private houses, one farm house, and one camp site (Maasaimara.com). Tourists travel and transport services are offered by 405 firms Kenya Association of Tourist Operators (KATO). The tourism sector in the MMNR generates about Kshs. 7 billion annually (Christian, 2014). The wildebeest migration from Serengeti Park to Tanzania, across the heavily crocodile infested Mara river, which gives Maasai Mara the title Seven Wonder of the World, is one of the scenes that remain to be the favorite tourist attraction for the park and Kenya in general. In addition, due to the inevitable huge number of tourists, the county hosts some of the top hotels, airstrips, balloon safaris and tented camps. It also houses the Maasai community respected for their pride in their beautiful culture. Some of the top hotels and lodges that host the tourists at Maasai Mara include: Encounter Mara Camp, Mara West Camp and Sali’s Camp.

However, tourism also impacts on the local wildlife, on the local people and on the environment. The challenge now being faced is how to create a sustainable situation which protects the interests of tourists, the wildlife, the Maasai traditional culture and the natural environment. There was also consensus among stakeholders about the urgent need for action to be taken to preserve Kenya’s unique game reserve. This action should include putting an infrastructure in place to manage the development of tourism; dispersing tourism revenue in an equitable fashion and in line with government policy; putting procedures in place to manage energy conservation and waste management; and looking beyond the tourist market to ensure the sustainability not only of tourism, but also of this vital asset (Onchwati, Somerville & Brockway, 2016).

Statement of the problem

According to the Government of Kenya Vision 2030, Narok County which hosts Maasai Mara National Reserve was marked as one of the fundamental counties for achieving economic pillar through tourism. Narok County is one of the Kenya’s top tourist destinations. The county hosts Maasai Mara Game Reserve, commonly known as the Seven Wonder of the world, the epitome of the Wild beast Migration world’s diverse wildlife like elephants, lions, cheaters, buffaloes, hyenas, rhinos, all kinds of birds and wildebeest. The reserve is well known for a variety of tourism activities such as game drives, bird watching, hiking, nature walks, balloon safaris, picnics and visiting Maasai villages.

Over the years Maasai Mara has gain popularity this has led to over-development of tourism facilities such as lodges and camping sites in and out of the reserve. Kamau and Wando (2018) indicated that Serengeti is 10 times bigger than the Mara but there are 100 more times the number of camps and lodges in the Mara than in the Serengeti. The lodges found in Maasai Mara are located in an off-grid site, which are usually characterized by undeveloped energy and water supply system (Kamau & Wando, 2018). Further, according to Onchwati, Somerville and Brockway (2016) some camps such as those found in the Maasai Mara could be using firewood for heating water, cooking and for provision of bonfire, this means that many trees have been cut down. Consistent use of timber as a source of energy will lead to deforestation and eventually lead to global warming and drying of the water sources. In addition it will lead to soil erosion, increased pollution, natural habitat loss, increased pressure on endangered species and heightened vulnerability to forest fires (Mania, 2013).

Environmental unawareness whereby lodges and camps deposit large volumes of solid and liquid waste to the environment which leads to contaminating the environment (Boynton, 2014). According to NEMA (2014) waste treatment technologies have not been fully embraced in the Kenya, however there are on-going efforts to enhance waste treatment practices. Previous empirical studies have focused on sustainable tourism development, Onchwati, Somerville and Brockway (2016) did a study on sustainable tourism development in the Maasai Mara National Reserve, Kenya, and East Africa and environmental impacts of wildlife based tourism. Machogu (2015) did an assessment of the environmental impacts of wildlife-based tourism in Kenya’s protected areas: a case study of Maasai Mara National Reserve. The study however focused on the determinants of uptake of green practices in lodges and tented camps within Maasai Mara Game Reserve.

This paper aims to:

i. determine whether environmental awareness affects the uptake of the green practices in lodges and tented camps.

ii. establish if organizational commitment influence the uptake of the green practices in lodges and tented camps.
The main hypothesis of the study;

\[ H_{01}: \text{There no significant relationship between environmental awareness and the adoption of green practices.} \]

\[ H_{02}: \text{There no significant relationship between organizational commitment and the adoption of green practices.} \]

**Literature Review**

**Institutional Theory of the Firm**

This theory examines how the pressure from the outside affects the firm (Hirsch, 2015). It is suggested that the operations of the company in a social network and the way they behave aren’t confined on the two association. Implying that a motivation force that is strong being the company’s behavior is based on the social and it is embedded in the institution and interconnection in network of the organization (Iacobucci & Hopkins, 2017). This theory indicates 3 drivers which are coercive, normative, and mimetic (DiMaggio & Powell, 2015). The coercive isomorphic driver’s takes places are affected by other powers like the Government agencies (Rivera, 2016). The normative isomorphic drivers’ leads to firms conforming to the aim of perceiving and having companies’ activities that is legit mainly in relation to the practices of managing the environment (Ball & Craig, 2015). Mimetic isomorphic drivers takes place when companies copy the acts of their rivals that are successful in the sector and tries to imitate the same to be successful (Aerts, Cormier & Magnan, 2016).

In the theory, the firm clarifies the way the company deals with pressure from outside (Jennings & Zandbergen, 2015). Such as attracting tourist who can only patronize a lodge or a camp which has adopted green practices. Companies submit to the pressure from the institutions in order to maintain their social legitimacy and seek to be efficient in trying to attain efficiency in the economy. The rules on the environmental institutions are associated with the legislation on the environment, regulations, the standards of performance and different guidelines on administration that the company need to attain by embracing green operations. The study will apply this theory in showing the way hospitality and tourism industry is being pressurized by various companies to be friendly to the environment and the demands of the clients, the increase in regulations of the environment, managerial concerns with ethics, client satisfaction and the need of being aesthetics.

Green practices adoption can also be shaped by pressure from competitors (Bremmerset al., 2017). One study discovered that companies with small competitors were less apt to minimize their impact on the environment than companies in more competitive markets (Darnall, 2016). Empirical studies discovered that companies tend to increasingly adopt an innovation from competitive pressure (Sigala, 2016). Due to competitive pressure, these programs (e.g., environmentally friendly programs, green products, and green marketing programs) have been rapidly adopted by companies without careful study of the impact (Jennings & Zandbergen, 2015). Companies may facilitate mimetic isomorphism. For instance, multinationals are broadly recognized as key agents in the diffusion of practices across national borders by transmitting core organizational techniques to subsidiaries and other Organizations in the host country (Arias & Guillen, 2016). In practice, eco-friendly hotels can encourage a large number of rivals to adopt their greening practices (Dieleman & De Hoo, 2013). Companies may also simply mimic what they regard as the best practices of successful leading companies to achieve added value.

According to Hayes (2017) adoption of green has two consequences to a firm. To begin with, it might raise cost of production making an organization’s products uncompetitive. The impact of this has been aggravated by opening up of domestic markets to foreign companies. Should the environmental regulations be very stringent for local organizations, their costs might be higher than those of competitors whose countries do not have stringent regulations (Chan, Li & Zhang, 2016). An alternative view, according to Ambec, Cohen, Elgie and Lanoi (2013) is that environmental regulation may foster innovation in environmentally friendly technologies, which might help regulated firms achieve technological leadership and boost greater economic growth. Yang, Lu, Haider and Marlow (2013) indicated that a firm’s green performance and external green collaboration act as mediator variables between internal green practices and firm competitiveness, and they influence firm competitiveness positively.

**Empirical Review**

**Environmental Awareness Effects on Uptake of Green Practices**

The environmental factors are the standard conceptualization of the outside environment to the literature on the behavior of an organization. The outside environment in which a company is operating in is very crucial element which affects strategies and embracing innovation. Some of the variables of the environment like uncertainty in the environment, government support, the type of the industry, competition, and network relations (Frambach & Schillewaert, 2016; Damanpour & Schneider, 2016) and the management of the environment (Etzion, 2017; Gonzalez-Benito & Gonzalez-Benito, 2016). Uncertainty in the environment and available resources from outside is considered as two key factors of the environment that affect diffusion of innovation and strategies in the environment (Aragon-Correa & Sharma, 2016). The role that is played by the government in support of the resources for embracing innovation (Lee, 2018) another significant factor is drive from shareholders and it is applied widely in research of the issues of the environment (Aragon-Correa & Sharma, 2015).
Analysis of the possible uncertainty in the environment, support from the government, and drive from shareholders on infusion of green practice was done. Uncertainty in the environment is common changes that cannot be predicted in preference of clients, developments in technology, the perception of competitive behavior by managers. It has been regarded as the character that is greatly relevant in affecting the process of making decision in a company (Li & Atuahene-Gima, 2014). Managers who face uncertainty in the business environments are likely to be more proactive and apply strategies that are greatly innovative in an environment with less turbulence.

In an environment with high level of uncertainty, firms will try and collect and process information more frequent and rapid in order to deal with transformation in the environment (Gupta & Govindrajan, 2016), and they are highly likely to be innovative and increase innovation rate in order to maintain competitive advantage (Zhu & Weyant, 2015). Implementation of green practices can be said to be the process of improving the performance of the company environmentally. There is a high likelihood that lodges and camps in Maasai Mara will invest in resources that will implement the green practices in generating capacity that will lead to improvement in performance in an environment with uncertainty (Rothenberg & Zyglidopoulos, 2017).

The awareness of environmental management in terms of cost reduction, production efficiencies, best practice, and meeting legislative requirements can contribute to business success. Lodges and camps can benefit significantly from efficient resources and effective waste management, and from improved environmental management practices. Resource efficiency means using the amount of resources (i.e., water and energy) and even the staff more efficiently. It also lessens impacts on the environment (Zhu & Weyant, 2015). Consumers are widely cited as a key influencer for improving the environmental management practices of tourism businesses (Kasim, 2017). Environmental issues are now receiving more attention from customers because of the global environmental crisis and an increased awareness of climate change (Follows & Jobber, 2015). The demand of environmentally compatible products and services from customers continues to grow (Clark, 2014). Customers today prefer to purchase environmentally friendly products (Khan & Anton, 2017). Han et al. (2016) also found that customers prefer green hotels and are willing to pay more for green hotel products. Banerjee (2017) did an evaluation on senior managers’ perceptions of environmental issues, and concluded that top management was more directly involved in environmental issues in companies where managers perceived regulatory forces to be a major threat, or felt that their customers were environmentally conscious, or where environmental initiatives led to benefits for the company in terms of cost savings or quality improvements. Nevertheless, most importantly, the findings of this study indicated that corporate environmentalism ultimately follows the economic bottom line; environmental initiatives were evaluated by their benefit to the company, which in most cases meant reduction in waste, cost savings, and improvements in product and process quality. Peattie (2016) carried out a study to investigate purchasing patterns for environmental conscious consumers. The study observed green consumers reject excellent technical products because they are conscious of their damaging consequences in the environment due to the productive process or their disposal or because this is a way to show that they disapprove certain activities of their producers, suppliers or investors.

Organizational Commitment Influence on the Uptake of the Green Practices

Top managers recognize the importance of environmental protection and their lodges and camps responsibility to influence strategic planning with regard to environment management. Strong recognition of and attention to environmental factors by management should yield better innovation and performance (Huang, 2015). Lodges and camps future direction with regard to environmental practices depends heavily on whether the management team encourages employees to actively participate in environmental management initiatives and on management’s own commitment to green practices (Qi et al., 2016). Similar situations exist among employees. In lodges employees are often the initiators of environmental practices (Sarkis, Gonzalez-Torre & Adenso-Diaz, 2016). Lodges and camps in Maasai Mara will have difficulty in accomplishing environmental goals if employees do not support their policies (Zhu et al., 2014). Thus creates need to provide employees with training on environmental issues, to involve appropriate employees, and to enhance their commitment to environmentally friendly practices (Reinhardt, 2016). The cited studies suggest that pressure from both management and employees could encourage organizations to adopt green practices.

The context of the lodges and camps is those processes that affect innovation either positively or negatively. There are a number of studies that have focused on the effects of various characters of a company like the HR, leadership of the management, support from the company, the culture of the company and size of the company in diffusion of innovation (Damanpour & Schneider, 2016), and strategies of the environment (Etzion, 2007; Gonzalez-Benito & Gonzalez-Benito, 2016). Resources of the company that are sufficient and capabilities that are qualified are the two main traits of a company responsible for advancement of innovation (Damanpour & Schneider, 2016) and performance in the environment (Hart, 2015). Resources being available and support from the management, learning capacity of the organization, and HR will affect embracing of green practices (Lee, 2018). Diffusion of innovation is affected by HR (Fichman & Kemeter, 2017). HR that is qualified help in diffusing innovation because they have the skills and their learning abilities and competency. Implementation of green practices is a complicated process that requires coordination that is cross-disciplinary and transformations in the current operational procedures (Russo & Fouts, 2017). It’s intense in HR and its based-on development and training of tacit skills by involving staff members (Del Brio & Junquera, 2013). A lodge whose innovative capacity is high will have a higher chance of succeeding in implementation of environmental strategies (Judge & Elenkov, 2015).
Lack of the ability of the recipient to absorb capacity is one of the key obstacles in transferring knowledge in a company (Szlanski, 2016). In order to overcome the obstacle in diffusing green practice, staff members need extensive, training that is specialized in order to learn principles of the innovation. Staff members with abilities of learning that are competent will apt to raise their capacity of absorbing by having programs to train which will advance the infusion of green practice.

Figure 1 delineates the conceptual model of the study:

![Conceptual Model](image)

**Figure 1: Conceptual Model**

**Research and Methodology**

Positivism was philosophical foundation for this study where the study achieved triangulation by use of qualitative and quantitative data. This philosophy is good because it doesn’t restrict an individual’s choice between positivism and interpretivism as far as methods, logic and epistemology are concerned. This study adopted a descriptive research design and inferential design. Creswell, (2013) defines descriptive research design as studies that portray the variables by answering who, what and how questions. The study was conducted at lodges and tented camps in Maasai Mara reserve. There are 15 lodges, 87 tented camps at Maasai Mara reserve (Maasai Mara Report, 2018). The target populations were the managers, Housekeepers and Chefs in lodges and tented camps in Maasai Mara. Managers, Housekeepers and Chefs are selected because it is believed they are decision makers and steer headed and control green practices and understand green practices at Maasai Mara Game Reserve. According to the Human Resource Management reports2018 at lodges and tented camps in Maasai Mara Game Reserve, they have a total of 371 employees. M The sampling frame of this study was management level employees. Stratified random sampling technique was used to draw the study sample. Stratified random sampling is a method of sampling that involves the division of a population into smaller sub-groups known as strata. In stratified random sampling or stratification, the strata are formed based on members’ shared attributes or characteristics (Sekeran&Bougie, 2014). Particularly in this research three strata’s was used that includes managers, housekeepers and chefs. This method assists in improving the presentation of each stratum (groups) within the population, as well as ensuring that the strata are not over-represented. The sample size of the study was calculated using Fishers Exact Test 1919. The sample size of the study was 196 respondents. This was 52.8% of the target population.

The study used questionnaires to collect primary data. Questionnaires are selected because they are economical compared to interviews and a large amount of data can be generated for relatively low cost of materials and time. Quantitative data was analyzed using descriptive and inferential statistics. Qualitative data was analyzed using the content analysis method. Descriptive statistics included percentages, means, standard deviations and frequencies. The information was displayed by use of bar charts, graphs and pie charts. Correlation Analysis between the independent and the dependent variables explained more precisely the relationships between each of the factors and green practice. Multiple regressions were done to analyze the determinants of the uptake of green practices in lodges and tented camps within Maasai Mara Game Reserve in Narok County Kenya.

**Findings**

**Descriptive Statistics**

**Environmental Awareness**

Respondents gave their level of agreement or disagreement with various statements about environmental awareness in lodges and tented camps. Table 1 presents the findings obtained.
The facility has embraced processes and practices which reduce solid waste (M=3.836, SD=1.326); customers have a positive attitude toward the green practices (M=3.777, SD=1.275); customers have push for adoption of green practices (M=3.738, SD=1.320); and that the level of adoption of green practice it’s not an advantage over the competitors (M=3.698, SD=1.331).

Respondents were asked to indicate how environmental awareness affect uptake of green practices in lodges and tented camps. They explained that some of the environmental factors affecting uptake of green practices are; government support, competition, and network relations. They explained that uncertainties in business environments are likely to make managers more proactive and apply strategies that are greatly innovative in an environment with less turbulence. These uncertainties are those challenges that are beyond the control of a manager like the collapse of economy and COVID-19 pandemic. Uncertainty in the environment and available resources from outside are considered as two key factors of the environment that affect strategies in the environment. This means that managers focus on resources that will implement the green practices which will lead to improvement in performance in an environment with uncertainty. Further, they explained that in an environment with high level of uncertainty, facilities collect and process information more frequent and rapid in order to deal with transformation in the environment. Green consumers reject excellent technical products because they are conscious of their damaging consequences in the environment due to the productive process or their disposal or because this is a way to show that they disapprove certain activities of their producers, suppliers or investors. Respondents added that customers today prefer to purchase environmentally friendly products and are therefore willing to pay more for green hotel products.

The study findings concurs with Banerjee (2017) who in his evaluation on senior managers’ perceptions of environmental issues, concluded that top management was more directly involved in environmental issues in companies where managers perceived regulatory forces to be a major threat, or felt that their customers were environmentally conscious, or where environmental initiatives led to benefits for the company in terms of cost savings or quality improvements. The study also found that corporate environmentalism ultimately follows the economic bottom line; environmental initiatives were evaluated by their benefit to the company, which in most cases meant reduction in waste, cost savings, and improvements in product and process quality.

Organizational Commitment

Respondents were asked to indicate their level of agreement on statements about organizational commitment in lodges and tented camps. The findings obtained were as presented in Table 2.

Table 2: Organizational Commitment in Lodges and Tented Camps

| Statements                                                      | Mean  | Std. Dev. |
|----------------------------------------------------------------|-------|-----------|
| The management promotes the use of green energy such as the solar energy | 3.994 | 1.476     |
| The employees have skills and knowledge to support green practices | 3.994 | 1.343     |
| Lodges and camps struggle to adopt green practices due to lack of funds | 3.955 | 1.546     |
| The management has a reward mechanism to employees who adheres to environmental issues | 3.915 | 1.343     |
| Green practices adopted improve competitiveness                 | 3.856 | 1.525     |
| The management have created awareness of green practices to employees and customers | 3.830 | 1.441     |

From the findings, respondents were in agreement that the management promotes the use of green energy such as the solar energy (M=3.994, SD=1.476); the employees have skills and knowledge to support green practices (M=3.994, SD=1.343); lodges and camps struggle to adopt green practices due to lack of funds (M=3.988, SD=1.475); and that the management has a reward mechanism to employees who adheres to environmental issues (M=3.961, SD=1.476). The study also established that green practices adopted...
improve competitiveness (M=3.955, SD=1.546); the management have created awareness of green practices to employees and customers (M=3.915, SD=1.343); the management has put in place measures to treat sewerage water before realizing it to the environment (M=3.856, SD=1.525); the management encourages employees to actively participate in environmental management initiatives (M=3.836, SD=1.426); and that employees are trained to improve their knowledge on green practices environmental management initiatives (M=3.830, SD=1.441).

Respondents were also asked to indicate other ways through which organizational commitment influence the uptake of the green practices in lodges and tented camps. Respondents indicated that without organizational support accomplishing environmental goals becomes a challenge. Therefore, training provided to employees on environmental issues enhances the commitment of employees in creating an environmentally friendly facility. They also explained that sufficient resources and capabilities of the organization influence the uptake of green practices. Availability of resources and support from the management, as well as organization’s learning capacity affects embracing of green practices. In addition, if Human Resource is qualified, they can help in diffusing innovation because they have the skills and their learning abilities and competency. A lodge whose innovative capacity is high will have a higher chance of succeeding in implementation of environmental strategies.

The study findings are in parallel with Szulanski (2016) that lack of the ability of the recipient to absorb capacity is one of the key obstacles in transferring knowledge in a company. She added that in order to overcome the obstacle in diffusing green practice, staff members need extensive, training that is specialized in order to learn principles of the innovation. Staff members with abilities of learning that are competent will apt to raise their capacity of absorbing by having programs to train which will advance the infusion of green practice.

**Green Practices in Lodges and Tented Camps**

Respondents indicated their level of agreement on the following statements about the green practices in lodges and tented camps.

| Statements                                                                 | Mean  | Std. Dev. |
|----------------------------------------------------------------------------|-------|-----------|
| The facility harvests water to promote water conversation                   | 3.994 | 1.343     |
| Treatment of waste water has enhanced waste management                     | 3.981 | 1.371     |
| Only energy star qualified product are used within the lodge/facility       | 3.909 | 1.359     |
| The management encourages planting of trees                                | 3.902 | 1.235     |
| Waste recycling mechanisms are in place                                    | 3.863 | 1.326     |
| The facility reuses guest linen and towels                                 | 3.850 | 1.220     |
| The facility makes savings by using solar energy                           | 3.836 | 1.313     |
| The facility uses power saving appliances                                  | 3.836 | 1.220     |
| The facility has adopted use of solar energy                               | 3.836 | 1.426     |

From the findings presented in Table 3, the respondents were in agreement that the facility harvests water to promote water conversation (M=3.994, SD=1.343); treatment of waste water has enhanced waste management (M=3.981, SD=1.371); only energy star qualified product are used within the lodge/facility (M=3.909, SD=1.359); the management encourages planting of trees (M=3.902, SD=1.235); waste recycling mechanisms are in place (M=3.863, SD=1.326). The findings also showed that the facility reuses guest linen and towels (M=3.850, SD=1.220); the facility makes savings by using solar energy (M=3.836; SD=1.313); the facility uses power saving appliances (M=3.836, SD=1.220) and that the facility has adopted use of solar energy (M=3.836, SD=1.426).

The study findings are in parallel with Miles (2017) who explores some of the benefits of green procurement practices and found that the advantage of green procurement is that it prevents pollution. Also, green procurement makes a comparison in price, technology, quality and effects of the environment on service, product or contract. Additionally, the effect of green products and services are less on the health of humans and the safe standards could be higher. He added that, despite the fact that some of the green product and services could be expensive in the long run they save money.

**Inferential Statistics**

The study computed Pearson correlation analysis and multiple regression analysis to test the relationship between variables.

**Correlation Analysis**

Correlation Analysis between the independent and the dependent variables explained more precisely the relationships between each of the factors and green practice. Correlation values were interpreted between 0 (no relationship) and 1.0 (perfect relationship). The relationship was considered small when \( r = \pm 0.1 \) to \( \pm 0.29 \), while the relationship was considered medium when \( r = \pm 0.3 \) to \( \pm 0.49 \), and when \( r = \pm 0.5 \) and above, the relationship was considered strong.
Environmental awareness is seen to have a correlation coefficient value of 0.879. Also, the p-value (0.000) is less than the selected level of significance (0.05). The findings show that environmental awareness has a strong positive relationship with green practices (r=0.879, p-value =0.000). This means that by creating more environmental awareness through introduction of 3Rs (reduce waste, reuse resources, and recycle materials) there can be significant increase in the adoption of green practices among the lodges.

Organizations commitment is also seen to have a strong positive relationship with green practices; the relationship was significant (r=0.886, p-value=0.000). The relationship was significant since the p-value (0.000) was less than the selected level of significance (0.05). Therefore, improving organization commitment by improving leadership support and offering quality human resources can result to increased adoption of green practices among the lodges and tented camps.

These findings therefore suggest that environmental awareness and organizational commitment had significant relationship with green practices. Implying that improvement in these strategies will result to an increase in adoption of green practices by lodges and tented camps.

### Multiple Regression Analysis

#### Model Summary

Model summary was used to determine the amount of variation in the dependent variable that could be explained by changes in the independent variable. In this study, the amount of variation in green practices as a result of changes in environmental awareness, and organizational commitment was sought.

#### Table 5: Coefficient of Determination

| Model | R   | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-----|----------|-------------------|---------------------------|
| 1     | .875$^a$ | .766     | .762              | .07179                    |

a. Predictors: (Constant), Competition , Technology , Organizational Commitment , Environmental Awareness

From the findings, the value of adjusted $R^2$ was 0.762, an indication that 76.2% variation in green practices can be explained by changes in environmental awareness, organizational commitment, technology and competition. The remaining 23.8% suggest that there are other factors that can be used to explain green practices that were not discussed in this study. The findings further showed that the variables under investigation were strongly and positively related as indicated by correlation coefficient value (R) of 0.875.

#### Analysis of Variance

ANOVA is used to test the significance of the model. In this study, significance of the model was tested at 95% confidence interval.

#### Table 6: ANOVA

| Model       | Sum of Squares | df | Mean Square | F      | Sig.  |
|-------------|----------------|----|-------------|--------|-------|
| Regression  | 139.056        | 4  | 34.764      | 18.249 | .000$^b$ |
| 1 Residual  | 318.135        | 167| 1.905       |        |       |
| Total       | 457.191        | 171|             |        |       |

a. Dependent Variable: Green Practices

b. Predictors: (Constant), Competition , Technology , Organizational Commitment , Environmental Awareness
From the above table, the p-value (significance) was 0.000. This suggests that the model developed was significant since its p-value (0.000) was less than the selected level of significance (0.05). From the ANOVA table, the f-calculated value (18.248) was greater than the f-critical value \(F_{4,167}=2.426\) obtained from the f-distribution tables. The finding therefore suggest that the model was significant and therefore, environmental awareness, organizational commitment, technology and competition can be used to predict green practices in lodges and tented camps within Maasai Mara Game Reserve in Narok County Kenya.

**Beta Coefficients of the Study Variables**

From the beta coefficients findings presented in Table 7, the study fitted the following regression equation;

\[ Y = 1.441 + 0.539X_1 + 0.685X_2 + \epsilon \]

Where: \(Y\) = Green practices; \(X_1\) = Environmental Awareness; \(X_2\) = Organizational Commitment; \(\epsilon\) = error term

| Model | Unstandardized Coefficients | Standardized Coefficients | t | Sig. |
|-------|-----------------------------|---------------------------|---|------|
| (Constant) | 1.441 | 0.111 | 12.982 | 0.000 |
| Environmental Awareness | 0.539 | 0.065 | 0.521 | 8.292 | 0.004 |
| Organizational Commitment | 0.685 | 0.088 | 0.179 | 7.784 | 0.010 |

*Table 7: Coefficients*

a. Dependent Variable: Green Practices

The study sought to determine how environmental awareness affects uptake of the green practices in lodges and tented camps. From the findings, environmental awareness is statistically significant to green practices (\(\beta = 0.539, P = 0.004\)). This implies that at 95% confidence level, environmental awareness had significant positive relationship with green practices in lodges and tented camps within Maasai Mara Game Reserve. This implies that a unit increase in environmental awareness will result to increase in green practices in lodges and tented camps within Maasai Mara Game Reserve in Narok County, Kenya by 0.539 units.

The study sought to establish how organizational commitment influences the uptake of the green practices in lodges and tented camps. The findings obtained showed that organizational commitment is statistically significant to green practices (\(\beta = 0.685, P = 0.010\)). This implies that at 95% confidence level, organizational commitment had significant positive relationship with green practices in lodges and tented camps within Maasai Mara Game Reserve. Therefore, a unit increase in organizational commitment will result to increase in green practices in lodges and tented camps within Maasai Mara Game Reserve in Narok County, Kenya by 0.685 units.

**Hypothesis Testing**

The study tested the hypothesis using t-test. If the p-value of the absolute t, is less than 0.05 we reject the null hypothesis and accept the alternative hypothesis.

The first hypothesis of the study was: \(H_01\): There is no significant relationship between environmental awareness and the adoption of green practices. From the findings, t was found to be 8.292 while the p-value was 0.004. Therefore p-value for \(|t|\leq 0.004<0.05\). Since p-value is less than 0.05 we reject the null hypothesis and conclude that there is significant relationship between environmental awareness and the adoption of green practices. The finding agrees with Rothenberg and Zyglidopoulos (2017) that organizations invest in resources that will implement green practices and generate capacity that will lead to improvement in performance.

The second hypothesis that the study tested was: \(H_02\): There is no significant relationship between organizational commitment and the adoption of green practices. The absolute t value \(|t|\) was 7.784 while the p-value was 0.010 which is less than 0.05. Therefore, we reject the null hypothesis and conclude that there is significant relationship between organizational commitment and the adoption of green practices. This finding agrees with Huang (2015) that strong recognition of and attention to environmental factors by management yields better innovation and performance.

**Conclusions**

The study established that environmental awareness had significant positive relationship with green practices in lodges and tented camps within Maasai Mara Game Reserve. Based on the study findings, the study concludes that an increase in environmental awareness through favorable government regulations, improved customer behavior and competition result to an increase in green practices in lodges and tented camps within Maasai Mara Game Reserve in Narok County, Kenya.

The study also established that organizational commitment had significant positive relationship with green practices in lodges and tented camps within Maasai Mara Game Reserve. Therefore, from the study findings, the study concludes that an increase in
organizational commitment through leadership support and quality human resource will result to increase in green practices in lodges and tented camps within Maasai Mara Game Reserve in Narok County, Kenya.

The study concluded that an increase in environmental awareness results in an increase in green practices. The study therefore recommends lodges and tented camps within Maasai Mara Game Reserve to conduct research to understand the interests and preference of customers considering the fact that most of them prefer using environmentally friendly products and are therefore willing to pay more for green hotel products. The study also recommends lodges and tented camps to follow the government regulations such as deposit of wastes as a green practice.

Organizational commitment was also found to be significant determinants of green practices. The study recommends lodges and tented camps within Maasai Mara Game Reserve to provide leadership support to its employees to ensure they support green practices adopted within the organization. The study also recommends these companies to hire qualified HR with skills and their learning abilities and competency to help in diffusing innovation.

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